

Monte Carlo Simulation Engine Project

September 18, 2024

```
[1]: pip install datetime
```

```
Requirement already satisfied: datetime in /opt/anaconda3/lib/python3.12/site-  
packages (5.5)  
Requirement already satisfied: zope.interface in  
/opt/anaconda3/lib/python3.12/site-packages (from datetime) (5.4.0)  
Requirement already satisfied: pytz in /opt/anaconda3/lib/python3.12/site-  
packages (from datetime) (2024.1)  
Requirement already satisfied: setuptools in /opt/anaconda3/lib/python3.12/site-  
packages (from zope.interface->datetime) (69.5.1)  
Note: you may need to restart the kernel to use updated packages.
```

```
[2]: import pandas as pd  
import yfinance as yf  
import numpy as np  
import datetime  
import warnings  
warnings.simplefilter(action='ignore', category=FutureWarning)
```

```
[3]: #Created dataframes for all the selected stocks for this project  
# 1. I attempted to get small yet diverse group of Stock and ETF for a portfolio  
→which will have exposure to highly risky assets like Apple, Meta, and Palantir  
→as they are tech stocks and have relatively high P/E ratio and high Beta  
→levels  
# 2. I added other stocks which were not high P/E and Beta relatively and from a  
→different industry, hence I included J.P. Morgan, General Motors, and  
→Lockheedmartin.  
# 3. In order add exposure to inflation hedge, overall market risk and bond  
→exposure, I added ETF tracking Gold, S&P500 and U.S' +20 Treasury bonds  
AAPL_df = pd.read_csv('AAPL.csv')  
GLD_df = pd.read_csv('gld.csv')  
GM_df = pd.read_csv('GM.csv')  
JPM_df = pd.read_csv('JPM.csv')  
LMT_df = pd.read_csv('LMT.csv')  
META_df = pd.read_csv('META.csv')  
PLTR_df = pd.read_csv('PLTR.csv')  
SPY_df = pd.read_csv('SPY.csv')  
TLT_df = pd.read_csv('TLT.csv')
```

```
[4]: # Check if 'Date' column exists before setting it as the index
if 'Date' in AAPL_df.columns:
    AAPL_df.set_index('Date', inplace=True)
if 'Date' in GLD_df.columns:
    GLD_df.set_index('Date', inplace=True)
if 'Date' in GM_df.columns:
    GM_df.set_index('Date', inplace=True)
if 'Date' in JPM_df.columns:
    JPM_df.set_index('Date', inplace=True)
if 'Date' in LMT_df.columns:
    LMT_df.set_index('Date', inplace=True)
if 'Date' in META_df.columns:
    META_df.set_index('Date', inplace=True)
if 'Date' in PLTR_df.columns:
    PLTR_df.set_index('Date', inplace=True)
if 'Date' in SPY_df.columns:
    SPY_df.set_index('Date', inplace=True)
if 'Date' in TLT_df.columns:
    TLT_df.set_index('Date', inplace=True)

# Filter AAPL_df for dates greater than or equal to '2021-01-01'
AAPL_df = AAPL_df[AAPL_df.index >= '2021-01-01']
GLD_df = GLD_df[GLD_df.index >= '2021-01-01']
GM_df = GM_df[GM_df.index >= '2021-01-01']
JPM_df = JPM_df[JPM_df.index >= '2021-01-01']
LMT_df = LMT_df[LMT_df.index >= '2021-01-01']
META_df = META_df[META_df.index >= '2021-01-01']
PLTR_df = PLTR_df[PLTR_df.index >= '2021-01-01']
SPY_df = SPY_df[SPY_df.index >= '2021-01-01']
TLT_df = TLT_df[TLT_df.index >= '2021-01-01']

[5]: # Created new dataframe named, prtfolio_df which basically contains the adj_
      ↪price of the all the 9 stocks that have been chosen to be in the portfolio
dataframes = [AAPL_df, GLD_df, GM_df, JPM_df, LMT_df, META_df, PLTR_df, SPY_df,
      ↪TLT_df]
portfolio_df = pd.concat([df['Adj Close'] for df in dataframes], axis=1,
      ↪keys=['AAPL', 'GLD', 'GM', 'JPM', 'LMT', 'META', 'PLTR', 'SPY', 'TLT'])
portfolio_df
```

```
[5]:
```

	AAPL	GLD	GM	JPM	LMT \
Date					
2021-01-04	126.683434	182.330002	39.579063	113.580322	311.194611
2021-01-05	128.249710	182.869995	40.702625	114.198326	314.941895
2021-01-06	123.932632	179.899994	41.992294	119.560623	314.255615
2021-01-07	128.161636	179.479996	42.324486	123.486893	309.307434
2021-01-08	129.267792	173.339996	42.070461	123.623238	303.483368
...

2024-09-09	220.910004	231.600006	47.400002	216.809998	576.570007
2024-09-10	220.110001	232.619995	44.820000	205.559998	572.190002
2024-09-11	222.660004	232.250000	44.669998	207.229996	566.960022
2024-09-12	222.770004	236.330002	46.119999	206.600006	568.270020
2024-09-13	222.500000	238.679993	46.299999	204.320007	569.909973

	META	PLTR	SPY	TLT
Date				
2021-01-04	268.388489	23.370001	350.543579	142.684494
2021-01-05	270.414307	24.600000	352.957916	141.624832
2021-01-06	262.770020	23.540001	355.068085	138.717453
2021-01-07	268.188904	25.000000	360.343445	137.494812
2021-01-08	267.021301	25.200001	362.396606	137.051086
...
2024-09-09	504.790009	34.599998	546.409973	99.989998
2024-09-10	504.790009	34.759998	548.789978	100.690002
2024-09-11	511.829987	34.849998	554.419983	100.610001
2024-09-12	525.599976	34.910000	559.090027	100.139999
2024-09-13	524.619995	35.590000	562.010010	100.410004

[930 rows x 9 columns]

```
[6]: import matplotlib.pyplot as plt

!pip install seaborn
import seaborn as sns

import plotly.express as px
```

Requirement already satisfied: seaborn in /opt/anaconda3/lib/python3.12/site-packages (0.13.2)

Requirement already satisfied: numpy!=1.24.0,>=1.20 in /opt/anaconda3/lib/python3.12/site-packages (from seaborn) (1.26.4)

Requirement already satisfied: pandas>=1.2 in /opt/anaconda3/lib/python3.12/site-packages (from seaborn) (2.2.2)

Requirement already satisfied: matplotlib!=3.6.1,>=3.4 in /opt/anaconda3/lib/python3.12/site-packages (from seaborn) (3.8.4)

Requirement already satisfied: contourpy>=1.0.1 in /opt/anaconda3/lib/python3.12/site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (1.2.0)

Requirement already satisfied: cycler>=0.10 in /opt/anaconda3/lib/python3.12/site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (0.11.0)

Requirement already satisfied: fonttools>=4.22.0 in /opt/anaconda3/lib/python3.12/site-packages (from matplotlib!=3.6.1,>=3.4->seaborn) (4.51.0)

Requirement already satisfied: kiwisolver>=1.3.1 in /opt/anaconda3/lib/python3.12/site-packages (from

```

matplotlib!=3.6.1,>=3.4->seaborn) (1.4.4)
Requirement already satisfied: packaging>=20.0 in
/opt/anaconda3/lib/python3.12/site-packages (from
matplotlib!=3.6.1,>=3.4->seaborn) (23.2)
Requirement already satisfied: pillow>=8 in /opt/anaconda3/lib/python3.12/site-
packages (from matplotlib!=3.6.1,>=3.4->seaborn) (10.3.0)
Requirement already satisfied: pyparsing>=2.3.1 in
/opt/anaconda3/lib/python3.12/site-packages (from
matplotlib!=3.6.1,>=3.4->seaborn) (3.0.9)
Requirement already satisfied: python-dateutil>=2.7 in
/opt/anaconda3/lib/python3.12/site-packages (from
matplotlib!=3.6.1,>=3.4->seaborn) (2.9.0.post0)
Requirement already satisfied: pytz>=2020.1 in
/opt/anaconda3/lib/python3.12/site-packages (from pandas>=1.2->seaborn) (2024.1)
Requirement already satisfied: tzdata>=2022.7 in
/opt/anaconda3/lib/python3.12/site-packages (from pandas>=1.2->seaborn) (2023.3)
Requirement already satisfied: six>=1.5 in /opt/anaconda3/lib/python3.12/site-
packages (from python-dateutil>=2.7->matplotlib!=3.6.1,>=3.4->seaborn) (1.16.0)

```

```

[7]: # daily_return_df dataframe basically has calculated the daily price changes
      ↳using the .pct_change and .iloc functions using the adj close price
daily_returns_df = portfolio_df.iloc[:, 1:].pct_change() * 100
daily_returns_df.replace(np.nan, 0, inplace = True)
daily_returns_df

```

```

[7]:
      GLD      GM      JPM      LMT      META      PLTR  \
Date
2021-01-04  0.000000  0.000000  0.000000  0.000000  0.000000  0.000000
2021-01-05  0.296163  2.838778  0.544112  1.204161  0.754808  5.263156
2021-01-06 -1.624105  3.168516  4.695600 -0.217907 -2.826880 -4.308941
2021-01-07 -0.233462  0.791077  3.283915 -1.574572  2.062216  6.202205
2021-01-08 -3.420994 -0.600183  0.110412 -1.882938 -0.435366  0.800003
...      ...      ...      ...      ...      ...      ...
2024-09-09  0.420588  0.551553  2.047440  1.754232  0.903516  14.078465
2024-09-10  0.440410 -5.443042 -5.188875 -0.759666  0.000000  0.462427
2024-09-11 -0.159056 -0.334675  0.812414 -0.914029  1.394635  0.258919
2024-09-12  1.756728  3.246028 -0.304005  0.231056  2.690344  0.172170
2024-09-13  0.994368  0.390287 -1.103581  0.288587 -0.186450  1.947867

      SPY      TLT
Date
2021-01-04  0.000000  0.000000
2021-01-05  0.688741 -0.742661
2021-01-06  0.597853 -2.052874
2021-01-07  1.485732 -0.881389
2021-01-08  0.569779 -0.322722
...      ...      ...

```

```

2024-09-09  1.119622  0.431901
2024-09-10  0.435571  0.700075
2024-09-11  1.025894 -0.079454
2024-09-12  0.842330 -0.467152
2024-09-13  0.522274  0.269627

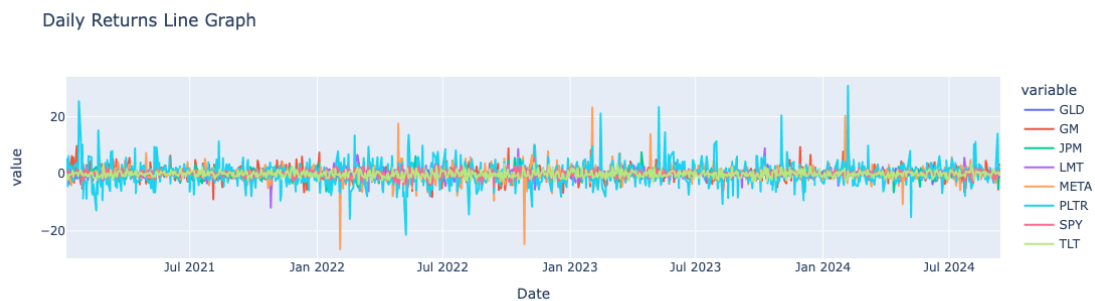
```

[930 rows x 8 columns]

```

[8]: # 1. This command is to showcase the price changes which basically shows the
      ↪ volatility of the chosen 9 stocks.
      # 2. NOTE: The chart is interactive and individual price volatility and hence
      ↪ its beta can be seen over the time frame of Jan 2021 to Sept 2024.
      # 3. Eg. Compare the price volatility of SPY and PLTR and you will be able to
      ↪ compare how volatility, beta levels can showcase the risk levels.
      fig = px.line(daily_returns_df, title="Daily Returns Line Graph")
      fig.show() # Display the figure

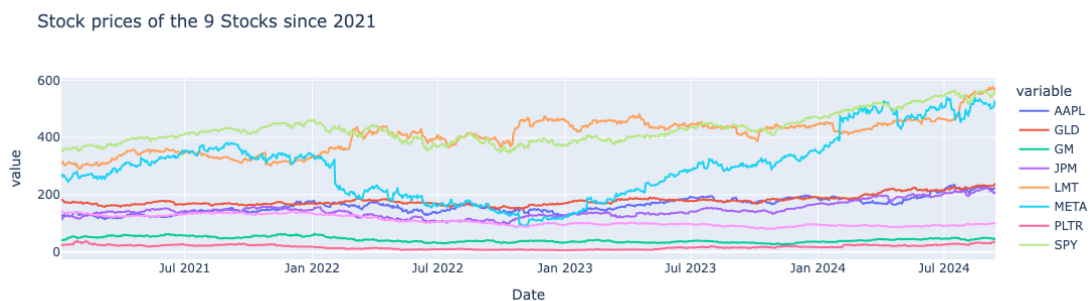
```



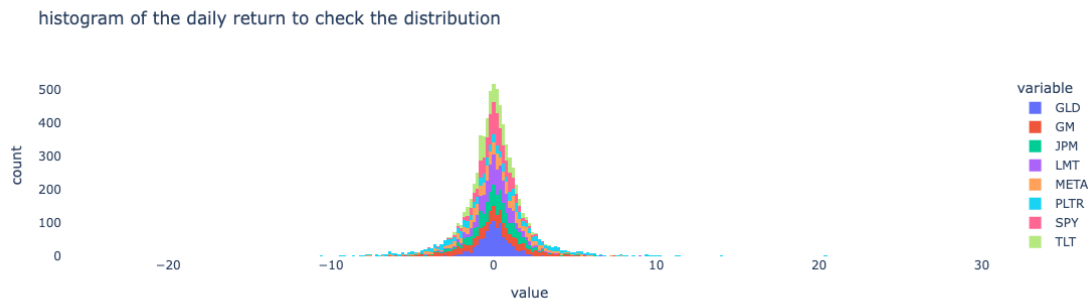
```

[9]: fig_stockprices = px.line(portfolio_df, title='Stock prices of the 9 Stocks
      ↪ since 2021')
      fig_stockprices.show()

```



```
[10]: # Showcasing the distribution of the price volatility. NOTE: Chart is
      ↪interactive.
fig = px.histogram(daily_returns_df, title='histogram of the daily return to
      ↪check the distribution')
fig.update_layout({'plot_bgcolor': "white"})
```



```
[11]: #Heatmap to checkout the correlation values
plt.figure(figsize = (10, 10))
sns.heatmap(daily_returns_df.corr(), annot = True);
```



[12]: *## Creating a function called "price_scaling" which can be used for multiple
 ↳ different portfolio dataframes and is replicable, to scale the price to see
 ↳ its overall performance from same starting point*

```
def price_scaling(raw_prices_df):
    scaled_prices_df = raw_prices_df.copy()
    for i in raw_prices_df.columns[0:]:
        scaled_prices_df[i] = raw_prices_df[i]/raw_prices_df[i][0]
    return scaled_prices_df
```

```
[13]: scaled_portfolio_df = price_scaling(portfolio_df)
scaled_portfolio_df
```

```
[13]:
```

	AAPL	GLD	GM	JPM	LMT	META	\
Date							
2021-01-04	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	
2021-01-05	1.012364	1.002962	1.028388	1.005441	1.012042	1.007548	
2021-01-06	0.978286	0.986672	1.060972	1.052653	1.009836	0.979066	
2021-01-07	1.011668	0.984369	1.069366	1.087221	0.993936	0.999256	
2021-01-08	1.020400	0.950694	1.062947	1.088421	0.975221	0.994906	
...	
2024-09-09	1.743796	1.270224	1.197603	1.908869	1.852763	1.880818	
2024-09-10	1.737481	1.275819	1.132417	1.809821	1.838689	1.880818	
2024-09-11	1.757609	1.273789	1.128627	1.824524	1.821883	1.907049	
2024-09-12	1.758478	1.296166	1.165263	1.818977	1.826092	1.958355	
2024-09-13	1.756346	1.309055	1.169810	1.798903	1.831362	1.954704	

	PLTR	SPY	TLT
Date			
2021-01-04	1.000000	1.000000	1.000000
2021-01-05	1.052632	1.006887	0.992573
2021-01-06	1.007274	1.012907	0.972197
2021-01-07	1.069748	1.027956	0.963628
2021-01-08	1.078306	1.033813	0.960518
...
2024-09-09	1.480530	1.558750	0.700777
2024-09-10	1.487377	1.565540	0.705683
2024-09-11	1.491228	1.581601	0.705122
2024-09-12	1.493795	1.594923	0.701828
2024-09-13	1.522893	1.603253	0.703721

[930 rows x 9 columns]

```
[14]: ## Graph showcasing the price performance using the scaled dataframe

scaled_fig = px.line(scaled_portfolio_df, title='scaled price performance')
fig.update_layout(width=1000, height=1000)
scaled_fig.show()
```




```
[15]: ## Creating a function called asset_allocation in order to use random weights
      ↪ and initial investment into the portfolio created using the 9 stocks

def asset_allocation(df, weights, initial_investment):
    actual_portfolio_df = df.copy()

    # Scale stock prices using the "price_scaling" function that we defined
    ↪ earlier (Make them all start at 1)
    scaled_df = price_scaling(df)

    for i, stock in enumerate(scaled_df.columns[0:]):
        actual_portfolio_df[stock] = scaled_df[stock] * weights[i] *
        ↪ initial_investment

    # Sum up all values and place the result in a new column titled "portfolio
    ↪ value [$]"
    # Note that we excluded the date column from this calculation
    actual_portfolio_df['Portfolio Value [$]'] =
    ↪ actual_portfolio_df[actual_portfolio_df != 'Date'].sum(axis = 1, numeric_only
    ↪ = True)

    # Calculate the portfolio percentage daily return and replace NaNs with zeros
    actual_portfolio_df['Portfolio Daily Return [%]'] =
    ↪ actual_portfolio_df['Portfolio Value [$]'].pct_change(1) * 100
    actual_portfolio_df.replace(np.nan, 0, inplace = True)

    return actual_portfolio_df
```

```
[16]: ## imported random to assist in creating random weights.

import random
```

```

## Created generate_portfolio_weights function which is a replicable function
→that I am going to use in this project during the Monte Carlo Simulation
def generate_portfolio_weights(n):
    weights = []
    for i in range(n):
        weights.append(random.random())

    # let's make the sum of all weights add up to 1
    weights = weights/np.sum(weights)
    return weights

## n to reference the number of columns to show the number of stocks in the
→portfolio
n = len(portfolio_df.columns)

# generating random weights for the portfolio
print('Number of stocks under consideration = {}'.format(n))
weights = generate_portfolio_weights(n).round(6)
print('Portfolio weights = {}'.format(weights))

# created a dataframe using $100,000 amount and random weights to show result in
→real fiat money terms
actual_portfolio_df = asset_allocation(portfolio_df, weights, 100000)
actual_portfolio_df.round(2)

```

Number of stocks under consideration = 9

Portfolio weights = [0.232024 0.004829 0.001205 0.024067 0.08178 0.208158
0.230452 0.052086
0.1654]

```

[16]:
      AAPL      GLD      GM      JPM      LMT      META      PLTR  \
Date
2021-01-04  23202.40  482.90  120.50  2406.70   8178.00  20815.80  23045.20
2021-01-05  23489.27  484.33  123.92  2419.80   8276.48  20972.92  24258.10
2021-01-06  22698.58  476.46  127.85  2533.42   8258.44  20380.04  23212.84
2021-01-07  23473.14  475.35  128.86  2616.61   8128.41  20800.32  24652.55
2021-01-08  23675.73  459.09  128.09  2619.50   7975.35  20709.76  24849.77
...
2024-09-09  40460.24  613.39  144.31  4594.08  15151.90  39150.74  34119.12
2024-09-10  40313.72  616.09  136.46  4355.70  15036.80  39150.74  34276.90
2024-09-11  40780.76  615.11  136.00  4391.08  14899.36  39696.75  34365.65
2024-09-12  40800.91  625.92  140.41  4377.73  14933.78  40764.73  34424.81
2024-09-13  40751.45  632.14  140.96  4329.42  14976.88  40688.72  35095.36

      SPY      TLT  Portfolio Value [$]  Portfolio Daily Return [%]
Date
2021-01-04  5208.60  16540.00          100000.10          0.00

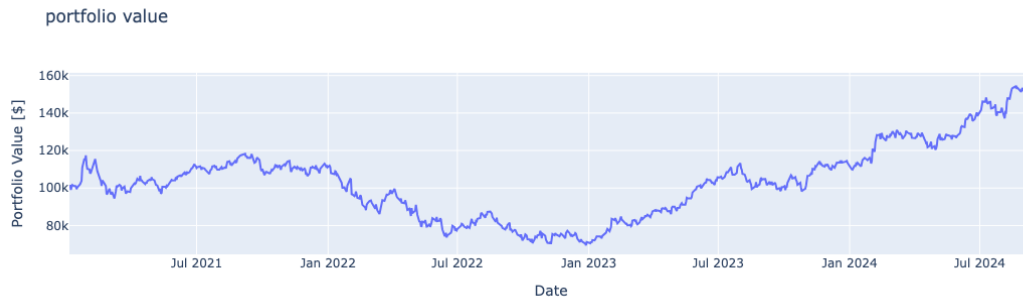
```

2021-01-05	5244.47	16417.16	101686.45	1.69
2021-01-06	5275.83	16080.14	99043.60	-2.60
2021-01-07	5354.21	15938.41	101567.86	2.55
2021-01-08	5384.72	15886.97	101688.99	0.12
...
2024-09-09	8118.91	11590.85	153943.54	3.41
2024-09-10	8154.27	11671.99	153712.66	-0.15
2024-09-11	8237.93	11662.72	154785.35	0.70
2024-09-12	8307.32	11608.24	155983.85	0.77
2024-09-13	8350.70	11639.54	156605.18	0.40

[930 rows x 11 columns]

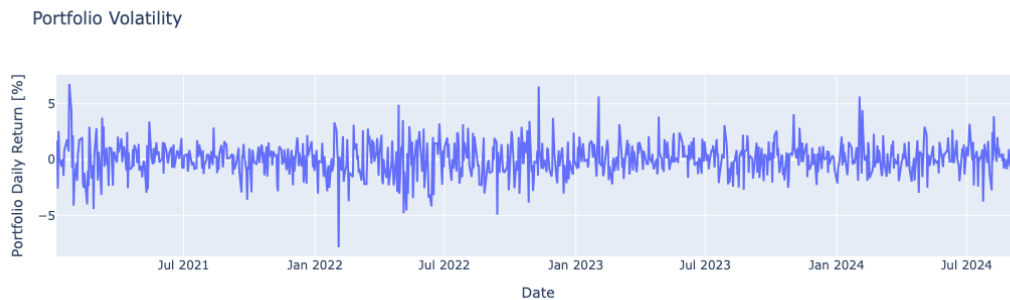
```
[17]: ## Line chart to show the portfolio value change since Jan 2021 until Sept 2024
```

```
fig = px.line(actual_portfolio_df, y='Portfolio Value [$]', title = 'portfolio_
↳value')
fig.show()
```



```
[18]: ## Line chart to show the portfolio volatility
```

```
fig=px.line(actual_portfolio_df, y='Portfolio Daily Return [%]',
↳title='Portfolio Volatility')
fig.show()
```



```
[19]: ## CALCULATING STATISTICS FROM THE DATAFRAME TO ASSIST IN THE MONTE CARLO
      ↳SIMULATION
      ## Calculated the ROI using the final portfolio value and comparing it to the
      ↳initial value
      ## Calculating the daily change for individual stocks
      ## Portfolio Expected Return formula taking on average 252 trading days into
      ↳account
      ## Calculating covariance
      ## Calculating expected volatility

      ## Calculating Sharpe ratio
      # We would require rf which is the risk free rate of the economy which is
      ↳usually represented by the lending rate established by the federal reserve
      # Using https://ycharts.com/indicators/10_year_treasury_rate to find the current
      ↳rate
      # You can manually change the value of the rf below with the latest to see its
      ↳effect

def simulation_engine(weights, initial_investment):
    # Perform asset allocation using the random weights (sent as arguments to
    ↳the function)
    actual_portfolio_df = asset_allocation(portfolio_df, weights,
    ↳initial_investment)

    return_on_investment = ((actual_portfolio_df['Portfolio Value ($)'][-1:] -
                             actual_portfolio_df['Portfolio Value ($)'][0])/
                             actual_portfolio_df['Portfolio Value ($)'][0]) * 100

    portfolio_daily_return_df = actual_portfolio_df.drop(columns = ['Portfolio
    ↳Value ($)', 'Portfolio Daily Return [%]'])
```

```

portfolio_daily_return_df = portfolio_daily_return_df.pct_change(1)

expected_portfolio_return = np.sum(weights * portfolio_daily_return_df.
↳mean() ) * 252
covariance = portfolio_daily_return_df.cov() * 252
expected_volatility = np.sqrt(np.dot(weights.T, np.dot(covariance, weights)))

rf = 3.66
sharpe_ratio = (expected_portfolio_return - rf)/expected_volatility
return expected_portfolio_return, expected_volatility, sharpe_ratio,
↳actual_portfolio_df['Portfolio Value ($)'][-1:].values[0],
↳return_on_investment.values[0]

```

[20]: *## Testing the function - simulation_engine*

```

initial_investment = 100000
portfolio_metrics = simulation_engine(weights, initial_investment)

```

[21]:

```

print('Expected Portfolio Annual Return = {:.2f}%'.format(portfolio_metrics[0] *
↳100))
print('Portfolio Standard Deviation (Volatility) = {:.2f}%'.
↳format(portfolio_metrics[1] * 100))
print('Sharpe Ratio = {:.2f}'.format(portfolio_metrics[2]))
print('Portfolio Final Value = ${:.2f}'.format(portfolio_metrics[3]))
print('Return on Investment = {:.2f}%'.format(portfolio_metrics[4]))

```

```

Expected Portfolio Annual Return = 19.71%
Portfolio Standard Deviation (Volatility) = 26.59%
Sharpe Ratio = -13.02
Portfolio Final Value = $156605.18
Return on Investment = 56.61%

```

[22]: *## Testing the simulation function that will bring print out the weights and the*
↳*statistics generated from the performance of the portfolio from the randomly*
↳*generated portfolio weights*

```

sim_runs = 10000
initial_investment = 1000000

# Placeholder to store all weights
weights_runs = np.zeros((sim_runs, n))

# Placeholder to store all Sharpe ratios
sharpe_ratio_runs = np.zeros(sim_runs)

# Placeholder to store all expected returns

```

```

expected_portfolio_returns_runs = np.zeros(sim_runs)

# Placeholder to store all volatility values
volatility_runs = np.zeros(sim_runs)

# Placeholder to store all returns on investment
return_on_investment_runs = np.zeros(sim_runs)

# Placeholder to store all final portfolio values
final_value_runs = np.zeros(sim_runs)

for i in range(sim_runs):
    # Generate random weights
    weights = generate_portfolio_weights(n)
    # Store the weights
    weights_runs[i,:] = weights

    # Call "simulation_engine" function and store Sharpe ratio, return and
    ↪volatility
    # Note that asset allocation is performed using the "asset_allocation"
    ↪function
    expected_portfolio_returns_runs[i], volatility_runs[i],
    ↪sharpe_ratio_runs[i], final_value_runs[i], return_on_investment_runs[i] =
    ↪simulation_engine(weights, initial_investment)
    print("Simulation Run = {}".format(i))
    print("Weights = {}, Final Value = ${:,.2f}, Sharpe Ratio = {:.2f}".
    ↪format(weights_runs[i].round(3), final_value_runs[i], sharpe_ratio_runs[i]))
    print('\n')

```

Simulation Run = 0
Weights = [0.137 0.158 0.012 0.162 0.045 0.099 0.15 0.198 0.038], Final Value = \$1602940.57, Sharpe Ratio = -17.31

Simulation Run = 1
Weights = [0.125 0.103 0.177 0.074 0.152 0.026 0.005 0.128 0.21], Final Value = \$1384293.68, Sharpe Ratio = -25.78

Simulation Run = 2
Weights = [0.06 0.082 0.129 0.15 0.166 0.145 0.165 0.006 0.098], Final Value = \$1549261.82, Sharpe Ratio = -16.56

Simulation Run = 3
Weights = [0.125 0.1 0.01 0.034 0.152 0.099 0.01 0.307 0.164], Final Value = \$1516656.49, Sharpe Ratio = -25.34

Simulation Run = 4
Weights = [0.196 0.13 0.058 0.092 0.013 0.097 0.044 0.177 0.193], Final Value =
\$1447004.00, Sharpe Ratio = -22.15

Simulation Run = 5
Weights = [0.031 0.173 0.142 0.083 0.089 0.136 0.044 0.159 0.143], Final Value =
\$1448355.38, Sharpe Ratio = -22.25

Simulation Run = 6
Weights = [0.2 0.088 0.118 0.004 0.182 0.202 0.009 0.052 0.144], Final Value =
\$1539871.87, Sharpe Ratio = -20.20

Simulation Run = 7
Weights = [0.13 0.12 0.12 0.04 0.108 0.298 0.117 0.024 0.042], Final Value =
\$1625639.82, Sharpe Ratio = -14.55

Simulation Run = 8
Weights = [0.179 0.165 0.346 0.007 0.059 0.107 0.072 0.041 0.023], Final Value =
\$1458177.16, Sharpe Ratio = -16.12

Simulation Run = 9
Weights = [0.16 0.181 0.253 0.047 0.01 0.009 0.095 0.103 0.142], Final Value =
\$1344461.34, Sharpe Ratio = -19.05

Simulation Run = 10
Weights = [0.1 0.211 0.091 0.046 0.021 0.038 0.102 0.2 0.191], Final Value =
\$1364673.18, Sharpe Ratio = -22.29

Simulation Run = 11
Weights = [0.047 0.172 0.104 0.131 0.165 0.119 0.013 0.144 0.106], Final Value =
\$1523982.16, Sharpe Ratio = -24.70

Simulation Run = 12
Weights = [0.244 0.098 0.062 0.068 0.135 0.07 0.067 0.212 0.045], Final Value =
\$1607268.64, Sharpe Ratio = -19.99

Simulation Run = 13

Weights = [0.151 0.098 0.17 0.194 0.058 0.055 0.162 0.056 0.056], Final Value = \$1530823.29, Sharpe Ratio = -16.07

Simulation Run = 14

Weights = [0.141 0.166 0.151 0.027 0.055 0.172 0.184 0.103 0.001], Final Value = \$1573147.36, Sharpe Ratio = -14.17

Simulation Run = 15

Weights = [0.277 0.114 0.129 0.02 0.054 0.044 0.024 0.191 0.146], Final Value = \$1454781.22, Sharpe Ratio = -21.70

Simulation Run = 16

Weights = [0.055 0.09 0.1 0.032 0.282 0.06 0.196 0.136 0.049], Final Value = \$1574098.90, Sharpe Ratio = -16.80

Simulation Run = 17

Weights = [0.067 0.118 0.089 0.153 0.164 0.098 0.131 0.133 0.047], Final Value = \$1589456.89, Sharpe Ratio = -18.60

Simulation Run = 18

Weights = [0.108 0.099 0.25 0.2 0.135 0.048 0.068 0.09 0.003], Final Value = \$1560919.47, Sharpe Ratio = -18.03

Simulation Run = 19

Weights = [0.098 0.136 0.115 0.05 0.164 0.062 0.061 0.157 0.155], Final Value = \$1452786.51, Sharpe Ratio = -23.88

Simulation Run = 20

Weights = [0.191 0.063 0.174 0.125 0.135 0.119 0.051 0.128 0.014], Final Value = \$1618518.62, Sharpe Ratio = -18.04

Simulation Run = 21

Weights = [0.115 0.111 0.184 0.128 0.131 0.079 0.068 0.02 0.164], Final Value = \$1438121.40, Sharpe Ratio = -21.36

Simulation Run = 22

Weights = [0.027 0.083 0.148 0.094 0.134 0.09 0.195 0.147 0.081], Final Value = \$1510345.83, Sharpe Ratio = -15.82

Simulation Run = 23
Weights = [0.117 0.066 0.158 0.088 0.09 0.121 0.16 0.161 0.04], Final Value =
\$1564875.46, Sharpe Ratio = -15.39

Simulation Run = 24
Weights = [0.171 0.076 0.157 0.193 0.163 0.034 0.117 0.084 0.006], Final Value =
\$1611219.20, Sharpe Ratio = -17.75

Simulation Run = 25
Weights = [0.132 0.104 0.012 0.248 0.002 0.11 0.219 0.117 0.056], Final Value =
\$1607166.79, Sharpe Ratio = -14.38

Simulation Run = 26
Weights = [0.11 0.065 0.051 0.178 0.066 0.06 0.186 0.094 0.19], Final Value =
\$1463921.68, Sharpe Ratio = -17.30

Simulation Run = 27
Weights = [0.028 0.124 0.076 0.128 0.156 0.094 0.136 0.136 0.121], Final Value =
\$1512001.66, Sharpe Ratio = -19.70

Simulation Run = 28
Weights = [0.052 0.123 0.225 0.061 0.04 0.175 0.134 0.007 0.182], Final Value =
\$1385158.65, Sharpe Ratio = -16.45

Simulation Run = 29
Weights = [0.197 0.025 0.084 0.102 0.203 0.2 0.057 0.042 0.091], Final Value =
\$1639773.39, Sharpe Ratio = -18.22

Simulation Run = 30
Weights = [0.158 0.092 0.133 0.089 0.031 0.154 0.133 0.132 0.079], Final Value =
\$1539925.06, Sharpe Ratio = -15.90

Simulation Run = 31
Weights = [0.053 0.107 0.011 0.177 0.129 0.133 0.117 0.067 0.204], Final Value =
\$1492819.87, Sharpe Ratio = -20.83

Simulation Run = 32
Weights = [0.076 0.228 0.017 0.171 0.01 0.137 0.126 0.221 0.015], Final Value =

\$1600717.89, Sharpe Ratio = -17.87

Simulation Run = 33

Weights = [0.159 0.137 0.031 0. 0.058 0.15 0.171 0.186 0.108], Final Value = \$1529147.81, Sharpe Ratio = -15.89

Simulation Run = 34

Weights = [0.064 0.055 0.13 0.163 0.138 0.235 0.013 0.169 0.032], Final Value = \$1656172.13, Sharpe Ratio = -17.84

Simulation Run = 35

Weights = [0.092 0.053 0.065 0.039 0.013 0.17 0.257 0.176 0.135], Final Value = \$1502063.29, Sharpe Ratio = -12.85

Simulation Run = 36

Weights = [0.217 0.042 0.071 0.146 0.135 0.03 0.029 0.15 0.181], Final Value = \$1498351.95, Sharpe Ratio = -24.01

Simulation Run = 37

Weights = [0.267 0.242 0.053 0.026 0.071 0.154 0.025 0.131 0.03], Final Value = \$1595609.50, Sharpe Ratio = -20.13

Simulation Run = 38

Weights = [0.006 0.05 0.072 0.149 0.072 0.176 0.143 0.195 0.138], Final Value = \$1530133.18, Sharpe Ratio = -16.80

Simulation Run = 39

Weights = [0.146 0.162 0.045 0.036 0.056 0.151 0.101 0.164 0.138], Final Value = \$1499473.82, Sharpe Ratio = -19.05

Simulation Run = 40

Weights = [0.159 0.16 0.048 0.001 0.137 0.096 0.165 0.15 0.084], Final Value = \$1536513.72, Sharpe Ratio = -17.43

Simulation Run = 41

Weights = [0.155 0.028 0.039 0.069 0.111 0.171 0.17 0.094 0.164], Final Value = \$1539214.56, Sharpe Ratio = -15.79

Simulation Run = 42
Weights = [0.112 0.009 0.165 0.064 0.046 0.19 0.159 0.079 0.176], Final Value =
\$1464665.93, Sharpe Ratio = -14.90

Simulation Run = 43
Weights = [0.283 0.024 0.151 0.03 0.338 0.076 0.036 0.017 0.046], Final Value =
\$1639632.46, Sharpe Ratio = -19.96

Simulation Run = 44
Weights = [0.08 0.049 0.136 0.179 0.122 0.245 0.041 0.104 0.044], Final Value =
\$1647824.21, Sharpe Ratio = -16.92

Simulation Run = 45
Weights = [0.134 0.143 0.027 0.15 0.106 0.065 0.159 0.149 0.065], Final Value =
\$1575063.18, Sharpe Ratio = -18.06

Simulation Run = 46
Weights = [0.217 0.061 0.087 0.182 0.104 0.055 0.031 0.219 0.044], Final Value =
\$1617673.15, Sharpe Ratio = -20.61

Simulation Run = 47
Weights = [0.015 0.115 0.149 0.221 0.219 0.065 0.126 0.087 0.003], Final Value =
\$1610987.86, Sharpe Ratio = -18.41

Simulation Run = 48
Weights = [0.078 0.102 0.17 0.196 0.073 0.153 0.02 0.174 0.034], Final Value =
\$1588719.55, Sharpe Ratio = -18.88

Simulation Run = 49
Weights = [0.003 0.205 0.076 0.16 0.068 0.208 0.186 0.083 0.013], Final Value =
\$1603714.28, Sharpe Ratio = -14.98

Simulation Run = 50
Weights = [0.034 0.001 0.129 0.17 0.094 0.164 0.187 0.04 0.182], Final Value =
\$1486365.96, Sharpe Ratio = -15.28

Simulation Run = 51
Weights = [0.058 0.106 0.12 0.145 0.017 0.115 0.074 0.153 0.213], Final Value =
\$1404568.73, Sharpe Ratio = -20.93

Simulation Run = 52
Weights = [0.153 0.2 0.085 0.059 0.043 0.066 0.103 0.121 0.17], Final Value =
\$1414787.92, Sharpe Ratio = -21.26

Simulation Run = 53
Weights = [0.055 0.16 0.153 0.111 0.042 0.166 0.16 0.148 0.004], Final Value =
\$1571619.25, Sharpe Ratio = -15.11

Simulation Run = 54
Weights = [0.084 0.202 0.102 0.103 0.127 0.07 0.118 0.106 0.088], Final Value =
\$1497571.32, Sharpe Ratio = -20.64

Simulation Run = 55
Weights = [0.017 0.185 0.097 0.03 0.167 0.171 0.153 0.166 0.014], Final Value =
\$1588361.91, Sharpe Ratio = -16.80

Simulation Run = 56
Weights = [0.095 0.251 0.212 0.003 0.036 0.196 0.102 0.041 0.066], Final Value =
\$1462591.31, Sharpe Ratio = -16.86

Simulation Run = 57
Weights = [0.031 0.176 0.017 0.249 0.015 0.027 0.085 0.122 0.278], Final Value =
\$1353331.00, Sharpe Ratio = -25.74

Simulation Run = 58
Weights = [0.143 0.005 0.131 0.131 0.113 0.156 0.122 0.074 0.125], Final Value =
\$1551362.14, Sharpe Ratio = -16.62

Simulation Run = 59
Weights = [0.163 0.196 0.095 0.194 0.013 0.017 0.139 0.006 0.177], Final Value =
\$1405308.87, Sharpe Ratio = -19.94

Simulation Run = 60
Weights = [0.148 0.128 0.037 0.197 0.017 0.03 0.305 0.045 0.093], Final Value =
\$1517149.27, Sharpe Ratio = -12.98

Simulation Run = 61

Weights = [0.041 0.118 0.071 0.088 0.123 0.201 0.149 0.102 0.108], Final Value = \$1551187.93, Sharpe Ratio = -16.65

Simulation Run = 62

Weights = [0.055 0.267 0.035 0.091 0.194 0.171 0.004 0.135 0.049], Final Value = \$1595858.53, Sharpe Ratio = -24.57

Simulation Run = 63

Weights = [0.043 0.042 0.079 0.201 0.19 0.057 0.104 0.187 0.095], Final Value = \$1571831.91, Sharpe Ratio = -20.53

Simulation Run = 64

Weights = [0.021 0.149 0.113 0.153 0.108 0.161 0.136 0.056 0.104], Final Value = \$1521167.30, Sharpe Ratio = -17.85

Simulation Run = 65

Weights = [0.09 0.019 0.179 0.122 0.158 0.037 0.176 0.099 0.12], Final Value = \$1484997.09, Sharpe Ratio = -16.55

Simulation Run = 66

Weights = [0.12 0.166 0.112 0.137 0.109 0.16 0.104 0.081 0.011], Final Value = \$1613656.50, Sharpe Ratio = -17.61

Simulation Run = 67

Weights = [0.046 0.054 0.052 0.156 0.051 0.159 0.169 0.2 0.112], Final Value = \$1555658.89, Sharpe Ratio = -15.82

Simulation Run = 68

Weights = [0.122 0.093 0.118 0.161 0.02 0.095 0.118 0.133 0.14], Final Value = \$1477499.38, Sharpe Ratio = -18.23

Simulation Run = 69

Weights = [0.184 0.108 0.143 0.111 0.098 0.157 0.003 0.017 0.179], Final Value = \$1475606.86, Sharpe Ratio = -21.71

Simulation Run = 70

Weights = [0.005 0.15 0.164 0.174 0.131 0.138 0.033 0.163 0.041], Final Value = \$1561127.64, Sharpe Ratio = -20.58

Simulation Run = 71
Weights = [0.165 0.207 0.02 0.05 0.015 0.103 0.241 0.111 0.087], Final Value =
\$1511248.49, Sharpe Ratio = -14.39

Simulation Run = 72
Weights = [0.142 0.137 0.219 0.086 0.135 0.012 0.202 0.004 0.063], Final Value =
\$1468738.46, Sharpe Ratio = -15.61

Simulation Run = 73
Weights = [0.069 0.157 0.216 0.153 0.058 0.174 0.11 0.019 0.045], Final Value =
\$1529354.57, Sharpe Ratio = -16.34

Simulation Run = 74
Weights = [0.134 0.112 0.046 0.245 0.135 0.031 0.046 0.204 0.047], Final Value =
\$1615067.27, Sharpe Ratio = -22.79

Simulation Run = 75
Weights = [0.11 0.008 0.158 0.172 0.158 0.037 0.058 0.138 0.161], Final Value =
\$1482736.47, Sharpe Ratio = -21.57

Simulation Run = 76
Weights = [0.009 0.149 0.227 0.034 0.014 0.231 0.22 0.052 0.064], Final Value =
\$1478395.11, Sharpe Ratio = -12.73

Simulation Run = 77
Weights = [0.18 0.132 0.167 0.102 0.076 0.073 0.008 0.037 0.225], Final Value =
\$1379970.79, Sharpe Ratio = -24.24

Simulation Run = 78
Weights = [0.199 0.014 0.09 0.175 0.001 0.126 0.185 0.194 0.017], Final Value =
\$1639098.20, Sharpe Ratio = -13.66

Simulation Run = 79
Weights = [0.076 0.043 0.078 0.174 0.227 0.09 0.094 0.109 0.108], Final Value =
\$1581299.41, Sharpe Ratio = -20.77

Simulation Run = 80
Weights = [0.048 0.111 0.166 0.008 0.155 0.193 0.136 0.163 0.02], Final Value =

\$1581723.23, Sharpe Ratio = -15.76

Simulation Run = 81

Weights = [0.085 0.019 0.118 0.159 0.108 0.126 0.144 0.158 0.083], Final Value = \$1573753.95, Sharpe Ratio = -16.38

Simulation Run = 82

Weights = [0.312 0.08 0.106 0.037 0.253 0.088 0.091 0.001 0.033], Final Value = \$1640910.52, Sharpe Ratio = -18.37

Simulation Run = 83

Weights = [0.114 0.087 0.157 0.144 0.167 0.086 0.015 0.157 0.073], Final Value = \$1556697.45, Sharpe Ratio = -21.91

Simulation Run = 84

Weights = [0.208 0.208 0.129 0.005 0.056 0.004 0.207 0.001 0.18], Final Value = \$1354211.46, Sharpe Ratio = -16.74

Simulation Run = 85

Weights = [0.135 0.034 0.168 0.142 0.092 0.128 0.105 0.169 0.027], Final Value = \$1601991.59, Sharpe Ratio = -16.30

Simulation Run = 86

Weights = [0.015 0.051 0.08 0.186 0.151 0.09 0.116 0.203 0.109], Final Value = \$1550736.69, Sharpe Ratio = -19.59

Simulation Run = 87

Weights = [0.01 0.215 0.128 0.039 0.157 0.3 0.073 0.046 0.032], Final Value = \$1600374.95, Sharpe Ratio = -16.83

Simulation Run = 88

Weights = [0.18 0.121 0.13 0.033 0.005 0.129 0.242 0.122 0.038], Final Value = \$1537952.29, Sharpe Ratio = -12.89

Simulation Run = 89

Weights = [0.079 0.184 0.075 0.111 0.147 0.082 0.106 0.109 0.107], Final Value = \$1508328.38, Sharpe Ratio = -21.60

Simulation Run = 90
Weights = [0.185 0.046 0.036 0.204 0.07 0.014 0.148 0.128 0.169], Final Value =
\$1499410.32, Sharpe Ratio = -18.79

Simulation Run = 91
Weights = [0.177 0.082 0.069 0.11 0.067 0.009 0.142 0.178 0.165], Final Value =
\$1456109.24, Sharpe Ratio = -19.16

Simulation Run = 92
Weights = [0.17 0.201 0.116 0.008 0.125 0.227 0.005 0.119 0.029], Final Value =
\$1602938.66, Sharpe Ratio = -19.07

Simulation Run = 93
Weights = [0.191 0.205 0.106 0.032 0.063 0.073 0.115 0.135 0.078], Final Value =
\$1492930.34, Sharpe Ratio = -19.06

Simulation Run = 94
Weights = [0.038 0.128 0.041 0.208 0.205 0.019 0.233 0.024 0.104], Final Value =
\$1536191.36, Sharpe Ratio = -16.68

Simulation Run = 95
Weights = [0.144 0.193 0.015 0.083 0.091 0.169 0.118 0.096 0.092], Final Value =
\$1566229.79, Sharpe Ratio = -18.43

Simulation Run = 96
Weights = [0.007 0.126 0.124 0.025 0.057 0.193 0.089 0.199 0.18], Final Value =
\$1429733.28, Sharpe Ratio = -18.79

Simulation Run = 97
Weights = [0.007 0.047 0.067 0.24 0.207 0.028 0.052 0.132 0.22], Final Value =
\$1463344.14, Sharpe Ratio = -26.27

Simulation Run = 98
Weights = [0.069 0.209 0.027 0.006 0.152 0.12 0.161 0.081 0.174], Final Value =
\$1449446.04, Sharpe Ratio = -19.23

Simulation Run = 99
Weights = [0.256 0.177 0.037 0.005 0.018 0.07 0.25 0.016 0.172], Final Value =
\$1428669.24, Sharpe Ratio = -14.31

Simulation Run = 100
Weights = [0.205 0.167 0.089 0.011 0.067 0.219 0.072 0. 0.168], Final Value =
\$1484121.20, Sharpe Ratio = -18.26

Simulation Run = 101
Weights = [0.112 0.198 0.145 0.148 0.191 0.107 0.018 0.061 0.021], Final Value =
\$1589307.18, Sharpe Ratio = -22.55

Simulation Run = 102
Weights = [0.059 0.1 0.107 0.003 0.073 0.185 0.165 0.246 0.061], Final Value =
\$1549891.73, Sharpe Ratio = -15.10

Simulation Run = 103
Weights = [0.247 0.197 0.02 0.012 0.089 0.002 0.096 0.099 0.236], Final Value =
\$1377458.06, Sharpe Ratio = -23.47

Simulation Run = 104
Weights = [0.274 0.029 0.064 0.173 0.179 0.039 0.015 0.052 0.175], Final Value =
\$1538269.10, Sharpe Ratio = -23.89

Simulation Run = 105
Weights = [0.147 0.135 0.093 0.149 0.083 0.132 0.043 0.033 0.185], Final Value =
\$1469963.08, Sharpe Ratio = -22.46

Simulation Run = 106
Weights = [0.051 0.033 0.085 0.197 0.071 0.131 0.089 0.191 0.152], Final Value =
\$1520774.94, Sharpe Ratio = -19.27

Simulation Run = 107
Weights = [0.071 0.18 0.172 0.032 0.015 0.176 0.014 0.177 0.163], Final Value =
\$1410424.65, Sharpe Ratio = -20.76

Simulation Run = 108
Weights = [0.051 0.064 0.09 0.209 0.223 0.021 0.171 0.024 0.148], Final Value =
\$1505432.19, Sharpe Ratio = -18.97

Simulation Run = 109

Weights = [0.128 0.052 0.07 0.167 0.148 0.085 0.083 0.186 0.081], Final Value = \$1594103.96, Sharpe Ratio = -20.11

Simulation Run = 110
Weights = [0.081 0.093 0.124 0.077 0.254 0.055 0.116 0.061 0.138], Final Value = \$1493459.72, Sharpe Ratio = -21.14

Simulation Run = 111
Weights = [0.135 0.124 0.126 0.086 0.15 0.097 0.034 0.104 0.145], Final Value = \$1485325.80, Sharpe Ratio = -23.29

Simulation Run = 112
Weights = [0.093 0.151 0.152 0.063 0.035 0.146 0.144 0.084 0.132], Final Value = \$1448615.78, Sharpe Ratio = -16.83

Simulation Run = 113
Weights = [0.156 0.128 0.208 0.062 0.035 0.06 0.146 0.101 0.105], Final Value = \$1434559.29, Sharpe Ratio = -16.70

Simulation Run = 114
Weights = [0.248 0.026 0.008 0.178 0.062 0.095 0.059 0.058 0.265], Final Value = \$1469751.85, Sharpe Ratio = -21.77

Simulation Run = 115
Weights = [0.211 0.048 0.02 0.21 0.064 0.096 0.072 0.232 0.047], Final Value = \$1654189.57, Sharpe Ratio = -18.64

Simulation Run = 116
Weights = [0.061 0.184 0.111 0.168 0.106 0.066 0.122 0.059 0.123], Final Value = \$1470147.19, Sharpe Ratio = -20.61

Simulation Run = 117
Weights = [0.168 0.134 0.014 0.129 0.133 0.194 0.033 0.158 0.036], Final Value = \$1671772.21, Sharpe Ratio = -19.58

Simulation Run = 118
Weights = [0.155 0.042 0.05 0.182 0.053 0.068 0.213 0.062 0.174], Final Value = \$1490911.13, Sharpe Ratio = -15.60

Simulation Run = 119
Weights = [0.065 0.155 0.115 0.162 0.087 0.124 0.03 0.118 0.144], Final Value =
\$1480654.19, Sharpe Ratio = -23.06

Simulation Run = 120
Weights = [0.274 0.003 0.075 0.157 0.073 0.008 0.015 0.16 0.234], Final Value =
\$1449870.82, Sharpe Ratio = -23.53

Simulation Run = 121
Weights = [0.055 0.273 0.107 0.013 0.184 0.006 0.141 0.1 0.121], Final Value =
\$1411120.10, Sharpe Ratio = -21.98

Simulation Run = 122
Weights = [0.028 0.151 0.117 0.156 0.12 0.071 0.145 0.086 0.124], Final Value =
\$1471755.80, Sharpe Ratio = -19.27

Simulation Run = 123
Weights = [0.115 0.066 0.007 0.132 0.193 0.206 0.018 0.154 0.108], Final Value =
\$1641719.81, Sharpe Ratio = -20.86

Simulation Run = 124
Weights = [0.141 0.023 0.013 0.183 0.137 0.071 0.217 0.044 0.171], Final Value =
\$1533055.72, Sharpe Ratio = -15.98

Simulation Run = 125
Weights = [0.038 0.044 0.151 0.143 0.102 0.169 0.113 0.147 0.092], Final Value =
\$1549474.49, Sharpe Ratio = -16.86

Simulation Run = 126
Weights = [0.153 0.118 0.07 0.023 0.148 0.165 0.16 0.017 0.145], Final Value =
\$1514490.97, Sharpe Ratio = -16.81

Simulation Run = 127
Weights = [0.129 0.117 0.244 0.177 0.051 0.009 0.107 0.04 0.126], Final Value =
\$1410637.05, Sharpe Ratio = -18.41

Simulation Run = 128
Weights = [0.01 0.166 0.054 0. 0.063 0.265 0.153 0.115 0.174], Final Value =

\$1470769.63, Sharpe Ratio = -15.83

Simulation Run = 129

Weights = [0.201 0.208 0.16 0.171 0.155 0.016 0.027 0.008 0.054], Final Value = \$1527626.33, Sharpe Ratio = -23.41

Simulation Run = 130

Weights = [0.055 0.081 0.198 0.11 0.155 0.208 0.08 0.025 0.088], Final Value = \$1546256.55, Sharpe Ratio = -17.34

Simulation Run = 131

Weights = [0.142 0.148 0.006 0.065 0.143 0.101 0.083 0.159 0.153], Final Value = \$1515273.58, Sharpe Ratio = -22.46

Simulation Run = 132

Weights = [0.072 0.131 0.141 0.13 0.103 0.042 0.155 0.109 0.117], Final Value = \$1460897.92, Sharpe Ratio = -18.36

Simulation Run = 133

Weights = [0.085 0.116 0.151 0.144 0.079 0.029 0.241 0.09 0.065], Final Value = \$1495091.07, Sharpe Ratio = -14.51

Simulation Run = 134

Weights = [0.144 0.135 0.09 0.098 0.142 0.131 0.108 0.133 0.018], Final Value = \$1619488.36, Sharpe Ratio = -18.06

Simulation Run = 135

Weights = [0.097 0.181 0.025 0.113 0.049 0.004 0.221 0.191 0.119], Final Value = \$1464052.78, Sharpe Ratio = -16.75

Simulation Run = 136

Weights = [0.153 0.16 0.176 0.018 0.021 0.011 0.18 0.15 0.133], Final Value = \$1381423.91, Sharpe Ratio = -16.68

Simulation Run = 137

Weights = [0.104 0.082 0.063 0.026 0.02 0.274 0.234 0.189 0.008], Final Value = \$1647150.76, Sharpe Ratio = -11.76

Simulation Run = 138
Weights = [0.107 0.112 0.148 0.128 0.126 0.101 0.044 0.097 0.136], Final Value =
\$1486156.85, Sharpe Ratio = -22.03

Simulation Run = 139
Weights = [0.189 0.112 0.093 0.195 0.019 0.032 0.108 0.085 0.167], Final Value =
\$1453630.18, Sharpe Ratio = -20.03

Simulation Run = 140
Weights = [0.155 0.177 0.059 0.012 0.181 0.231 0.077 0.04 0.067], Final Value =
\$1607786.50, Sharpe Ratio = -18.22

Simulation Run = 141
Weights = [0.12 0.071 0.182 0.054 0.043 0.171 0.077 0.166 0.115], Final Value =
\$1492484.19, Sharpe Ratio = -17.22

Simulation Run = 142
Weights = [0.132 0.03 0.011 0.059 0.155 0.235 0.026 0.175 0.176], Final Value =
\$1578879.94, Sharpe Ratio = -19.57

Simulation Run = 143
Weights = [0.186 0.105 0.158 0.153 0.033 0.063 0.07 0.097 0.136], Final Value =
\$1463830.90, Sharpe Ratio = -19.91

Simulation Run = 144
Weights = [0.13 0.221 0.164 0.004 0.062 0.221 0.029 0.147 0.022], Final Value =
\$1558009.93, Sharpe Ratio = -18.03

Simulation Run = 145
Weights = [0.265 0.08 0.08 0.123 0.067 0.134 0.022 0.081 0.148], Final Value =
\$1537354.84, Sharpe Ratio = -20.52

Simulation Run = 146
Weights = [0.095 0.189 0.193 0.09 0.013 0.041 0.121 0.094 0.163], Final Value =
\$1356832.85, Sharpe Ratio = -19.32

Simulation Run = 147
Weights = [0.135 0.117 0.075 0.105 0.143 0.033 0.188 0.125 0.079], Final Value =
\$1536248.41, Sharpe Ratio = -17.14

Simulation Run = 148
Weights = [0.172 0.033 0.045 0.15 0.088 0.14 0.062 0.166 0.145], Final Value =
\$1563680.17, Sharpe Ratio = -19.72

Simulation Run = 149
Weights = [0.166 0.068 0.091 0.111 0.14 0.109 0.115 0.032 0.167], Final Value =
\$1501784.32, Sharpe Ratio = -19.25

Simulation Run = 150
Weights = [0.167 0.081 0.127 0.131 0.001 0.128 0.136 0.151 0.079], Final Value =
\$1538228.34, Sharpe Ratio = -15.89

Simulation Run = 151
Weights = [0.162 0.208 0.029 0.072 0.003 0.217 0.158 0.004 0.148], Final Value =
\$1499009.48, Sharpe Ratio = -15.87

Simulation Run = 152
Weights = [0.118 0.141 0.106 0.168 0.1 0.147 0.066 0.083 0.069], Final Value =
\$1573711.13, Sharpe Ratio = -19.71

Simulation Run = 153
Weights = [0.103 0.036 0.016 0.177 0.214 0.055 0.09 0.215 0.093], Final Value =
\$1613633.83, Sharpe Ratio = -21.53

Simulation Run = 154
Weights = [0.147 0.14 0.11 0.026 0.124 0.123 0.073 0.167 0.09], Final Value =
\$1527072.47, Sharpe Ratio = -20.08

Simulation Run = 155
Weights = [0.182 0.147 0.104 0.174 0.049 0.174 0.019 0.071 0.08], Final Value =
\$1575931.83, Sharpe Ratio = -19.77

Simulation Run = 156
Weights = [0.007 0.039 0.195 0.11 0.069 0.3 0.081 0.151 0.049], Final Value =
\$1601079.03, Sharpe Ratio = -14.49

Simulation Run = 157

Weights = [0.125 0.142 0.112 0.19 0.077 0.051 0.039 0.074 0.19], Final Value = \$1430357.39, Sharpe Ratio = -24.68

Simulation Run = 158

Weights = [0.153 0.08 0.116 0.05 0.154 0.009 0.151 0.106 0.182], Final Value = \$1425024.28, Sharpe Ratio = -19.32

Simulation Run = 159

Weights = [0.126 0.139 0.032 0.133 0.183 0.004 0.183 0.012 0.188], Final Value = \$1452923.57, Sharpe Ratio = -19.62

Simulation Run = 160

Weights = [0.04 0.212 0.168 0.26 0.101 0.014 0.07 0.081 0.052], Final Value = \$1500760.87, Sharpe Ratio = -21.65

Simulation Run = 161

Weights = [0.286 0.223 0.029 0.048 0.097 0.02 0.011 0.01 0.276], Final Value = \$1358190.05, Sharpe Ratio = -28.36

Simulation Run = 162

Weights = [0.033 0.058 0.111 0.193 0.177 0.116 0.05 0.06 0.202], Final Value = \$1476881.14, Sharpe Ratio = -23.19

Simulation Run = 163

Weights = [0.233 0.14 0.08 0.021 0.166 0.101 0.01 0.103 0.147], Final Value = \$1507720.23, Sharpe Ratio = -23.88

Simulation Run = 164

Weights = [0.156 0.034 0.031 0.127 0.141 0.154 0.141 0.121 0.095], Final Value = \$1618230.13, Sharpe Ratio = -16.75

Simulation Run = 165

Weights = [0.047 0.027 0.177 0.063 0.091 0.169 0.187 0.041 0.197], Final Value = \$1425333.39, Sharpe Ratio = -15.10

Simulation Run = 166

Weights = [0.105 0.179 0.076 0.108 0.08 0.067 0.104 0.163 0.117], Final Value = \$1482884.27, Sharpe Ratio = -21.19

Simulation Run = 167
Weights = [0.217 0.015 0.186 0.027 0.172 0.007 0.221 0.101 0.054], Final Value =
\$1532091.63, Sharpe Ratio = -14.28

Simulation Run = 168
Weights = [0.117 0.007 0.151 0.044 0.14 0.175 0.202 0.005 0.158], Final Value =
\$1497258.48, Sharpe Ratio = -14.40

Simulation Run = 169
Weights = [0.168 0.16 0.078 0.037 0.124 0.033 0.169 0.134 0.098], Final Value =
\$1493825.09, Sharpe Ratio = -18.10

Simulation Run = 170
Weights = [0.112 0.119 0.003 0.173 0.077 0.097 0.203 0.184 0.032], Final Value =
\$1624781.50, Sharpe Ratio = -15.48

Simulation Run = 171
Weights = [0.143 0.216 0.151 0.012 0.215 0.024 0.055 0.024 0.159], Final Value =
\$1408758.14, Sharpe Ratio = -25.56

Simulation Run = 172
Weights = [0.087 0.173 0.141 0.099 0.073 0.105 0.082 0.067 0.172], Final Value =
\$1415882.64, Sharpe Ratio = -21.36

Simulation Run = 173
Weights = [0.056 0.208 0.167 0.044 0.154 0.079 0.046 0.019 0.227], Final Value =
\$1341533.57, Sharpe Ratio = -25.73

Simulation Run = 174
Weights = [0.083 0.044 0.179 0.143 0.161 0.015 0.058 0.121 0.197], Final Value =
\$1414110.88, Sharpe Ratio = -22.89

Simulation Run = 175
Weights = [0.222 0.005 0.077 0.145 0.159 0.128 0.208 0.049 0.005], Final Value =
\$1690792.72, Sharpe Ratio = -13.74

Simulation Run = 176
Weights = [0.093 0.253 0.095 0.186 0.124 0.125 0.04 0.039 0.044], Final Value =

\$1567400.38, Sharpe Ratio = -22.84

Simulation Run = 177

Weights = [0.162 0.185 0.001 0.073 0.122 0.131 0.144 0.074 0.109], Final Value = \$1552230.85, Sharpe Ratio = -18.47

Simulation Run = 178

Weights = [0.166 0.154 0.165 0.157 0.111 0.023 0.06 0.011 0.153], Final Value = \$1433814.97, Sharpe Ratio = -22.86

Simulation Run = 179

Weights = [0.19 0.092 0.167 0.094 0.076 0.173 0.12 0.078 0.011], Final Value = \$1610151.04, Sharpe Ratio = -15.30

Simulation Run = 180

Weights = [0.155 0.065 0.113 0.154 0.017 0.133 0.167 0.072 0.123], Final Value = \$1515935.70, Sharpe Ratio = -15.45

Simulation Run = 181

Weights = [0.087 0.002 0.028 0.214 0.128 0.226 0.033 0.051 0.23], Final Value = \$1544257.36, Sharpe Ratio = -20.26

Simulation Run = 182

Weights = [0.162 0.033 0.154 0.114 0.159 0.063 0.125 0.144 0.044], Final Value = \$1582616.42, Sharpe Ratio = -17.24

Simulation Run = 183

Weights = [0.191 0.137 0.041 0.046 0.076 0.048 0.163 0.159 0.14], Final Value = \$1478429.83, Sharpe Ratio = -18.05

Simulation Run = 184

Weights = [0.204 0.056 0.134 0.184 0.033 0.099 0.119 0.013 0.158], Final Value = \$1486079.57, Sharpe Ratio = -17.50

Simulation Run = 185

Weights = [0.037 0.161 0.208 0.15 0.014 0.04 0.126 0.192 0.072], Final Value = \$1443202.79, Sharpe Ratio = -17.76

Simulation Run = 186
Weights = [0.078 0.138 0.046 0.016 0.002 0.179 0.262 0.149 0.129], Final Value =
\$1483723.45, Sharpe Ratio = -13.02

Simulation Run = 187
Weights = [0.102 0.002 0.138 0.134 0.131 0.143 0.096 0.148 0.105], Final Value =
\$1562585.72, Sharpe Ratio = -17.64

Simulation Run = 188
Weights = [0.156 0.199 0.061 0.118 0.088 0.101 0.06 0.046 0.171], Final Value =
\$1462308.29, Sharpe Ratio = -23.66

Simulation Run = 189
Weights = [0.107 0.135 0.078 0.052 0.103 0.159 0.197 0.136 0.033], Final Value =
\$1590218.69, Sharpe Ratio = -14.81

Simulation Run = 190
Weights = [0.116 0.181 0.099 0.094 0.088 0.008 0.161 0.12 0.134], Final Value =
\$1432943.25, Sharpe Ratio = -19.27

Simulation Run = 191
Weights = [0.073 0.06 0.206 0.004 0.144 0.117 0.183 0.028 0.185], Final Value =
\$1401461.00, Sharpe Ratio = -15.97

Simulation Run = 192
Weights = [0.029 0.109 0.176 0.189 0.199 0.028 0.069 0.16 0.041], Final Value =
\$1549213.02, Sharpe Ratio = -20.98

Simulation Run = 193
Weights = [0.156 0.146 0.057 0.177 0.133 0.095 0.058 0.092 0.086], Final Value =
\$1575239.15, Sharpe Ratio = -22.24

Simulation Run = 194
Weights = [0.099 0.011 0.168 0.043 0.178 0.006 0.106 0.192 0.197], Final Value =
\$1407611.23, Sharpe Ratio = -20.68

Simulation Run = 195
Weights = [0.055 0.167 0.064 0.052 0.014 0.219 0.123 0.039 0.267], Final Value =
\$1375519.58, Sharpe Ratio = -18.02

Simulation Run = 196
Weights = [0.14 0.183 0.032 0.076 0.123 0.167 0.118 0.098 0.063], Final Value =
\$1592687.87, Sharpe Ratio = -18.25

Simulation Run = 197
Weights = [0.032 0.218 0.035 0.27 0.004 0.041 0.157 0.095 0.149], Final Value =
\$1450520.41, Sharpe Ratio = -19.67

Simulation Run = 198
Weights = [0.135 0.099 0.11 0.192 0.149 0.093 0.005 0.216 0.001], Final Value =
\$1650300.88, Sharpe Ratio = -21.10

Simulation Run = 199
Weights = [0.22 0.055 0.264 0.123 0.014 0.021 0.228 0.001 0.074], Final Value =
\$1456391.45, Sharpe Ratio = -13.19

Simulation Run = 200
Weights = [0.085 0.087 0.12 0.126 0.05 0.148 0.157 0.158 0.07], Final Value =
\$1550959.98, Sharpe Ratio = -15.69

Simulation Run = 201
Weights = [0.005 0.008 0.103 0.14 0.137 0.142 0.136 0.16 0.17], Final Value =
\$1502290.12, Sharpe Ratio = -17.85

Simulation Run = 202
Weights = [0.134 0.176 0.136 0.015 0.037 0.175 0.079 0.084 0.164], Final Value =
\$1432128.65, Sharpe Ratio = -18.97

Simulation Run = 203
Weights = [0.077 0.147 0.215 0.161 0.137 0.091 0.101 0.047 0.024], Final Value =
\$1543963.11, Sharpe Ratio = -18.08

Simulation Run = 204
Weights = [0.078 0.095 0.208 0.068 0.119 0.214 0.098 0.096 0.023], Final Value =
\$1584384.73, Sharpe Ratio = -15.72

Simulation Run = 205

Weights = [0.087 0.2 0.08 0.152 0.067 0.103 0.097 0.117 0.096], Final Value = \$1510162.44, Sharpe Ratio = -20.70

Simulation Run = 206

Weights = [0.113 0.151 0.053 0.148 0.108 0.099 0.156 0.062 0.109], Final Value = \$1530504.06, Sharpe Ratio = -18.27

Simulation Run = 207

Weights = [0.03 0.157 0.078 0.14 0.176 0.132 0.055 0.07 0.161], Final Value = \$1491819.87, Sharpe Ratio = -24.02

Simulation Run = 208

Weights = [0.13 0.206 0.03 0.147 0.113 0.089 0.16 0.007 0.118], Final Value = \$1516927.84, Sharpe Ratio = -18.98

Simulation Run = 209

Weights = [0.077 0.192 0.091 0.079 0.201 0.018 0.104 0.054 0.186], Final Value = \$1411605.87, Sharpe Ratio = -24.57

Simulation Run = 210

Weights = [0.005 0.235 0.008 0.21 0.168 0.095 0.1 0.061 0.119], Final Value = \$1529163.59, Sharpe Ratio = -23.79

Simulation Run = 211

Weights = [0.047 0.151 0.099 0.139 0.021 0.025 0.21 0.166 0.142], Final Value = \$1419294.69, Sharpe Ratio = -16.54

Simulation Run = 212

Weights = [0.02 0.148 0.181 0.034 0.133 0.055 0.208 0.166 0.055], Final Value = \$1474266.52, Sharpe Ratio = -15.69

Simulation Run = 213

Weights = [0.005 0.147 0.113 0.098 0.136 0.027 0.153 0.153 0.168], Final Value = \$1408551.38, Sharpe Ratio = -20.27

Simulation Run = 214

Weights = [0.117 0.124 0.11 0.056 0.054 0.136 0.157 0.131 0.115], Final Value = \$1492430.96, Sharpe Ratio = -16.50

Simulation Run = 215
Weights = [0.191 0.146 0.162 0.132 0.003 0.008 0.032 0.174 0.153], Final Value =
\$1408475.44, Sharpe Ratio = -22.44

Simulation Run = 216
Weights = [0.23 0.108 0.005 0.231 0.08 0.033 0.122 0.111 0.079], Final Value =
\$1598373.89, Sharpe Ratio = -19.19

Simulation Run = 217
Weights = [0.053 0.046 0.21 0.013 0.101 0.053 0.105 0.197 0.222], Final Value =
\$1342756.26, Sharpe Ratio = -19.68

Simulation Run = 218
Weights = [0.071 0.153 0.153 0.052 0.148 0.007 0.148 0.143 0.124], Final Value =
\$1425832.56, Sharpe Ratio = -19.59

Simulation Run = 219
Weights = [0.038 0.191 0.024 0.266 0.038 0.243 0.136 0.054 0.011], Final Value =
\$1667348.38, Sharpe Ratio = -15.66

Simulation Run = 220
Weights = [0.11 0.035 0.004 0.001 0.101 0.257 0.177 0.191 0.124], Final Value =
\$1595265.54, Sharpe Ratio = -14.09

Simulation Run = 221
Weights = [0.11 0.079 0.123 0.127 0.156 0.13 0.129 0.059 0.086], Final Value =
\$1561345.88, Sharpe Ratio = -17.69

Simulation Run = 222
Weights = [0.036 0.017 0.119 0.032 0.211 0.038 0.235 0.106 0.205], Final Value =
\$1416744.77, Sharpe Ratio = -15.92

Simulation Run = 223
Weights = [0.171 0.064 0.166 0.063 0.168 0.176 0.014 0.146 0.033], Final Value =
\$1620193.45, Sharpe Ratio = -18.55

Simulation Run = 224
Weights = [0.156 0.082 0.177 0. 0.127 0.139 0.125 0.043 0.151], Final Value =

\$1458724.04, Sharpe Ratio = -17.29

Simulation Run = 225

Weights = [0.172 0.02 0.04 0.117 0.152 0.045 0.128 0.162 0.166], Final Value = \$1520056.91, Sharpe Ratio = -19.65

Simulation Run = 226

Weights = [0.209 0.02 0.182 0.133 0.106 0.158 0.054 0.074 0.065], Final Value = \$1593885.43, Sharpe Ratio = -17.11

Simulation Run = 227

Weights = [0.139 0.008 0.258 0.153 0.189 0.02 0.006 0.018 0.209], Final Value = \$1402223.62, Sharpe Ratio = -22.08

Simulation Run = 228

Weights = [0.057 0.125 0.182 0.109 0.048 0.121 0.163 0.05 0.145], Final Value = \$1427781.84, Sharpe Ratio = -16.48

Simulation Run = 229

Weights = [0.19 0.064 0.007 0.202 0.108 0.117 0.127 0.035 0.149], Final Value = \$1571449.86, Sharpe Ratio = -18.57

Simulation Run = 230

Weights = [0.122 0.08 0.004 0.109 0.137 0.121 0.11 0.154 0.163], Final Value = \$1536243.35, Sharpe Ratio = -20.15

Simulation Run = 231

Weights = [0.024 0.035 0.099 0.182 0.101 0.147 0.074 0.146 0.192], Final Value = \$1484983.50, Sharpe Ratio = -20.35

Simulation Run = 232

Weights = [0.06 0.118 0.161 0.124 0.012 0.033 0.246 0.047 0.199], Final Value = \$1348269.71, Sharpe Ratio = -14.86

Simulation Run = 233

Weights = [0.148 0.044 0.229 0.016 0.249 0.088 0.15 0.029 0.047], Final Value = \$1550101.51, Sharpe Ratio = -16.14

Simulation Run = 234
Weights = [0.224 0.093 0.192 0.075 0.036 0.011 0.021 0.111 0.237], Final Value =
\$1339355.90, Sharpe Ratio = -22.91

Simulation Run = 235
Weights = [0.089 0.116 0.086 0.122 0.055 0.142 0.15 0.086 0.153], Final Value =
\$1482112.10, Sharpe Ratio = -17.34

Simulation Run = 236
Weights = [0.026 0.042 0.106 0.197 0.176 0.135 0.009 0.193 0.116], Final Value =
\$1569659.33, Sharpe Ratio = -22.32

Simulation Run = 237
Weights = [0.076 0.081 0.13 0.113 0.138 0.17 0.14 0.011 0.142], Final Value =
\$1509348.63, Sharpe Ratio = -17.18

Simulation Run = 238
Weights = [0.178 0.163 0.075 0.026 0.043 0.189 0.05 0.088 0.187], Final Value =
\$1458732.22, Sharpe Ratio = -20.04

Simulation Run = 239
Weights = [0.106 0.069 0.245 0.124 0.239 0.126 0.063 0.025 0.003], Final Value =
\$1608868.05, Sharpe Ratio = -17.75

Simulation Run = 240
Weights = [0.128 0.113 0.171 0.114 0.129 0.09 0.186 0.031 0.038], Final Value =
\$1549781.76, Sharpe Ratio = -15.44

Simulation Run = 241
Weights = [0.039 0.177 0.129 0.046 0.088 0.151 0.109 0.127 0.136], Final Value =
\$1452455.64, Sharpe Ratio = -19.23

Simulation Run = 242
Weights = [0.048 0.02 0.123 0.142 0.182 0.162 0.103 0.062 0.158], Final Value =
\$1527050.90, Sharpe Ratio = -18.70

Simulation Run = 243
Weights = [0.076 0.208 0.033 0.212 0.215 0.059 0.121 0.054 0.022], Final Value =
\$1621097.53, Sharpe Ratio = -21.18

Simulation Run = 244
Weights = [0.138 0.045 0.133 0.159 0.242 0.098 0.101 0.025 0.06], Final Value =
\$1612455.30, Sharpe Ratio = -18.85

Simulation Run = 245
Weights = [0.014 0.096 0.086 0.061 0.179 0.199 0.145 0.118 0.102], Final Value =
\$1558802.27, Sharpe Ratio = -16.96

Simulation Run = 246
Weights = [0.143 0.092 0.112 0.116 0.183 0.045 0.038 0.122 0.149], Final Value =
\$1492864.57, Sharpe Ratio = -24.41

Simulation Run = 247
Weights = [0.212 0.041 0.214 0.093 0.077 0.079 0.026 0.141 0.117], Final Value =
\$1486472.56, Sharpe Ratio = -19.32

Simulation Run = 248
Weights = [0.172 0.041 0.059 0.132 0.065 0.196 0.166 0.07 0.099], Final Value =
\$1598728.27, Sharpe Ratio = -14.78

Simulation Run = 249
Weights = [0.017 0.002 0.167 0.22 0.09 0.217 0.208 0.002 0.077], Final Value =
\$1587099.05, Sharpe Ratio = -13.17

Simulation Run = 250
Weights = [0.159 0.008 0.119 0.212 0.251 0.126 0.027 0.066 0.031], Final Value =
\$1686976.05, Sharpe Ratio = -19.64

Simulation Run = 251
Weights = [0.049 0.248 0.141 0.152 0.224 0.063 0.052 0.052 0.018], Final Value =
\$1559173.08, Sharpe Ratio = -23.64

Simulation Run = 252
Weights = [0.085 0.039 0.097 0.218 0.095 0.022 0.191 0.22 0.032], Final Value =
\$1590212.46, Sharpe Ratio = -15.70

Simulation Run = 253

Weights = [0.267 0.101 0.235 0.015 0.048 0.054 0.19 0.089 0.001], Final Value = \$1529132.05, Sharpe Ratio = -13.78

Simulation Run = 254

Weights = [0.034 0.099 0.125 0.009 0.04 0.279 0.273 0.07 0.071], Final Value = \$1548130.67, Sharpe Ratio = -11.44

Simulation Run = 255

Weights = [0.222 0.204 0.046 0.138 0.07 0.07 0.038 0.104 0.106], Final Value = \$1526262.27, Sharpe Ratio = -23.57

Simulation Run = 256

Weights = [0.044 0.193 0.151 0.002 0.135 0.074 0.05 0.263 0.088], Final Value = \$1461660.22, Sharpe Ratio = -23.07

Simulation Run = 257

Weights = [0.007 0.171 0.225 0.113 0.132 0.033 0.168 0.015 0.136], Final Value = \$1384221.91, Sharpe Ratio = -17.89

Simulation Run = 258

Weights = [0.033 0.142 0.16 0.115 0.102 0.249 0.041 0.031 0.127], Final Value = \$1512545.12, Sharpe Ratio = -18.62

Simulation Run = 259

Weights = [0.059 0.066 0.167 0.203 0.044 0.17 0.062 0.015 0.215], Final Value = \$1431396.56, Sharpe Ratio = -19.34

Simulation Run = 260

Weights = [0.151 0.091 0.124 0.047 0.087 0.207 0.056 0.225 0.012], Final Value = \$1632740.07, Sharpe Ratio = -16.76

Simulation Run = 261

Weights = [0.077 0.181 0.149 0.135 0.059 0.057 0.175 0.033 0.134], Final Value = \$1422763.26, Sharpe Ratio = -17.55

Simulation Run = 262

Weights = [0.155 0.033 0.107 0.065 0.156 0.104 0.207 0.033 0.139], Final Value = \$1514081.39, Sharpe Ratio = -15.33

Simulation Run = 263
Weights = [0.061 0.104 0.181 0.138 0.106 0.18 0.073 0.126 0.031], Final Value =
\$1583743.73, Sharpe Ratio = -17.35

Simulation Run = 264
Weights = [0.256 0.136 0.06 0.094 0.069 0.009 0.059 0.183 0.133], Final Value =
\$1489001.61, Sharpe Ratio = -22.63

Simulation Run = 265
Weights = [0.228 0.012 0.216 0.125 0.035 0.074 0.025 0.108 0.177], Final Value =
\$1438117.99, Sharpe Ratio = -19.32

Simulation Run = 266
Weights = [0.039 0.282 0.153 0.069 0.167 0.086 0.042 0.025 0.136], Final Value =
\$1416312.97, Sharpe Ratio = -25.84

Simulation Run = 267
Weights = [0.017 0.102 0.002 0.087 0.231 0.119 0.072 0.151 0.221], Final Value =
\$1481785.26, Sharpe Ratio = -24.95

Simulation Run = 268
Weights = [0.018 0.073 0.218 0.009 0.172 0.117 0.054 0.118 0.219], Final Value =
\$1370507.10, Sharpe Ratio = -21.59

Simulation Run = 269
Weights = [0.259 0.031 0.013 0.124 0.141 0.062 0.166 0.145 0.059], Final Value =
\$1639547.67, Sharpe Ratio = -16.31

Simulation Run = 270
Weights = [0.083 0.18 0.181 0.073 0.05 0.11 0.094 0.028 0.201], Final Value =
\$1360299.22, Sharpe Ratio = -20.33

Simulation Run = 271
Weights = [0.208 0.097 0.191 0.091 0.094 0.147 0.072 0.016 0.084], Final Value =
\$1532954.86, Sharpe Ratio = -17.69

Simulation Run = 272
Weights = [0.217 0.156 0.166 0.047 0.003 0.138 0.001 0.155 0.118], Final Value =

\$1470432.88, Sharpe Ratio = -20.07

Simulation Run = 273

Weights = [0.087 0.031 0.142 0.082 0.101 0.203 0.1 0.183 0.071], Final Value = \$1584084.88, Sharpe Ratio = -16.15

Simulation Run = 274

Weights = [0.2 0.063 0.004 0.047 0.051 0.202 0.18 0.152 0.101], Final Value = \$1600234.60, Sharpe Ratio = -14.27

Simulation Run = 275

Weights = [0.071 0.212 0.041 0.106 0.063 0.159 0.114 0.153 0.08], Final Value = \$1543644.26, Sharpe Ratio = -18.91

Simulation Run = 276

Weights = [0.167 0.026 0.014 0.081 0.19 0.087 0.126 0.192 0.117], Final Value = \$1589183.38, Sharpe Ratio = -18.90

Simulation Run = 277

Weights = [0.15 0.103 0.065 0.116 0.038 0.126 0.198 0.199 0.004], Final Value = \$1623430.85, Sharpe Ratio = -14.28

Simulation Run = 278

Weights = [0.014 0.034 0.016 0.153 0.022 0.253 0.089 0.207 0.212], Final Value = \$1514337.16, Sharpe Ratio = -17.33

Simulation Run = 279

Weights = [0.046 0.017 0.082 0.133 0.227 0.066 0.172 0.048 0.21], Final Value = \$1467746.64, Sharpe Ratio = -18.72

Simulation Run = 280

Weights = [0.133 0.047 0.187 0.206 0.107 0.108 0.007 0.01 0.194], Final Value = \$1455747.82, Sharpe Ratio = -21.78

Simulation Run = 281

Weights = [0.178 0.069 0.052 0.099 0.177 0.183 0.155 0.005 0.083], Final Value = \$1624940.39, Sharpe Ratio = -16.02

Simulation Run = 282
Weights = [0.139 0.124 0.167 0.086 0.1 0.065 0.096 0.183 0.041], Final Value =
\$1533261.31, Sharpe Ratio = -18.68

Simulation Run = 283
Weights = [0.066 0.194 0.013 0.061 0.129 0.205 0.082 0.06 0.192], Final Value =
\$1485033.78, Sharpe Ratio = -20.95

Simulation Run = 284
Weights = [0.067 0.128 0.078 0.022 0.225 0.08 0.099 0.189 0.111], Final Value =
\$1518119.15, Sharpe Ratio = -21.87

Simulation Run = 285
Weights = [0.137 0.004 0.07 0.22 0.157 0.083 0.01 0.172 0.148], Final Value =
\$1567261.10, Sharpe Ratio = -23.09

Simulation Run = 286
Weights = [0.209 0.202 0.02 0.052 0.19 0.081 0.031 0.016 0.201], Final Value =
\$1465966.05, Sharpe Ratio = -26.96

Simulation Run = 287
Weights = [0.122 0.144 0.098 0.003 0.11 0.127 0.129 0.118 0.148], Final Value =
\$1464121.67, Sharpe Ratio = -18.59

Simulation Run = 288
Weights = [0.072 0.171 0.155 0.131 0.082 0.118 0.178 0.092 0.001], Final Value =
\$1567651.77, Sharpe Ratio = -15.44

Simulation Run = 289
Weights = [0.173 0.048 0.139 0.097 0.13 0.159 0.134 0.028 0.093], Final Value =
\$1565693.97, Sharpe Ratio = -16.20

Simulation Run = 290
Weights = [0.14 0.072 0.143 0.126 0.145 0.074 0.137 0.029 0.133], Final Value =
\$1494613.24, Sharpe Ratio = -18.30

Simulation Run = 291
Weights = [0.006 0.107 0.12 0.179 0.115 0.162 0.111 0.137 0.064], Final Value =
\$1572429.45, Sharpe Ratio = -17.86

Simulation Run = 292
Weights = [0.071 0.055 0.097 0.234 0.077 0.159 0.034 0.164 0.11], Final Value =
\$1573421.96, Sharpe Ratio = -19.89

Simulation Run = 293
Weights = [0.037 0.032 0.131 0.145 0.015 0.08 0.22 0.193 0.147], Final Value =
\$1452555.77, Sharpe Ratio = -14.64

Simulation Run = 294
Weights = [0.026 0.065 0.025 0.183 0.102 0.188 0.138 0.216 0.058], Final Value =
\$1639239.84, Sharpe Ratio = -16.46

Simulation Run = 295
Weights = [0.211 0.003 0.069 0.123 0.21 0.018 0.004 0.208 0.154], Final Value =
\$1544914.64, Sharpe Ratio = -24.64

Simulation Run = 296
Weights = [0.087 0.194 0.084 0.07 0.182 0.14 0.055 0.128 0.061], Final Value =
\$1568345.05, Sharpe Ratio = -22.05

Simulation Run = 297
Weights = [0.152 0.137 0.153 0.136 0.024 0.029 0.116 0.1 0.153], Final Value =
\$1414881.11, Sharpe Ratio = -19.43

Simulation Run = 298
Weights = [0.183 0.038 0.181 0.033 0.137 0.044 0.183 0.126 0.075], Final Value =
\$1512690.23, Sharpe Ratio = -15.44

Simulation Run = 299
Weights = [0.137 0.116 0.182 0.01 0.14 0.144 0.09 0.154 0.028], Final Value =
\$1563569.12, Sharpe Ratio = -17.43

Simulation Run = 300
Weights = [0.149 0.039 0.112 0.123 0.012 0.135 0.15 0.13 0.149], Final Value =
\$1494585.02, Sharpe Ratio = -15.91

Simulation Run = 301

Weights = [0.113 0.025 0.051 0.224 0.14 0.012 0.243 0.063 0.129], Final Value = \$1535438.04, Sharpe Ratio = -15.24

Simulation Run = 302

Weights = [0.115 0.076 0.128 0.203 0.109 0.029 0.134 0.155 0.05], Final Value = \$1562394.26, Sharpe Ratio = -17.90

Simulation Run = 303

Weights = [0.144 0.199 0.186 0.014 0.093 0.038 0.138 0.01 0.178], Final Value = \$1352347.26, Sharpe Ratio = -19.41

Simulation Run = 304

Weights = [0.176 0.03 0.186 0.107 0.161 0.122 0.173 0.008 0.038], Final Value = \$1593045.15, Sharpe Ratio = -14.77

Simulation Run = 305

Weights = [0.064 0.006 0.003 0.157 0.184 0.161 0.125 0.258 0.042], Final Value = \$1691257.10, Sharpe Ratio = -17.09

Simulation Run = 306

Weights = [0.06 0.039 0.095 0.17 0.109 0.225 0.108 0.02 0.174], Final Value = \$1531563.52, Sharpe Ratio = -17.25

Simulation Run = 307

Weights = [0.055 0.004 0.131 0.164 0.078 0.142 0.203 0.156 0.067], Final Value = \$1576952.36, Sharpe Ratio = -14.04

Simulation Run = 308

Weights = [0.071 0.018 0.009 0.291 0.021 0.188 0.151 0.199 0.053], Final Value = \$1673611.18, Sharpe Ratio = -14.95

Simulation Run = 309

Weights = [0.213 0.006 0.022 0.223 0.204 0.011 0.076 0.01 0.237], Final Value = \$1499488.02, Sharpe Ratio = -23.85

Simulation Run = 310

Weights = [0.281 0.103 0.029 0.22 0. 0.036 0.025 0.266 0.04], Final Value = \$1620797.91, Sharpe Ratio = -20.34

Simulation Run = 311
Weights = [0.106 0.252 0.049 0.09 0.032 0.183 0.024 0.228 0.036], Final Value =
\$1579176.26, Sharpe Ratio = -20.65

Simulation Run = 312
Weights = [0.03 0.196 0.158 0.026 0.047 0.17 0.169 0.183 0.02], Final Value =
\$1525578.64, Sharpe Ratio = -15.18

Simulation Run = 313
Weights = [0.176 0.225 0.106 0.006 0.007 0.165 0.134 0.088 0.093], Final Value =
\$1484261.27, Sharpe Ratio = -16.64

Simulation Run = 314
Weights = [0.168 0.165 0.02 0.079 0.178 0.186 0.117 0.047 0.039], Final Value =
\$1648369.87, Sharpe Ratio = -17.76

Simulation Run = 315
Weights = [0.117 0.208 0.241 0.014 0.086 0.044 0.083 0.057 0.151], Final Value =
\$1351164.85, Sharpe Ratio = -20.75

Simulation Run = 316
Weights = [0.052 0.024 0.212 0.06 0.034 0.193 0.165 0.213 0.047], Final Value =
\$1544292.82, Sharpe Ratio = -13.63

Simulation Run = 317
Weights = [0.003 0.162 0.059 0.146 0.056 0.148 0.195 0.164 0.067], Final Value =
\$1547954.57, Sharpe Ratio = -15.66

Simulation Run = 318
Weights = [0.057 0.038 0.001 0.057 0.305 0.084 0.163 0.21 0.085], Final Value =
\$1621561.06, Sharpe Ratio = -18.44

Simulation Run = 319
Weights = [0.074 0.144 0.104 0.102 0.148 0.074 0.181 0.169 0.004], Final Value =
\$1588335.29, Sharpe Ratio = -16.49

Simulation Run = 320
Weights = [0.196 0.16 0. 0.052 0.202 0.016 0.009 0.222 0.142], Final Value =

\$1519297.26, Sharpe Ratio = -28.29

Simulation Run = 321

Weights = [0.047 0.118 0.093 0.133 0.157 0.164 0.116 0.133 0.039], Final Value = \$1610260.27, Sharpe Ratio = -17.87

Simulation Run = 322

Weights = [0.204 0.081 0.173 0.03 0.179 0.184 0.078 0.051 0.02], Final Value = \$1622385.20, Sharpe Ratio = -16.72

Simulation Run = 323

Weights = [0.091 0.143 0.096 0.149 0.135 0.137 0.01 0.137 0.102], Final Value = \$1548960.34, Sharpe Ratio = -23.12

Simulation Run = 324

Weights = [0.08 0.043 0.196 0.053 0.07 0.224 0.1 0.116 0.119], Final Value = \$1508476.82, Sharpe Ratio = -15.76

Simulation Run = 325

Weights = [0.133 0.044 0.183 0.041 0.041 0.089 0.155 0.185 0.128], Final Value = \$1452186.97, Sharpe Ratio = -15.91

Simulation Run = 326

Weights = [0.035 0.205 0.199 0.147 0.121 0.157 0.007 0.119 0.009], Final Value = \$1564781.78, Sharpe Ratio = -20.27

Simulation Run = 327

Weights = [0.222 0.097 0.127 0.115 0.116 0.118 0.019 0.036 0.149], Final Value = \$1508697.92, Sharpe Ratio = -21.73

Simulation Run = 328

Weights = [0.09 0.114 0.16 0.195 0.094 0.084 0.147 0.104 0.012], Final Value = \$1580780.21, Sharpe Ratio = -16.42

Simulation Run = 329

Weights = [0.117 0.07 0.026 0.186 0.116 0.132 0.115 0.184 0.054], Final Value = \$1640552.61, Sharpe Ratio = -17.97

Simulation Run = 330
Weights = [0.149 0.094 0.164 0.062 0.042 0.084 0.14 0.129 0.135], Final Value =
\$1445599.46, Sharpe Ratio = -17.11

Simulation Run = 331
Weights = [0.118 0.141 0.308 0.198 0.095 0.005 0.1 0.035 0.], Final Value =
\$1500188.30, Sharpe Ratio = -16.73

Simulation Run = 332
Weights = [0.016 0.149 0.211 0.064 0.073 0.054 0.114 0.061 0.256], Final Value =
\$1278986.19, Sharpe Ratio = -20.72

Simulation Run = 333
Weights = [0.158 0.071 0.04 0.081 0.07 0.178 0.171 0.208 0.023], Final Value =
\$1648582.64, Sharpe Ratio = -14.54

Simulation Run = 334
Weights = [0.064 0.109 0.051 0.166 0.156 0.095 0.162 0.043 0.156], Final Value =
\$1507104.92, Sharpe Ratio = -18.82

Simulation Run = 335
Weights = [0.064 0.082 0.142 0.116 0.069 0.157 0.154 0.077 0.14], Final Value =
\$1483390.83, Sharpe Ratio = -16.34

Simulation Run = 336
Weights = [0.081 0.119 0.153 0.195 0.13 0.079 0.092 0.022 0.128], Final Value =
\$1487429.43, Sharpe Ratio = -20.56

Simulation Run = 337
Weights = [0.105 0.182 0.015 0.047 0.133 0.05 0.176 0.041 0.251], Final Value =
\$1376793.84, Sharpe Ratio = -19.97

Simulation Run = 338
Weights = [0.11 0.217 0.146 0.034 0.203 0.093 0.004 0.095 0.098], Final Value =
\$1490084.21, Sharpe Ratio = -25.43

Simulation Run = 339
Weights = [0.048 0.049 0.012 0.192 0.21 0.083 0.114 0.177 0.115], Final Value =
\$1592690.38, Sharpe Ratio = -20.78

Simulation Run = 340
Weights = [0.147 0.121 0.161 0.121 0.044 0.121 0.173 0.086 0.025], Final Value =
\$1560245.24, Sharpe Ratio = -14.90

Simulation Run = 341
Weights = [0.088 0.207 0.061 0.166 0.07 0.001 0.121 0.149 0.137], Final Value =
\$1445115.35, Sharpe Ratio = -22.26

Simulation Run = 342
Weights = [0.06 0.148 0.153 0.257 0.039 0.019 0.143 0.017 0.165], Final Value =
\$1409112.08, Sharpe Ratio = -19.05

Simulation Run = 343
Weights = [0.014 0.107 0.119 0.013 0.113 0.158 0.168 0.133 0.175], Final Value =
\$1435082.60, Sharpe Ratio = -16.88

Simulation Run = 344
Weights = [0.01 0.195 0.121 0.263 0.058 0.059 0.149 0.144 0.001], Final Value =
\$1567344.73, Sharpe Ratio = -17.52

Simulation Run = 345
Weights = [0.151 0.199 0.148 0.02 0.089 0.075 0.015 0.102 0.202], Final Value =
\$1371429.54, Sharpe Ratio = -25.35

Simulation Run = 346
Weights = [0.087 0.142 0.098 0.081 0.007 0.192 0.062 0.156 0.175], Final Value =
\$1454920.82, Sharpe Ratio = -19.30

Simulation Run = 347
Weights = [0.031 0.067 0.209 0.074 0.018 0.108 0.174 0.113 0.206], Final Value =
\$1354785.45, Sharpe Ratio = -15.90

Simulation Run = 348
Weights = [0.057 0.177 0.048 0.013 0.186 0.127 0.132 0.095 0.166], Final Value =
\$1469124.10, Sharpe Ratio = -20.41

Simulation Run = 349

Weights = [0.055 0.071 0.199 0.197 0.079 0.169 0.035 0.161 0.035], Final Value = \$1586155.95, Sharpe Ratio = -17.66

Simulation Run = 350

Weights = [0.115 0.07 0.137 0.096 0.166 0.064 0.126 0.125 0.102], Final Value = \$1518038.89, Sharpe Ratio = -18.81

Simulation Run = 351

Weights = [0.172 0.162 0.003 0.101 0.023 0.155 0.116 0.149 0.119], Final Value = \$1543140.08, Sharpe Ratio = -18.04

Simulation Run = 352

Weights = [0.188 0.036 0.054 0.113 0.132 0.189 0.05 0.159 0.079], Final Value = \$1641227.49, Sharpe Ratio = -18.31

Simulation Run = 353

Weights = [0.093 0.104 0.079 0.2 0.027 0.196 0.088 0.064 0.148], Final Value = \$1525969.61, Sharpe Ratio = -18.12

Simulation Run = 354

Weights = [0.214 0.057 0.207 0.013 0.047 0.212 0.102 0.015 0.134], Final Value = \$1488531.70, Sharpe Ratio = -15.32

Simulation Run = 355

Weights = [0.044 0.168 0.193 0.085 0.029 0.06 0.069 0.174 0.178], Final Value = \$1355712.67, Sharpe Ratio = -21.63

Simulation Run = 356

Weights = [0.085 0.026 0.224 0.202 0.122 0.087 0.035 0.098 0.121], Final Value = \$1497788.29, Sharpe Ratio = -19.63

Simulation Run = 357

Weights = [0.145 0.162 0.066 0.128 0.155 0.021 0.051 0.145 0.127], Final Value = \$1498372.29, Sharpe Ratio = -25.58

Simulation Run = 358

Weights = [0.151 0.131 0.071 0.087 0.178 0.058 0.153 0.069 0.102], Final Value = \$1530810.99, Sharpe Ratio = -18.90

Simulation Run = 359
Weights = [0.027 0.232 0.005 0.123 0.21 0.027 0.168 0.042 0.165], Final Value =
\$1456093.60, Sharpe Ratio = -21.64

Simulation Run = 360
Weights = [0.127 0.149 0.235 0.171 0.001 0.194 0.087 0.029 0.007], Final Value =
\$1565488.88, Sharpe Ratio = -15.35

Simulation Run = 361
Weights = [0.097 0.081 0.183 0.174 0.055 0.07 0.097 0.18 0.063], Final Value =
\$1522071.95, Sharpe Ratio = -17.90

Simulation Run = 362
Weights = [0.045 0.159 0.208 0.093 0.086 0.182 0.012 0.025 0.191], Final Value =
\$1402098.10, Sharpe Ratio = -21.32

Simulation Run = 363
Weights = [0.172 0.189 0.042 0.071 0.092 0.077 0.184 0.057 0.116], Final Value =
\$1499051.57, Sharpe Ratio = -17.31

Simulation Run = 364
Weights = [0.11 0.184 0.066 0.148 0.011 0.167 0.167 0.017 0.13], Final Value =
\$1497245.79, Sharpe Ratio = -16.37

Simulation Run = 365
Weights = [0.234 0.016 0.141 0.03 0.035 0.044 0.274 0.043 0.182], Final Value =
\$1416821.39, Sharpe Ratio = -12.98

Simulation Run = 366
Weights = [0.019 0.103 0.157 0.153 0.008 0.048 0.122 0.138 0.251], Final Value =
\$1320443.64, Sharpe Ratio = -20.01

Simulation Run = 367
Weights = [0.082 0.199 0.188 0.161 0.057 0.135 0.097 0.011 0.07], Final Value =
\$1497345.67, Sharpe Ratio = -18.32

Simulation Run = 368
Weights = [0.051 0. 0.205 0.039 0.075 0.055 0.123 0.147 0.306], Final Value =

\$1280970.03, Sharpe Ratio = -19.17

Simulation Run = 369

Weights = [0.191 0.065 0.034 0.144 0.113 0.151 0.142 0.109 0.051], Final Value = \$1648653.77, Sharpe Ratio = -16.21

Simulation Run = 370

Weights = [0.113 0.146 0.003 0.174 0.076 0.069 0.03 0.196 0.194], Final Value = \$1474793.76, Sharpe Ratio = -26.58

Simulation Run = 371

Weights = [0.225 0.051 0.072 0.043 0.059 0.246 0.022 0.077 0.206], Final Value = \$1513043.93, Sharpe Ratio = -18.14

Simulation Run = 372

Weights = [0.041 0.047 0.096 0.125 0.029 0.085 0.31 0.077 0.19], Final Value = \$1419446.02, Sharpe Ratio = -12.68

Simulation Run = 373

Weights = [0.152 0.108 0.112 0.154 0.194 0.104 0.042 0.081 0.053], Final Value = \$1606132.57, Sharpe Ratio = -21.38

Simulation Run = 374

Weights = [0.16 0.056 0. 0.125 0.122 0.195 0.035 0.181 0.126], Final Value = \$1615797.77, Sharpe Ratio = -19.84

Simulation Run = 375

Weights = [0.191 0.095 0.105 0.016 0.109 0.17 0.016 0.176 0.121], Final Value = \$1536693.46, Sharpe Ratio = -20.15

Simulation Run = 376

Weights = [0.216 0.158 0.222 0.108 0.046 0.026 0.098 0.006 0.121], Final Value = \$1418235.17, Sharpe Ratio = -18.88

Simulation Run = 377

Weights = [0.166 0.009 0.118 0.171 0.169 0.076 0.091 0.104 0.097], Final Value = \$1578986.22, Sharpe Ratio = -19.09

Simulation Run = 378
Weights = [0.133 0.09 0.177 0.107 0.055 0.151 0.022 0.097 0.168], Final Value =
\$1453993.05, Sharpe Ratio = -20.28

Simulation Run = 379
Weights = [0.017 0.045 0.036 0.044 0.127 0.18 0.067 0.237 0.247], Final Value =
\$1449851.63, Sharpe Ratio = -21.30

Simulation Run = 380
Weights = [0.05 0.131 0.087 0.189 0.118 0.15 0.073 0.111 0.092], Final Value =
\$1562804.65, Sharpe Ratio = -20.30

Simulation Run = 381
Weights = [0.126 0.052 0.177 0.094 0.076 0.125 0.161 0.007 0.182], Final Value =
\$1433464.21, Sharpe Ratio = -16.25

Simulation Run = 382
Weights = [0.091 0.077 0.142 0.173 0.189 0.084 0.087 0.088 0.07], Final Value =
\$1569584.78, Sharpe Ratio = -19.85

Simulation Run = 383
Weights = [0.371 0.001 0.039 0.076 0.156 0.236 0.005 0.032 0.084], Final Value =
\$1700081.01, Sharpe Ratio = -16.78

Simulation Run = 384
Weights = [0.144 0.133 0.122 0.13 0.062 0.121 0.097 0.09 0.101], Final Value =
\$1516448.01, Sharpe Ratio = -18.77

Simulation Run = 385
Weights = [0.065 0.142 0.168 0.107 0.116 0.149 0.12 0.131 0.002], Final Value =
\$1586970.00, Sharpe Ratio = -16.73

Simulation Run = 386
Weights = [0.123 0.139 0.088 0.052 0.061 0.144 0.016 0.159 0.218], Final Value =
\$1420593.72, Sharpe Ratio = -23.37

Simulation Run = 387
Weights = [0.12 0.048 0.143 0.064 0.026 0.159 0.134 0.171 0.135], Final Value =
\$1487139.31, Sharpe Ratio = -15.98

Simulation Run = 388
Weights = [0.096 0.105 0.119 0.107 0.1 0.156 0.04 0.147 0.13], Final Value =
\$1513915.12, Sharpe Ratio = -20.76

Simulation Run = 389
Weights = [0.196 0.191 0.117 0.117 0.029 0.169 0.043 0.059 0.078], Final Value =
\$1541208.87, Sharpe Ratio = -19.25

Simulation Run = 390
Weights = [0.248 0.075 0.104 0.017 0.133 0.324 0.03 0.005 0.064], Final Value =
\$1661780.95, Sharpe Ratio = -15.34

Simulation Run = 391
Weights = [0.096 0.002 0.109 0.167 0.167 0.137 0.016 0.128 0.179], Final Value =
\$1526734.10, Sharpe Ratio = -22.10

Simulation Run = 392
Weights = [0.121 0.149 0.118 0.07 0.162 0.054 0.142 0.052 0.131], Final Value =
\$1467092.78, Sharpe Ratio = -19.59

Simulation Run = 393
Weights = [0.118 0.152 0.125 0.097 0.11 0.132 0.167 0.061 0.037], Final Value =
\$1566326.31, Sharpe Ratio = -16.06

Simulation Run = 394
Weights = [0.133 0.087 0.099 0.149 0.081 0.169 0.111 0.119 0.052], Final Value =
\$1606247.55, Sharpe Ratio = -16.79

Simulation Run = 395
Weights = [0.118 0.193 0.082 0.015 0.088 0.134 0.017 0.181 0.172], Final Value =
\$1442948.58, Sharpe Ratio = -24.13

Simulation Run = 396
Weights = [0.089 0.074 0.181 0.085 0.13 0.153 0.135 0.098 0.054], Final Value =
\$1557134.54, Sharpe Ratio = -16.10

Simulation Run = 397

Weights = [0.108 0.178 0.11 0.151 0.011 0.094 0.1 0.098 0.149], Final Value = \$1442503.31, Sharpe Ratio = -20.09

Simulation Run = 398

Weights = [0.011 0.093 0.079 0.14 0.208 0.016 0.067 0.191 0.196], Final Value = \$1441987.06, Sharpe Ratio = -26.29

Simulation Run = 399

Weights = [0.061 0.034 0.19 0.001 0.175 0.028 0.207 0.13 0.174], Final Value = \$1396885.33, Sharpe Ratio = -16.13

Simulation Run = 400

Weights = [0.078 0.281 0.075 0.129 0.227 0.027 0.024 0.104 0.055], Final Value = \$1535030.86, Sharpe Ratio = -28.36

Simulation Run = 401

Weights = [0.021 0.206 0.107 0.055 0.121 0.17 0.075 0.127 0.119], Final Value = \$1484838.49, Sharpe Ratio = -20.94

Simulation Run = 402

Weights = [0.052 0.05 0.2 0.161 0.051 0.043 0.003 0.101 0.339], Final Value = \$1262832.54, Sharpe Ratio = -24.99

Simulation Run = 403

Weights = [0.045 0.153 0.119 0.166 0.147 0.058 0.136 0.06 0.116], Final Value = \$1484551.74, Sharpe Ratio = -19.97

Simulation Run = 404

Weights = [0.023 0.063 0.11 0.195 0.201 0.187 0.088 0.102 0.031], Final Value = \$1655313.64, Sharpe Ratio = -17.87

Simulation Run = 405

Weights = [0.162 0.211 0.187 0.025 0.076 0.026 0.036 0.217 0.06], Final Value = \$1459475.67, Sharpe Ratio = -22.06

Simulation Run = 406

Weights = [0.095 0.104 0.133 0.023 0.092 0.149 0.159 0.083 0.161], Final Value = \$1450222.13, Sharpe Ratio = -16.64

Simulation Run = 407
Weights = [0.024 0.013 0.228 0.057 0.016 0.196 0.128 0.153 0.185], Final Value =
\$1411555.69, Sharpe Ratio = -15.32

Simulation Run = 408
Weights = [0.103 0.012 0.077 0.203 0.007 0.128 0.176 0.14 0.154], Final Value =
\$1516470.23, Sharpe Ratio = -15.43

Simulation Run = 409
Weights = [0.117 0.102 0.128 0.168 0.119 0.065 0.13 0.039 0.132], Final Value =
\$1488740.32, Sharpe Ratio = -19.10

Simulation Run = 410
Weights = [0.097 0.182 0.182 0.094 0.237 0.085 0.016 0.079 0.027], Final Value =
\$1562527.10, Sharpe Ratio = -22.76

Simulation Run = 411
Weights = [0.038 0.093 0.098 0.123 0.182 0.059 0.018 0.224 0.165], Final Value =
\$1475852.39, Sharpe Ratio = -26.43

Simulation Run = 412
Weights = [0.129 0.162 0.141 0.14 0.066 0.094 0.047 0.05 0.171], Final Value =
\$1431838.57, Sharpe Ratio = -22.65

Simulation Run = 413
Weights = [0.004 0.162 0.102 0.165 0.166 0.122 0.12 0.104 0.055], Final Value =
\$1565783.87, Sharpe Ratio = -19.37

Simulation Run = 414
Weights = [0.039 0.099 0.105 0.015 0.104 0.22 0.174 0.05 0.194], Final Value =
\$1450149.35, Sharpe Ratio = -15.67

Simulation Run = 415
Weights = [0.059 0.168 0.152 0.16 0.05 0.003 0.13 0.086 0.189], Final Value =
\$1359962.75, Sharpe Ratio = -20.59

Simulation Run = 416
Weights = [0.207 0.008 0.089 0.139 0.161 0.161 0.195 0.025 0.015], Final Value =

\$1685523.00, Sharpe Ratio = -13.85

Simulation Run = 417

Weights = [0.088 0.129 0.161 0.091 0.092 0.17 0.15 0.109 0.012], Final Value = \$1584624.13, Sharpe Ratio = -15.36

Simulation Run = 418

Weights = [0.037 0.081 0.132 0.18 0.082 0.178 0.083 0.189 0.037], Final Value = \$1604432.82, Sharpe Ratio = -17.27

Simulation Run = 419

Weights = [0.217 0.042 0.168 0.077 0.043 0.151 0.13 0.112 0.059], Final Value = \$1565163.02, Sharpe Ratio = -15.01

Simulation Run = 420

Weights = [0.117 0.165 0.046 0.132 0.117 0.074 0.168 0.01 0.172], Final Value = \$1463120.63, Sharpe Ratio = -19.03

Simulation Run = 421

Weights = [0.116 0.08 0.131 0.137 0.037 0.07 0.116 0.17 0.143], Final Value = \$1462116.85, Sharpe Ratio = -18.64

Simulation Run = 422

Weights = [0.096 0.012 0.177 0.151 0.165 0.147 0.109 0.06 0.083], Final Value = \$1573437.76, Sharpe Ratio = -16.95

Simulation Run = 423

Weights = [0.02 0.23 0.25 0.163 0.076 0.077 0.166 0.002 0.015], Final Value = \$1479756.74, Sharpe Ratio = -16.03

Simulation Run = 424

Weights = [0.16 0.073 0.075 0.111 0.037 0.158 0.148 0.092 0.147], Final Value = \$1515881.21, Sharpe Ratio = -16.27

Simulation Run = 425

Weights = [0.021 0.104 0.092 0.194 0.103 0.079 0.172 0.065 0.17], Final Value = \$1458464.41, Sharpe Ratio = -18.13

Simulation Run = 426
Weights = [0.155 0.162 0.041 0.127 0.157 0.098 0.19 0.057 0.012], Final Value =
\$1630710.05, Sharpe Ratio = -16.20

Simulation Run = 427
Weights = [0.132 0.128 0.241 0.013 0.067 0.251 0.002 0.143 0.022], Final Value =
\$1566983.92, Sharpe Ratio = -16.35

Simulation Run = 428
Weights = [0.001 0.158 0.125 0.015 0.23 0.157 0.089 0.096 0.13], Final Value =
\$1489751.20, Sharpe Ratio = -21.04

Simulation Run = 429
Weights = [0.058 0.163 0.112 0.123 0.108 0.058 0.048 0.16 0.169], Final Value =
\$1429142.46, Sharpe Ratio = -25.09

Simulation Run = 430
Weights = [0.146 0.029 0.157 0.057 0.153 0.147 0.162 0.048 0.102], Final Value =
\$1541979.17, Sharpe Ratio = -15.57

Simulation Run = 431
Weights = [0.189 0.06 0.062 0.016 0.139 0.14 0.192 0.041 0.159], Final Value =
\$1512982.75, Sharpe Ratio = -15.55

Simulation Run = 432
Weights = [0.196 0.126 0.102 0.091 0.162 0.187 0.026 0.048 0.062], Final Value =
\$1614318.87, Sharpe Ratio = -19.72

Simulation Run = 433
Weights = [0.096 0.023 0.177 0.184 0.036 0.184 0.136 0.094 0.069], Final Value =
\$1569862.47, Sharpe Ratio = -14.75

Simulation Run = 434
Weights = [0.001 0.073 0.097 0.03 0.355 0.106 0.009 0.165 0.163], Final Value =
\$1516232.91, Sharpe Ratio = -26.13

Simulation Run = 435
Weights = [0.029 0.184 0.024 0.116 0.014 0.261 0.076 0.094 0.2], Final Value =
\$1474585.67, Sharpe Ratio = -18.59

Simulation Run = 436
Weights = [0.001 0.064 0.111 0.196 0.036 0.184 0.19 0.062 0.156], Final Value =
\$1492089.30, Sharpe Ratio = -15.01

Simulation Run = 437
Weights = [0.215 0.258 0.119 0.225 0.013 0.019 0.125 0.015 0.011], Final Value =
\$1542584.68, Sharpe Ratio = -18.47

Simulation Run = 438
Weights = [0.186 0.196 0.011 0.199 0.092 0.191 0.068 0.02 0.037], Final Value =
\$1657292.99, Sharpe Ratio = -19.00

Simulation Run = 439
Weights = [0.077 0.013 0.088 0.193 0.131 0.019 0.107 0.149 0.221], Final Value =
\$1439684.89, Sharpe Ratio = -21.68

Simulation Run = 440
Weights = [0.174 0.039 0.169 0.078 0.008 0.127 0.163 0.082 0.16], Final Value =
\$1449987.31, Sharpe Ratio = -15.21

Simulation Run = 441
Weights = [0.028 0.063 0.164 0.157 0.095 0.197 0.165 0.062 0.068], Final Value =
\$1564583.90, Sharpe Ratio = -14.81

Simulation Run = 442
Weights = [0.132 0.001 0.123 0.183 0.006 0.201 0.078 0.069 0.207], Final Value =
\$1485572.02, Sharpe Ratio = -17.13

Simulation Run = 443
Weights = [0.122 0.131 0.156 0.097 0.026 0.183 0.018 0.073 0.194], Final Value =
\$1429120.32, Sharpe Ratio = -20.49

Simulation Run = 444
Weights = [0.094 0.302 0.209 0.164 0.057 0.01 0.017 0.026 0.122], Final Value =
\$1375528.76, Sharpe Ratio = -24.93

Simulation Run = 445

Weights = [0.006 0.126 0.033 0.091 0.208 0.201 0.179 0.003 0.152], Final Value = \$1537123.81, Sharpe Ratio = -16.89

Simulation Run = 446

Weights = [0.113 0.079 0.138 0.178 0.086 0.188 0.007 0.093 0.118], Final Value = \$1551742.85, Sharpe Ratio = -19.83

Simulation Run = 447

Weights = [0.23 0.14 0.018 0.171 0.104 0.073 0.054 0.098 0.111], Final Value = \$1567876.67, Sharpe Ratio = -22.54

Simulation Run = 448

Weights = [0.141 0.057 0.076 0.029 0.173 0.191 0.084 0.155 0.094], Final Value = \$1595808.59, Sharpe Ratio = -18.02

Simulation Run = 449

Weights = [0.055 0.099 0.088 0.195 0.147 0.143 0.029 0.053 0.193], Final Value = \$1490637.55, Sharpe Ratio = -23.74

Simulation Run = 450

Weights = [0.154 0.117 0.154 0.011 0.079 0.183 0.138 0.061 0.103], Final Value = \$1506132.86, Sharpe Ratio = -15.88

Simulation Run = 451

Weights = [0.004 0.088 0.156 0.032 0.035 0.214 0.129 0.224 0.119], Final Value = \$1482863.59, Sharpe Ratio = -15.74

Simulation Run = 452

Weights = [0. 0.165 0.113 0.092 0.11 0.078 0.177 0.142 0.122], Final Value = \$1452380.58, Sharpe Ratio = -17.88

Simulation Run = 453

Weights = [0.158 0.125 0.015 0.176 0.15 0.155 0.004 0.135 0.081], Final Value = \$1634197.52, Sharpe Ratio = -22.49

Simulation Run = 454

Weights = [0.177 0.085 0.099 0.108 0.163 0.166 0.028 0.066 0.108], Final Value = \$1579887.15, Sharpe Ratio = -20.57

Simulation Run = 455
Weights = [0.175 0.093 0.018 0.161 0.094 0.127 0.133 0.163 0.036], Final Value =
\$1649132.24, Sharpe Ratio = -17.02

Simulation Run = 456
Weights = [0.052 0.112 0.157 0.091 0.055 0.142 0.183 0.119 0.09], Final Value =
\$1495206.25, Sharpe Ratio = -15.22

Simulation Run = 457
Weights = [0.095 0.152 0.032 0.174 0.093 0.171 0.113 0.004 0.166], Final Value =
\$1515821.62, Sharpe Ratio = -19.48

Simulation Run = 458
Weights = [0.151 0.159 0.098 0.039 0.128 0.071 0.179 0.012 0.163], Final Value =
\$1438008.57, Sharpe Ratio = -17.78

Simulation Run = 459
Weights = [0.143 0.131 0.067 0.06 0.16 0.16 0.129 0.018 0.131], Final Value =
\$1534191.70, Sharpe Ratio = -18.31

Simulation Run = 460
Weights = [0.11 0.143 0.023 0.14 0.069 0.045 0.154 0.17 0.146], Final Value =
\$1483293.10, Sharpe Ratio = -19.37

Simulation Run = 461
Weights = [0.071 0.159 0.119 0.107 0.014 0.152 0.046 0.14 0.193], Final Value =
\$1415451.34, Sharpe Ratio = -21.43

Simulation Run = 462
Weights = [0.336 0.063 0.038 0.032 0.12 0.063 0.157 0.177 0.014], Final Value =
\$1650302.13, Sharpe Ratio = -15.53

Simulation Run = 463
Weights = [0.138 0.058 0.081 0.126 0.153 0.192 0.01 0.113 0.13], Final Value =
\$1581802.52, Sharpe Ratio = -20.68

Simulation Run = 464
Weights = [0.178 0.036 0.02 0.07 0.108 0.158 0.114 0.186 0.13], Final Value =

\$1579067.55, Sharpe Ratio = -17.51

Simulation Run = 465

Weights = [0.158 0.114 0.131 0.024 0.093 0.063 0.085 0.157 0.175], Final Value = \$1421008.67, Sharpe Ratio = -21.09

Simulation Run = 466

Weights = [0.164 0.004 0.025 0.235 0.008 0.196 0.168 0.037 0.163], Final Value = \$1572347.46, Sharpe Ratio = -14.81

Simulation Run = 467

Weights = [0.013 0.182 0.126 0.051 0.168 0.077 0.117 0.088 0.176], Final Value = \$1404023.96, Sharpe Ratio = -21.89

Simulation Run = 468

Weights = [0.136 0.006 0.222 0.078 0.087 0.145 0.152 0.017 0.156], Final Value = \$1459493.45, Sharpe Ratio = -15.32

Simulation Run = 469

Weights = [0.113 0.07 0.155 0.027 0.142 0.107 0.173 0.099 0.114], Final Value = \$1491645.80, Sharpe Ratio = -16.20

Simulation Run = 470

Weights = [0.075 0.08 0.016 0.22 0.196 0.188 0.007 0.169 0.048], Final Value = \$1694281.84, Sharpe Ratio = -21.04

Simulation Run = 471

Weights = [0.161 0.156 0.06 0.021 0.059 0.157 0.057 0.14 0.187], Final Value = \$1456212.43, Sharpe Ratio = -20.93

Simulation Run = 472

Weights = [0.026 0.099 0.167 0.008 0.039 0.227 0.136 0.16 0.138], Final Value = \$1460706.73, Sharpe Ratio = -15.46

Simulation Run = 473

Weights = [0.044 0.061 0.066 0.178 0.129 0.15 0.066 0.131 0.175], Final Value = \$1518279.32, Sharpe Ratio = -21.30

Simulation Run = 474
Weights = [0.092 0.22 0.138 0.028 0.046 0.05 0.153 0.051 0.222], Final Value =
\$1314128.57, Sharpe Ratio = -19.58

Simulation Run = 475
Weights = [0.113 0.036 0.191 0.068 0.14 0.201 0.048 0.047 0.155], Final Value =
\$1499201.60, Sharpe Ratio = -18.36

Simulation Run = 476
Weights = [0.047 0.223 0.237 0.007 0.059 0.146 0.222 0.017 0.042], Final Value =
\$1452676.30, Sharpe Ratio = -13.85

Simulation Run = 477
Weights = [0.115 0.049 0.126 0.198 0.161 0.171 0.001 0.13 0.049], Final Value =
\$1642765.65, Sharpe Ratio = -19.68

Simulation Run = 478
Weights = [0.114 0.034 0.194 0.171 0.028 0.054 0.182 0.105 0.118], Final Value =
\$1464951.24, Sharpe Ratio = -15.23

Simulation Run = 479
Weights = [0.018 0.212 0.098 0.018 0.028 0.115 0.169 0.117 0.224], Final Value =
\$1336249.80, Sharpe Ratio = -18.20

Simulation Run = 480
Weights = [0.021 0.142 0.157 0.157 0.015 0.189 0.151 0.164 0.004], Final Value =
\$1581456.53, Sharpe Ratio = -14.81

Simulation Run = 481
Weights = [0.191 0.211 0.193 0.072 0.07 0.04 0.101 0.037 0.084], Final Value =
\$1447274.07, Sharpe Ratio = -19.49

Simulation Run = 482
Weights = [0.144 0.131 0.137 0.069 0.041 0.278 0.146 0.011 0.043], Final Value =
\$1597620.28, Sharpe Ratio = -13.83

Simulation Run = 483
Weights = [0.022 0.145 0.196 0.067 0.049 0.094 0.107 0.11 0.21], Final Value =
\$1338525.86, Sharpe Ratio = -19.82

Simulation Run = 484
Weights = [0.126 0.067 0.162 0.129 0.024 0.158 0.109 0.084 0.142], Final Value =
\$1482388.87, Sharpe Ratio = -16.86

Simulation Run = 485
Weights = [0.151 0.17 0.057 0.098 0.083 0.107 0.141 0.156 0.036], Final Value =
\$1583513.46, Sharpe Ratio = -17.55

Simulation Run = 486
Weights = [0.044 0.023 0.002 0.274 0.195 0.228 0.005 0.193 0.036], Final Value =
\$1747812.17, Sharpe Ratio = -19.11

Simulation Run = 487
Weights = [0.156 0.104 0.104 0.067 0.102 0.197 0.121 0.135 0.014], Final Value =
\$1634899.93, Sharpe Ratio = -15.70

Simulation Run = 488
Weights = [0.112 0.126 0.086 0.182 0.091 0.06 0.198 0.111 0.035], Final Value =
\$1575762.92, Sharpe Ratio = -15.86

Simulation Run = 489
Weights = [0.028 0.19 0.129 0.011 0.12 0.19 0.066 0.17 0.095], Final Value =
\$1501774.16, Sharpe Ratio = -19.78

Simulation Run = 490
Weights = [0.188 0.076 0.049 0.084 0.18 0.085 0.116 0.141 0.081], Final Value =
\$1593019.03, Sharpe Ratio = -19.08

Simulation Run = 491
Weights = [0.119 0.109 0.094 0.061 0.165 0.026 0.16 0.133 0.131], Final Value =
\$1477111.98, Sharpe Ratio = -18.93

Simulation Run = 492
Weights = [0.05 0.185 0.161 0.15 0.031 0.064 0.105 0.066 0.187], Final Value =
\$1369310.66, Sharpe Ratio = -20.86

Simulation Run = 493

Weights = [0.1 0.081 0.135 0.129 0.151 0.134 0.091 0.12 0.059], Final Value = \$1582958.80, Sharpe Ratio = -18.49

Simulation Run = 494

Weights = [0.072 0.019 0.157 0.168 0.175 0.07 0.076 0.12 0.141], Final Value = \$1504572.94, Sharpe Ratio = -20.58

Simulation Run = 495

Weights = [0.093 0.004 0.118 0.174 0.089 0.14 0.13 0.155 0.097], Final Value = \$1571115.67, Sharpe Ratio = -16.46

Simulation Run = 496

Weights = [0.18 0.096 0.056 0.18 0.074 0.149 0.011 0.095 0.158], Final Value = \$1539699.82, Sharpe Ratio = -22.00

Simulation Run = 497

Weights = [0.06 0.032 0.003 0.147 0.047 0.095 0.301 0.167 0.148], Final Value = \$1516987.04, Sharpe Ratio = -12.86

Simulation Run = 498

Weights = [0.119 0.079 0.181 0.148 0.109 0.005 0.164 0.185 0.009], Final Value = \$1554151.19, Sharpe Ratio = -16.16

Simulation Run = 499

Weights = [0.018 0.222 0.037 0.222 0.111 0.091 0.227 0.041 0.031], Final Value = \$1579702.08, Sharpe Ratio = -15.83

Simulation Run = 500

Weights = [0.105 0.139 0.049 0.027 0.292 0.212 0.061 0.079 0.035], Final Value = \$1666462.19, Sharpe Ratio = -19.54

Simulation Run = 501

Weights = [0.047 0.199 0.134 0.049 0.02 0.115 0.091 0.138 0.207], Final Value = \$1354555.32, Sharpe Ratio = -21.04

Simulation Run = 502

Weights = [0.134 0.21 0.088 0.083 0.055 0.114 0.06 0.169 0.087], Final Value = \$1509049.60, Sharpe Ratio = -21.38

Simulation Run = 503
Weights = [0.085 0.181 0.101 0.155 0.131 0.181 0.001 0.149 0.018], Final Value =
\$1627030.60, Sharpe Ratio = -20.96

Simulation Run = 504
Weights = [0.118 0.103 0.026 0.151 0.035 0.177 0.191 0.15 0.048], Final Value =
\$1621213.46, Sharpe Ratio = -14.47

Simulation Run = 505
Weights = [0.15 0.102 0.11 0.247 0.067 0.168 0.086 0.01 0.06], Final Value =
\$1610271.62, Sharpe Ratio = -17.49

Simulation Run = 506
Weights = [0.148 0.007 0.013 0.22 0.031 0.177 0.194 0.028 0.181], Final Value =
\$1551168.22, Sharpe Ratio = -14.74

Simulation Run = 507
Weights = [0.109 0.137 0.168 0.051 0.035 0.185 0.056 0.043 0.217], Final Value =
\$1389628.40, Sharpe Ratio = -19.59

Simulation Run = 508
Weights = [0.207 0.138 0.127 0.13 0.199 0.089 0.039 0.015 0.055], Final Value =
\$1588671.09, Sharpe Ratio = -21.71

Simulation Run = 509
Weights = [0.159 0.142 0.139 0.115 0.089 0.034 0.015 0.163 0.143], Final Value =
\$1449982.94, Sharpe Ratio = -24.45

Simulation Run = 510
Weights = [0.092 0.113 0.254 0.113 0.034 0.052 0.052 0.289 0.001], Final Value =
\$1517018.44, Sharpe Ratio = -17.79

Simulation Run = 511
Weights = [0.072 0.063 0.114 0.068 0.205 0.059 0.164 0.011 0.245], Final Value =
\$1393549.00, Sharpe Ratio = -19.41

Simulation Run = 512
Weights = [0.15 0.164 0.099 0.018 0.228 0.005 0.112 0.151 0.071], Final Value =

\$1519404.86, Sharpe Ratio = -21.48

Simulation Run = 513

Weights = [0.116 0.101 0.206 0.023 0.089 0.02 0.134 0.203 0.109], Final Value = \$1425407.52, Sharpe Ratio = -17.93

Simulation Run = 514

Weights = [0.006 0.093 0.185 0.123 0.195 0.043 0.058 0.138 0.16], Final Value = \$1431175.06, Sharpe Ratio = -23.21

Simulation Run = 515

Weights = [0.014 0.028 0.122 0.159 0.144 0.153 0.181 0.015 0.184], Final Value = \$1481147.43, Sharpe Ratio = -16.28

Simulation Run = 516

Weights = [0.11 0.199 0.144 0.033 0.207 0.076 0.031 0.152 0.049], Final Value = \$1533170.90, Sharpe Ratio = -23.62

Simulation Run = 517

Weights = [0.014 0.038 0.134 0.048 0.023 0.229 0.139 0.204 0.171], Final Value = \$1466509.51, Sharpe Ratio = -15.31

Simulation Run = 518

Weights = [0.061 0.191 0.175 0.164 0.101 0.001 0.153 0.062 0.092], Final Value = \$1441385.92, Sharpe Ratio = -18.73

Simulation Run = 519

Weights = [0.169 0.183 0.001 0.074 0.168 0.069 0.178 0.149 0.009], Final Value = \$1629557.11, Sharpe Ratio = -17.22

Simulation Run = 520

Weights = [0.128 0.074 0.133 0.126 0.125 0.099 0.126 0.113 0.076], Final Value = \$1552711.96, Sharpe Ratio = -17.68

Simulation Run = 521

Weights = [0.116 0.155 0.131 0.153 0.092 0.019 0.168 0.103 0.062], Final Value = \$1506473.79, Sharpe Ratio = -17.54

Simulation Run = 522
Weights = [0.158 0.126 0.089 0.052 0.091 0.163 0.06 0.164 0.097], Final Value =
\$1548187.04, Sharpe Ratio = -19.39

Simulation Run = 523
Weights = [0.047 0.138 0.007 0.017 0.208 0.027 0.327 0.119 0.109], Final Value =
\$1502885.79, Sharpe Ratio = -13.39

Simulation Run = 524
Weights = [0.098 0.171 0.195 0.062 0.105 0.097 0.135 0.123 0.015], Final Value =
\$1528951.38, Sharpe Ratio = -16.97

Simulation Run = 525
Weights = [0.141 0.139 0.118 0.065 0.155 0.087 0.053 0.089 0.152], Final Value =
\$1470502.55, Sharpe Ratio = -23.21

Simulation Run = 526
Weights = [0.13 0.05 0.049 0.148 0.126 0.125 0.037 0.165 0.17], Final Value =
\$1532611.32, Sharpe Ratio = -22.42

Simulation Run = 527
Weights = [0.076 0.165 0.045 0.227 0.09 0.046 0.071 0.101 0.179], Final Value =
\$1461090.35, Sharpe Ratio = -24.94

Simulation Run = 528
Weights = [0.072 0.15 0.19 0.149 0.176 0.031 0.103 0.045 0.083], Final Value =
\$1484990.35, Sharpe Ratio = -20.39

Simulation Run = 529
Weights = [0.101 0.084 0.014 0.183 0.177 0.088 0.064 0.102 0.186], Final Value =
\$1522527.46, Sharpe Ratio = -24.32

Simulation Run = 530
Weights = [0.036 0.17 0.228 0.173 0.02 0.03 0.041 0.192 0.111], Final Value =
\$1405995.49, Sharpe Ratio = -21.13

Simulation Run = 531
Weights = [0.126 0.017 0.145 0.06 0.037 0.166 0.137 0.17 0.143], Final Value =
\$1493578.08, Sharpe Ratio = -15.62

Simulation Run = 532
Weights = [0.228 0.224 0.064 0.007 0.024 0.202 0.087 0.113 0.052], Final Value =
\$1568569.48, Sharpe Ratio = -17.02

Simulation Run = 533
Weights = [0.067 0.095 0.143 0.139 0.157 0.093 0.07 0.147 0.09], Final Value =
\$1532253.92, Sharpe Ratio = -20.78

Simulation Run = 534
Weights = [0.063 0.115 0.159 0.045 0.092 0.107 0.114 0.16 0.144], Final Value =
\$1438662.50, Sharpe Ratio = -18.91

Simulation Run = 535
Weights = [0.004 0.091 0.193 0.136 0.026 0.167 0.051 0.136 0.196], Final Value =
\$1403525.45, Sharpe Ratio = -19.48

Simulation Run = 536
Weights = [0.184 0.007 0.138 0.151 0.166 0.164 0.005 0.069 0.117], Final Value =
\$1589285.51, Sharpe Ratio = -19.80

Simulation Run = 537
Weights = [0.104 0.236 0.152 0.136 0.001 0.076 0.162 0.111 0.021], Final Value =
\$1505553.78, Sharpe Ratio = -16.48

Simulation Run = 538
Weights = [0.19 0.008 0.044 0.138 0.217 0.131 0.044 0.129 0.099], Final Value =
\$1640984.02, Sharpe Ratio = -20.55

Simulation Run = 539
Weights = [0.033 0.051 0.023 0.241 0.046 0.088 0.235 0.159 0.126], Final Value =
\$1539746.41, Sharpe Ratio = -14.82

Simulation Run = 540
Weights = [0.053 0.162 0.158 0.093 0.071 0.083 0.039 0.176 0.166], Final Value =
\$1406012.06, Sharpe Ratio = -23.41

Simulation Run = 541

Weights = [0.09 0.155 0.105 0.052 0.116 0.102 0.043 0.178 0.16], Final Value = \$1451000.45, Sharpe Ratio = -23.76

Simulation Run = 542

Weights = [0.181 0.094 0.195 0.128 0.04 0.147 0.08 0.114 0.02], Final Value = \$1580236.07, Sharpe Ratio = -16.31

Simulation Run = 543

Weights = [0.114 0.095 0.123 0.144 0.134 0.082 0.123 0.044 0.142], Final Value = \$1489433.41, Sharpe Ratio = -19.40

Simulation Run = 544

Weights = [0.177 0.074 0.172 0.105 0.125 0.063 0.114 0.092 0.075], Final Value = \$1528335.48, Sharpe Ratio = -17.92

Simulation Run = 545

Weights = [0.126 0.154 0.102 0.121 0.053 0.015 0.1 0.2 0.129], Final Value = \$1449494.56, Sharpe Ratio = -21.38

Simulation Run = 546

Weights = [0.212 0.118 0.052 0.131 0.017 0.044 0.137 0.102 0.187], Final Value = \$1444485.79, Sharpe Ratio = -19.00

Simulation Run = 547

Weights = [0.114 0.183 0.053 0.042 0.238 0.107 0.03 0.229 0.004], Final Value = \$1637845.54, Sharpe Ratio = -23.15

Simulation Run = 548

Weights = [0. 0.09 0.128 0.186 0.066 0.099 0.193 0.138 0.099], Final Value = \$1502905.27, Sharpe Ratio = -15.79

Simulation Run = 549

Weights = [0.059 0.073 0.161 0.114 0.138 0.034 0.193 0.053 0.176], Final Value = \$1413197.35, Sharpe Ratio = -17.09

Simulation Run = 550

Weights = [0.115 0.105 0.136 0.041 0.156 0.089 0.073 0.139 0.145], Final Value = \$1469120.11, Sharpe Ratio = -21.51

Simulation Run = 551
Weights = [0.076 0.06 0.192 0.126 0.073 0.179 0.01 0.17 0.114], Final Value =
\$1514745.99, Sharpe Ratio = -19.04

Simulation Run = 552
Weights = [0.072 0.207 0.116 0.075 0.148 0.08 0.102 0.163 0.037], Final Value =
\$1538273.38, Sharpe Ratio = -20.58

Simulation Run = 553
Weights = [0.083 0.127 0.193 0.031 0.02 0.181 0.036 0.133 0.196], Final Value =
\$1389923.24, Sharpe Ratio = -19.53

Simulation Run = 554
Weights = [0.216 0.003 0.071 0.1 0.207 0.031 0.198 0.041 0.133], Final Value =
\$1546605.48, Sharpe Ratio = -16.32

Simulation Run = 555
Weights = [0.124 0.088 0.204 0.02 0.189 0.145 0.05 0.093 0.086], Final Value =
\$1524418.67, Sharpe Ratio = -19.30

Simulation Run = 556
Weights = [0.099 0.032 0.045 0.147 0.063 0.203 0.128 0.181 0.103], Final Value =
\$1600384.74, Sharpe Ratio = -16.02

Simulation Run = 557
Weights = [0.187 0.041 0.133 0.198 0.013 0.093 0.135 0.134 0.066], Final Value =
\$1566732.52, Sharpe Ratio = -15.84

Simulation Run = 558
Weights = [0.148 0.057 0.128 0.006 0.075 0.142 0.155 0.129 0.159], Final Value =
\$1466046.66, Sharpe Ratio = -16.11

Simulation Run = 559
Weights = [0.113 0.086 0.017 0.021 0.242 0.143 0.017 0.238 0.123], Final Value =
\$1585879.99, Sharpe Ratio = -23.50

Simulation Run = 560
Weights = [0.134 0.096 0.205 0.017 0.177 0.162 0.069 0.088 0.051], Final Value =

\$1555775.19, Sharpe Ratio = -17.87

Simulation Run = 561

Weights = [0.015 0.155 0.171 0.119 0.126 0.094 0.186 0.127 0.007], Final Value = \$1548882.18, Sharpe Ratio = -15.72

Simulation Run = 562

Weights = [0.076 0.048 0.047 0.232 0.019 0.246 0.19 0.065 0.079], Final Value = \$1629831.70, Sharpe Ratio = -13.53

Simulation Run = 563

Weights = [0.002 0.018 0.164 0.139 0.178 0.109 0.163 0.126 0.1], Final Value = \$1529626.00, Sharpe Ratio = -16.51

Simulation Run = 564

Weights = [0.079 0.117 0.146 0.152 0.159 0.152 0.094 0.037 0.062], Final Value = \$1573535.85, Sharpe Ratio = -18.54

Simulation Run = 565

Weights = [0.16 0.029 0.106 0.094 0.096 0.223 0.181 0.097 0.014], Final Value = \$1664115.55, Sharpe Ratio = -13.34

Simulation Run = 566

Weights = [0.174 0.194 0.085 0.009 0.045 0.181 0.084 0.033 0.196], Final Value = \$1428675.94, Sharpe Ratio = -19.35

Simulation Run = 567

Weights = [0.191 0.089 0.126 0.002 0.182 0.104 0.156 0.009 0.142], Final Value = \$1490235.60, Sharpe Ratio = -17.30

Simulation Run = 568

Weights = [0.125 0.15 0.169 0.015 0.096 0.172 0.162 0.044 0.067], Final Value = \$1517883.04, Sharpe Ratio = -15.40

Simulation Run = 569

Weights = [0.172 0.048 0.128 0.164 0.033 0.124 0.049 0.079 0.203], Final Value = \$1456141.87, Sharpe Ratio = -20.18

Simulation Run = 570
Weights = [0.074 0.163 0.008 0.145 0.11 0.081 0.173 0.173 0.073], Final Value =
\$1565926.12, Sharpe Ratio = -17.93

Simulation Run = 571
Weights = [0.115 0.025 0.101 0.03 0.148 0.074 0.198 0.21 0.1], Final Value =
\$1529778.85, Sharpe Ratio = -15.63

Simulation Run = 572
Weights = [0.062 0.031 0.184 0.168 0.053 0.06 0.207 0.187 0.048], Final Value =
\$1530267.14, Sharpe Ratio = -14.23

Simulation Run = 573
Weights = [0.036 0.141 0.129 0.124 0.172 0.047 0.174 0.041 0.136], Final Value =
\$1455038.59, Sharpe Ratio = -18.57

Simulation Run = 574
Weights = [0.167 0.157 0.105 0.024 0.071 0.086 0.143 0.181 0.065], Final Value =
\$1518502.52, Sharpe Ratio = -17.36

Simulation Run = 575
Weights = [0.026 0.045 0.211 0.176 0.01 0.115 0.104 0.211 0.103], Final Value =
\$1478837.35, Sharpe Ratio = -16.70

Simulation Run = 576
Weights = [0.074 0.187 0.148 0.187 0.132 0.046 0.002 0.086 0.138], Final Value =
\$1454200.96, Sharpe Ratio = -26.16

Simulation Run = 577
Weights = [0.197 0.151 0.011 0.11 0.143 0.165 0.09 0.064 0.068], Final Value =
\$1628150.63, Sharpe Ratio = -19.01

Simulation Run = 578
Weights = [0.126 0.143 0.065 0.076 0.204 0.129 0.016 0.221 0.02], Final Value =
\$1639553.54, Sharpe Ratio = -22.26

Simulation Run = 579
Weights = [0.131 0.1 0. 0.196 0.142 0.114 0.1 0.056 0.161], Final Value =
\$1551833.59, Sharpe Ratio = -21.17

Simulation Run = 580
Weights = [0.117 0.132 0.051 0.173 0.011 0.049 0.124 0.189 0.154], Final Value =
\$1464645.54, Sharpe Ratio = -19.86

Simulation Run = 581
Weights = [0.146 0.044 0.281 0.147 0.042 0.123 0.196 0.012 0.009], Final Value =
\$1548711.49, Sharpe Ratio = -12.90

Simulation Run = 582
Weights = [0.103 0.062 0.172 0.163 0.047 0.145 0.032 0.115 0.161], Final Value =
\$1471926.00, Sharpe Ratio = -19.79

Simulation Run = 583
Weights = [0.232 0.009 0.196 0.08 0.048 0.165 0.11 0.142 0.018], Final Value =
\$1610683.66, Sharpe Ratio = -14.44

Simulation Run = 584
Weights = [0.163 0.12 0.155 0.146 0.127 0.095 0.007 0.089 0.098], Final Value =
\$1528141.13, Sharpe Ratio = -22.24

Simulation Run = 585
Weights = [0.001 0.249 0.17 0.04 0.162 0.019 0.029 0.19 0.14], Final Value =
\$1379594.79, Sharpe Ratio = -27.25

Simulation Run = 586
Weights = [0.116 0.192 0.137 0.185 0.121 0.116 0.06 0.046 0.026], Final Value =
\$1581012.85, Sharpe Ratio = -20.37

Simulation Run = 587
Weights = [0.027 0.019 0.15 0.107 0.168 0.16 0.094 0.081 0.193], Final Value =
\$1471387.99, Sharpe Ratio = -19.19

Simulation Run = 588
Weights = [0.097 0.017 0.003 0.173 0.016 0.196 0.171 0.197 0.132], Final Value =
\$1585946.26, Sharpe Ratio = -14.88

Simulation Run = 589

Weights = [0.228 0.1 0.117 0.186 0.209 0.033 0.102 0.009 0.017], Final Value = \$1630416.71, Sharpe Ratio = -19.18

Simulation Run = 590

Weights = [0.125 0.017 0.215 0.199 0.006 0.095 0.185 0.078 0.081], Final Value = \$1510097.35, Sharpe Ratio = -14.02

Simulation Run = 591

Weights = [0.128 0.139 0.174 0.126 0.023 0.091 0.122 0.192 0.006], Final Value = \$1553184.42, Sharpe Ratio = -16.49

Simulation Run = 592

Weights = [0.117 0.003 0.044 0.128 0.064 0.141 0.204 0.09 0.209], Final Value = \$1485780.48, Sharpe Ratio = -15.21

Simulation Run = 593

Weights = [0.04 0.024 0.187 0.001 0.051 0.258 0.206 0.091 0.142], Final Value = \$1479764.77, Sharpe Ratio = -12.84

Simulation Run = 594

Weights = [0.089 0.015 0.099 0.145 0.157 0.115 0.129 0.155 0.093], Final Value = \$1579911.02, Sharpe Ratio = -17.60

Simulation Run = 595

Weights = [0.058 0.186 0.061 0.174 0.046 0.062 0.172 0.149 0.092], Final Value = \$1500642.59, Sharpe Ratio = -17.94

Simulation Run = 596

Weights = [0.138 0.177 0.224 0.086 0.01 0.093 0.087 0.004 0.181], Final Value = \$1356604.81, Sharpe Ratio = -19.28

Simulation Run = 597

Weights = [0.048 0.086 0.116 0.071 0.137 0.078 0.25 0.011 0.203], Final Value = \$1404789.30, Sharpe Ratio = -15.15

Simulation Run = 598

Weights = [0.131 0.146 0.194 0.203 0.05 0.146 0.068 0.048 0.014], Final Value = \$1580054.07, Sharpe Ratio = -17.34

Simulation Run = 599
Weights = [0.093 0.113 0.063 0.155 0.153 0.001 0.146 0.148 0.128], Final Value =
\$1495738.55, Sharpe Ratio = -20.38

Simulation Run = 600
Weights = [0.025 0.248 0.183 0.046 0.165 0.177 0.011 0.101 0.044], Final Value =
\$1522844.38, Sharpe Ratio = -21.61

Simulation Run = 601
Weights = [0.197 0.024 0.212 0.285 0.027 0.016 0.055 0.132 0.052], Final Value =
\$1550960.68, Sharpe Ratio = -17.55

Simulation Run = 602
Weights = [0.123 0.154 0.207 0.123 0.094 0.176 0.037 0.01 0.076], Final Value =
\$1523245.43, Sharpe Ratio = -18.86

Simulation Run = 603
Weights = [0.026 0.228 0.096 0.094 0.18 0.006 0.033 0.136 0.201], Final Value =
\$1377028.35, Sharpe Ratio = -30.42

Simulation Run = 604
Weights = [0.132 0.093 0.141 0.127 0.128 0.086 0.128 0.16 0.005], Final Value =
\$1604423.68, Sharpe Ratio = -17.04

Simulation Run = 605
Weights = [0.155 0.146 0.116 0.141 0.118 0.028 0.081 0.061 0.153], Final Value =
\$1453393.16, Sharpe Ratio = -22.76

Simulation Run = 606
Weights = [0.068 0.149 0.119 0.055 0.078 0.134 0.098 0.144 0.155], Final Value =
\$1447114.34, Sharpe Ratio = -19.86

Simulation Run = 607
Weights = [0.024 0.122 0.074 0.153 0.139 0.075 0.174 0.126 0.113], Final Value =
\$1511286.78, Sharpe Ratio = -18.09

Simulation Run = 608
Weights = [0.001 0.022 0.113 0.098 0.137 0.111 0.259 0.201 0.059], Final Value =

\$1563411.51, Sharpe Ratio = -13.41

Simulation Run = 609

Weights = [0.036 0.12 0.189 0.174 0.033 0.161 0.075 0.083 0.13], Final Value = \$1466355.34, Sharpe Ratio = -18.37

Simulation Run = 610

Weights = [0.199 0.181 0.162 0.027 0.23 0.123 0.041 0.021 0.016], Final Value = \$1593744.13, Sharpe Ratio = -20.52

Simulation Run = 611

Weights = [0.054 0.163 0.112 0.033 0.164 0.122 0.165 0.161 0.026], Final Value = \$1565141.67, Sharpe Ratio = -16.86

Simulation Run = 612

Weights = [0.176 0.043 0.154 0.045 0.001 0.195 0.152 0.115 0.119], Final Value = \$1509227.75, Sharpe Ratio = -14.31

Simulation Run = 613

Weights = [0.099 0.163 0.133 0.058 0.145 0.036 0.156 0.094 0.116], Final Value = \$1452151.76, Sharpe Ratio = -18.99

Simulation Run = 614

Weights = [0.081 0.177 0.181 0.131 0.059 0.06 0.027 0.125 0.159], Final Value = \$1400197.50, Sharpe Ratio = -23.60

Simulation Run = 615

Weights = [0.036 0.188 0.192 0.111 0.02 0.191 0.137 0.01 0.116], Final Value = \$1448219.56, Sharpe Ratio = -16.25

Simulation Run = 616

Weights = [0.181 0.119 0.056 0.101 0.064 0.084 0.147 0.134 0.114], Final Value = \$1520770.01, Sharpe Ratio = -17.79

Simulation Run = 617

Weights = [0.166 0.107 0.143 0.104 0.082 0.176 0.177 0.013 0.033], Final Value = \$1591702.50, Sharpe Ratio = -14.39

Simulation Run = 618
Weights = [0.155 0.007 0.103 0.183 0.162 0.116 0.091 0.174 0.009], Final Value =
\$1679153.38, Sharpe Ratio = -17.31

Simulation Run = 619
Weights = [0.036 0.108 0.064 0.166 0.142 0.173 0.047 0.179 0.087], Final Value =
\$1593297.05, Sharpe Ratio = -20.83

Simulation Run = 620
Weights = [0.04 0.07 0.107 0.167 0.112 0.157 0.081 0.172 0.094], Final Value =
\$1565246.89, Sharpe Ratio = -18.91

Simulation Run = 621
Weights = [0.139 0.093 0.088 0.034 0.073 0.16 0.174 0.183 0.057], Final Value =
\$1573704.33, Sharpe Ratio = -14.96

Simulation Run = 622
Weights = [0.108 0.07 0.045 0.157 0.121 0.148 0.089 0.119 0.142], Final Value =
\$1554722.00, Sharpe Ratio = -19.79

Simulation Run = 623
Weights = [0.086 0.125 0.151 0.115 0.038 0.155 0.166 0.12 0.042], Final Value =
\$1548270.70, Sharpe Ratio = -15.08

Simulation Run = 624
Weights = [0.047 0.054 0.007 0.069 0.243 0.162 0.044 0.106 0.268], Final Value =
\$1472349.61, Sharpe Ratio = -24.49

Simulation Run = 625
Weights = [0.011 0.19 0.217 0.038 0.116 0.12 0.098 0.205 0.006], Final Value =
\$1517862.05, Sharpe Ratio = -17.99

Simulation Run = 626
Weights = [0.147 0.073 0.011 0.008 0.163 0.197 0.004 0.293 0.104], Final Value =
\$1613919.23, Sharpe Ratio = -20.50

Simulation Run = 627
Weights = [0.13 0.089 0.084 0.184 0.16 0. 0.121 0.094 0.138], Final Value =
\$1499756.91, Sharpe Ratio = -21.09

Simulation Run = 628
Weights = [0.063 0.192 0.075 0.194 0.129 0.013 0.14 0.099 0.095], Final Value =
\$1499563.09, Sharpe Ratio = -20.80

Simulation Run = 629
Weights = [0.106 0.043 0.213 0.039 0.164 0.122 0.039 0.06 0.214], Final Value =
\$1406367.37, Sharpe Ratio = -21.14

Simulation Run = 630
Weights = [0.177 0.009 0.23 0.02 0.02 0.127 0.077 0.183 0.157], Final Value =
\$1433658.19, Sharpe Ratio = -16.77

Simulation Run = 631
Weights = [0.068 0.188 0.183 0.022 0.118 0.094 0.087 0.203 0.037], Final Value =
\$1503101.98, Sharpe Ratio = -19.46

Simulation Run = 632
Weights = [0.049 0.185 0.113 0.15 0.002 0.12 0.02 0.199 0.162], Final Value =
\$1431792.74, Sharpe Ratio = -23.19

Simulation Run = 633
Weights = [0.127 0.044 0.024 0.107 0.179 0.19 0.161 0.032 0.135], Final Value =
\$1593167.42, Sharpe Ratio = -16.34

Simulation Run = 634
Weights = [0.109 0.121 0.227 0.005 0.044 0.138 0.113 0.019 0.224], Final Value =
\$1334909.72, Sharpe Ratio = -17.81

Simulation Run = 635
Weights = [0.146 0.123 0.145 0.014 0.104 0.136 0.145 0.136 0.051], Final Value =
\$1543459.55, Sharpe Ratio = -16.19

Simulation Run = 636
Weights = [0.175 0.041 0.142 0.003 0.163 0.116 0.081 0.135 0.144], Final Value =
\$1498946.64, Sharpe Ratio = -19.21

Simulation Run = 637

Weights = [0.175 0.105 0.112 0.106 0.031 0.105 0.017 0.132 0.215], Final Value = \$1420588.37, Sharpe Ratio = -22.82

Simulation Run = 638

Weights = [0.194 0.122 0.195 0.022 0.141 0.07 0.115 0.089 0.052], Final Value = \$1517416.18, Sharpe Ratio = -17.73

Simulation Run = 639

Weights = [0.146 0.127 0.047 0.122 0.159 0.128 0.125 0.032 0.114], Final Value = \$1559696.67, Sharpe Ratio = -19.13

Simulation Run = 640

Weights = [0.272 0.054 0.033 0.24 0.015 0.059 0.103 0.171 0.052], Final Value = \$1630744.53, Sharpe Ratio = -17.42

Simulation Run = 641

Weights = [0.11 0.031 0.127 0.097 0.17 0.119 0.109 0.146 0.09], Final Value = \$1565853.17, Sharpe Ratio = -18.11

Simulation Run = 642

Weights = [0.104 0.072 0.078 0.052 0.172 0.181 0.006 0.114 0.221], Final Value = \$1477940.56, Sharpe Ratio = -23.09

Simulation Run = 643

Weights = [0.097 0.141 0.187 0.038 0.058 0.009 0.141 0.185 0.143], Final Value = \$1379482.48, Sharpe Ratio = -18.61

Simulation Run = 644

Weights = [0.089 0.043 0.202 0.066 0.162 0.104 0.077 0.253 0.005], Final Value = \$1592291.61, Sharpe Ratio = -17.57

Simulation Run = 645

Weights = [0.134 0.009 0.035 0.139 0.132 0.003 0.014 0.146 0.39], Final Value = \$1312212.19, Sharpe Ratio = -29.66

Simulation Run = 646

Weights = [0.072 0.083 0.06 0.124 0.105 0.129 0.166 0.153 0.107], Final Value = \$1547424.20, Sharpe Ratio = -16.82

Simulation Run = 647
Weights = [0.069 0.123 0.154 0.076 0.156 0.009 0.201 0.19 0.021], Final Value =
\$1528886.74, Sharpe Ratio = -16.08

Simulation Run = 648
Weights = [0.001 0.249 0.004 0.089 0.141 0.035 0.052 0.259 0.169], Final Value =
\$1433540.55, Sharpe Ratio = -29.77

Simulation Run = 649
Weights = [0.137 0.124 0.186 0.156 0.088 0.067 0.076 0.079 0.088], Final Value =
\$1495933.03, Sharpe Ratio = -19.65

Simulation Run = 650
Weights = [0.225 0.101 0.016 0.076 0.093 0.098 0.13 0.233 0.03], Final Value =
\$1634464.87, Sharpe Ratio = -17.14

Simulation Run = 651
Weights = [0.145 0.154 0.151 0.047 0.144 0.13 0.012 0.095 0.123], Final Value =
\$1491295.87, Sharpe Ratio = -22.61

Simulation Run = 652
Weights = [0.008 0.086 0.191 0.044 0.119 0.175 0.12 0.06 0.198], Final Value =
\$1406201.11, Sharpe Ratio = -17.83

Simulation Run = 653
Weights = [0.189 0.05 0.033 0.166 0.179 0.05 0.191 0.046 0.098], Final Value =
\$1590763.14, Sharpe Ratio = -16.71

Simulation Run = 654
Weights = [0.088 0.095 0.033 0.163 0.194 0.119 0.081 0.067 0.16], Final Value =
\$1541981.75, Sharpe Ratio = -22.45

Simulation Run = 655
Weights = [0.107 0.019 0.222 0.183 0.093 0.157 0.03 0.048 0.142], Final Value =
\$1499112.43, Sharpe Ratio = -18.51

Simulation Run = 656
Weights = [0.105 0.088 0.144 0.101 0.042 0.166 0.183 0.043 0.129], Final Value =

\$1488420.38, Sharpe Ratio = -14.93

Simulation Run = 657

Weights = [0.004 0.193 0.192 0.116 0.072 0.124 0.01 0.108 0.182], Final Value = \$1382043.76, Sharpe Ratio = -23.63

Simulation Run = 658

Weights = [0.026 0.18 0.091 0.18 0.107 0.1 0.057 0.135 0.124], Final Value = \$1493374.00, Sharpe Ratio = -23.49

Simulation Run = 659

Weights = [0.149 0.109 0.093 0.094 0.083 0.122 0.115 0.126 0.108], Final Value = \$1527428.75, Sharpe Ratio = -18.29

Simulation Run = 660

Weights = [0.109 0.123 0.09 0.14 0.035 0.099 0.079 0.2 0.125], Final Value = \$1496500.79, Sharpe Ratio = -20.34

Simulation Run = 661

Weights = [0.157 0.095 0.048 0.169 0.179 0.057 0.009 0.254 0.032], Final Value = \$1642933.17, Sharpe Ratio = -23.33

Simulation Run = 662

Weights = [0.042 0.044 0.069 0.173 0.136 0.112 0.213 0.014 0.198], Final Value = \$1476220.36, Sharpe Ratio = -16.12

Simulation Run = 663

Weights = [0.146 0.132 0.033 0.149 0.129 0.078 0.144 0.104 0.084], Final Value = \$1571317.75, Sharpe Ratio = -18.73

Simulation Run = 664

Weights = [0.141 0.133 0.103 0.155 0.104 0.08 0.05 0.083 0.15], Final Value = \$1483737.10, Sharpe Ratio = -23.08

Simulation Run = 665

Weights = [0.139 0.105 0.092 0.174 0.123 0.018 0.094 0.123 0.132], Final Value = \$1495489.22, Sharpe Ratio = -21.84

Simulation Run = 666
Weights = [0.105 0.035 0.14 0.167 0.026 0.152 0.115 0.154 0.107], Final Value =
\$1535104.46, Sharpe Ratio = -16.39

Simulation Run = 667
Weights = [0.2 0.079 0.199 0.089 0.191 0.139 0.052 0.008 0.043], Final Value =
\$1591501.78, Sharpe Ratio = -18.38

Simulation Run = 668
Weights = [0.225 0.035 0.051 0.062 0.082 0.091 0.225 0.216 0.013], Final Value =
\$1638514.05, Sharpe Ratio = -13.52

Simulation Run = 669
Weights = [0.238 0.102 0.182 0.017 0.121 0.015 0.093 0.103 0.129], Final Value =
\$1443758.23, Sharpe Ratio = -19.66

Simulation Run = 670
Weights = [0.173 0.07 0.005 0.015 0.155 0.144 0.157 0.168 0.114], Final Value =
\$1581343.83, Sharpe Ratio = -16.70

Simulation Run = 671
Weights = [0.132 0.081 0.143 0.183 0.101 0.004 0.036 0.142 0.178], Final Value =
\$1434555.83, Sharpe Ratio = -23.90

Simulation Run = 672
Weights = [0.048 0.109 0.126 0.174 0.072 0.15 0.145 0.103 0.072], Final Value =
\$1551481.87, Sharpe Ratio = -16.50

Simulation Run = 673
Weights = [0.129 0.159 0.181 0.009 0.021 0.169 0.065 0.058 0.21], Final Value =
\$1369076.81, Sharpe Ratio = -19.30

Simulation Run = 674
Weights = [0.161 0.002 0.176 0.102 0.109 0.035 0.177 0.177 0.06], Final Value =
\$1539685.14, Sharpe Ratio = -15.29

Simulation Run = 675
Weights = [0.038 0.161 0.128 0.147 0.162 0.049 0.124 0.097 0.093], Final Value =
\$1495561.20, Sharpe Ratio = -20.45

Simulation Run = 676
Weights = [0.189 0.049 0.054 0.015 0.158 0.129 0.15 0.136 0.122], Final Value =
\$1557282.88, Sharpe Ratio = -16.87

Simulation Run = 677
Weights = [0.007 0.066 0.081 0.136 0.049 0.112 0.169 0.202 0.178], Final Value =
\$1452964.94, Sharpe Ratio = -17.17

Simulation Run = 678
Weights = [0.14 0.142 0.019 0.091 0.185 0.172 0.027 0.038 0.185], Final Value =
\$1526207.05, Sharpe Ratio = -23.66

Simulation Run = 679
Weights = [0.096 0.141 0.014 0.165 0.031 0.161 0.138 0.079 0.176], Final Value =
\$1496969.98, Sharpe Ratio = -18.12

Simulation Run = 680
Weights = [0.008 0.014 0.212 0.108 0.231 0.037 0.063 0.157 0.169], Final Value =
\$1437767.73, Sharpe Ratio = -21.70

Simulation Run = 681
Weights = [0.065 0.144 0.093 0.096 0.151 0.048 0.126 0.122 0.155], Final Value =
\$1450879.75, Sharpe Ratio = -21.29

Simulation Run = 682
Weights = [0.014 0.174 0.116 0.036 0.002 0.241 0.042 0.351 0.022], Final Value =
\$1572801.48, Sharpe Ratio = -17.15

Simulation Run = 683
Weights = [0.179 0.07 0.044 0.168 0.114 0.014 0.006 0.167 0.237], Final Value =
\$1441033.80, Sharpe Ratio = -27.61

Simulation Run = 684
Weights = [0.073 0.131 0.186 0.053 0.091 0.144 0.144 0.055 0.123], Final Value =
\$1455224.85, Sharpe Ratio = -16.82

Simulation Run = 685

Weights = [0.163 0.148 0.1 0.033 0.063 0.23 0.009 0.038 0.216], Final Value = \$1447571.43, Sharpe Ratio = -20.40

Simulation Run = 686

Weights = [0.126 0.011 0.171 0.15 0.039 0.058 0.161 0.126 0.158], Final Value = \$1448673.78, Sharpe Ratio = -16.22

Simulation Run = 687

Weights = [0.149 0.149 0.09 0.164 0.021 0.142 0.034 0.148 0.103], Final Value = \$1534442.00, Sharpe Ratio = -20.55

Simulation Run = 688

Weights = [0.023 0.194 0.181 0.144 0.045 0.075 0.024 0.199 0.115], Final Value = \$1430823.83, Sharpe Ratio = -22.89

Simulation Run = 689

Weights = [0.192 0.222 0.191 0.012 0.157 0.089 0.053 0.01 0.074], Final Value = \$1483030.85, Sharpe Ratio = -21.32

Simulation Run = 690

Weights = [0.077 0.136 0.153 0.091 0.043 0.152 0.106 0.096 0.145], Final Value = \$1451085.40, Sharpe Ratio = -18.21

Simulation Run = 691

Weights = [0.154 0.023 0.128 0.115 0.148 0.094 0.113 0.144 0.081], Final Value = \$1571225.08, Sharpe Ratio = -17.79

Simulation Run = 692

Weights = [0.117 0.13 0.1 0.104 0.118 0.125 0.119 0.104 0.083], Final Value = \$1546252.55, Sharpe Ratio = -18.46

Simulation Run = 693

Weights = [0.144 0.123 0.079 0.161 0.092 0.153 0.048 0.044 0.156], Final Value = \$1517024.93, Sharpe Ratio = -21.33

Simulation Run = 694

Weights = [0.165 0.159 0.165 0.139 0.113 0.093 0.007 0.011 0.147], Final Value = \$1463375.01, Sharpe Ratio = -23.52

Simulation Run = 695
Weights = [0.059 0.069 0.061 0.038 0.15 0.109 0.213 0.089 0.212], Final Value =
\$1437557.38, Sharpe Ratio = -16.34

Simulation Run = 696
Weights = [0.255 0.138 0.011 0.07 0.098 0.145 0.05 0.07 0.163], Final Value =
\$1533642.41, Sharpe Ratio = -21.04

Simulation Run = 697
Weights = [0.063 0.215 0.022 0.224 0.177 0.039 0.104 0.05 0.107], Final Value =
\$1533662.33, Sharpe Ratio = -23.95

Simulation Run = 698
Weights = [0.139 0.036 0.074 0.119 0.152 0.146 0.162 0.069 0.103], Final Value =
\$1585061.36, Sharpe Ratio = -16.25

Simulation Run = 699
Weights = [0.103 0.159 0.071 0.153 0.184 0.15 0.071 0.073 0.036], Final Value =
\$1627796.55, Sharpe Ratio = -20.39

Simulation Run = 700
Weights = [0.01 0.206 0.193 0.138 0.106 0.21 0.001 0.133 0.001], Final Value =
\$1584930.84, Sharpe Ratio = -19.09

Simulation Run = 701
Weights = [0.138 0.153 0.016 0.095 0.088 0.151 0.092 0.173 0.093], Final Value =
\$1573222.11, Sharpe Ratio = -19.44

Simulation Run = 702
Weights = [0.015 0.014 0.088 0.048 0.234 0.143 0.229 0.155 0.074], Final Value =
\$1591432.09, Sharpe Ratio = -14.44

Simulation Run = 703
Weights = [0.152 0.037 0.112 0.048 0.069 0.184 0.104 0.159 0.135], Final Value =
\$1527761.56, Sharpe Ratio = -16.69

Simulation Run = 704
Weights = [0.135 0.009 0.055 0.05 0.25 0.007 0.276 0.13 0.088], Final Value =

\$1565694.52, Sharpe Ratio = -14.09

Simulation Run = 705

Weights = [0.056 0.112 0.053 0.178 0.125 0.143 0.084 0.047 0.202], Final Value = \$1480738.81, Sharpe Ratio = -21.87

Simulation Run = 706

Weights = [0.099 0.14 0.072 0.117 0.193 0.113 0.008 0.203 0.056], Final Value = \$1601984.09, Sharpe Ratio = -23.77

Simulation Run = 707

Weights = [0.013 0.135 0.135 0.141 0.16 0.005 0.161 0.082 0.168], Final Value = \$1408445.83, Sharpe Ratio = -19.85

Simulation Run = 708

Weights = [0.223 0.093 0.088 0.059 0.205 0.169 0.152 0.004 0.007], Final Value = \$1670626.91, Sharpe Ratio = -15.54

Simulation Run = 709

Weights = [0.138 0.14 0.13 0.169 0.027 0.114 0.112 0.035 0.135], Final Value = \$1475259.45, Sharpe Ratio = -18.47

Simulation Run = 710

Weights = [0.076 0.121 0.108 0.143 0.075 0.088 0.171 0.131 0.087], Final Value = \$1516640.44, Sharpe Ratio = -16.79

Simulation Run = 711

Weights = [0.133 0.105 0.009 0.167 0.048 0.2 0.141 0.103 0.094], Final Value = \$1606686.23, Sharpe Ratio = -16.13

Simulation Run = 712

Weights = [0.123 0.195 0.009 0.131 0.206 0.002 0.197 0.115 0.021], Final Value = \$1599399.97, Sharpe Ratio = -17.94

Simulation Run = 713

Weights = [0.152 0.092 0.151 0.092 0.08 0.019 0.112 0.222 0.08], Final Value = \$1496262.86, Sharpe Ratio = -18.78

Simulation Run = 714
Weights = [0.048 0.188 0.172 0.096 0.203 0.004 0.081 0.022 0.186], Final Value =
\$1373439.52, Sharpe Ratio = -24.67

Simulation Run = 715
Weights = [0.094 0.133 0.144 0.083 0.148 0.132 0.055 0.116 0.095], Final Value =
\$1522516.05, Sharpe Ratio = -20.85

Simulation Run = 716
Weights = [0.026 0.158 0.157 0.127 0.051 0.056 0.233 0.021 0.171], Final Value =
\$1376556.52, Sharpe Ratio = -15.50

Simulation Run = 717
Weights = [0.067 0.029 0.067 0.052 0.229 0.01 0.241 0.107 0.197], Final Value =
\$1445387.02, Sharpe Ratio = -16.25

Simulation Run = 718
Weights = [0.079 0.125 0.218 0.028 0.084 0.005 0.2 0.243 0.019], Final Value =
\$1477327.71, Sharpe Ratio = -15.13

Simulation Run = 719
Weights = [0.092 0.043 0.169 0.169 0.131 0.015 0.075 0.26 0.045], Final Value =
\$1552502.07, Sharpe Ratio = -19.46

Simulation Run = 720
Weights = [0.027 0.02 0.189 0.036 0.154 0.103 0.168 0.164 0.139], Final Value =
\$1459714.46, Sharpe Ratio = -16.31

Simulation Run = 721
Weights = [0.229 0.111 0.024 0.054 0.267 0.075 0.169 0.067 0.003], Final Value =
\$1676362.02, Sharpe Ratio = -16.89

Simulation Run = 722
Weights = [0.125 0.145 0.15 0.089 0.036 0.111 0.108 0.105 0.131], Final Value =
\$1452770.58, Sharpe Ratio = -18.58

Simulation Run = 723
Weights = [0.096 0.113 0.045 0.119 0.067 0.115 0.015 0.359 0.071], Final Value =
\$1578732.98, Sharpe Ratio = -22.06

Simulation Run = 724
Weights = [0.129 0.134 0.087 0.001 0.062 0.241 0.014 0.151 0.182], Final Value =
\$1480444.09, Sharpe Ratio = -19.52

Simulation Run = 725
Weights = [0.228 0.033 0.251 0.003 0.258 0.095 0.092 0.016 0.024], Final Value =
\$1583279.36, Sharpe Ratio = -16.78

Simulation Run = 726
Weights = [0.043 0.133 0.094 0.075 0.172 0.192 0.197 0.068 0.025], Final Value =
\$1613150.81, Sharpe Ratio = -14.83

Simulation Run = 727
Weights = [0.006 0.091 0.025 0.188 0.214 0.201 0.014 0.07 0.19], Final Value =
\$1550614.49, Sharpe Ratio = -23.67

Simulation Run = 728
Weights = [0.062 0.128 0.081 0.101 0.212 0.21 0.123 0.004 0.078], Final Value =
\$1601815.57, Sharpe Ratio = -17.66

Simulation Run = 729
Weights = [0.147 0.161 0.078 0.094 0.094 0.154 0.024 0.19 0.057], Final Value =
\$1585325.47, Sharpe Ratio = -20.88

Simulation Run = 730
Weights = [0.061 0.1 0.162 0.194 0.146 0.083 0.087 0.145 0.023], Final Value =
\$1586034.84, Sharpe Ratio = -18.89

Simulation Run = 731
Weights = [0.192 0.194 0.031 0.054 0.063 0.082 0.175 0.103 0.107], Final Value =
\$1505240.20, Sharpe Ratio = -17.25

Simulation Run = 732
Weights = [0.221 0.01 0.199 0.123 0.124 0.155 0.016 0.019 0.134], Final Value =
\$1533299.50, Sharpe Ratio = -18.68

Simulation Run = 733

Weights = [0.166 0.118 0.123 0.116 0.155 0.059 0.006 0.007 0.25], Final Value = \$1394619.20, Sharpe Ratio = -27.08

Simulation Run = 734

Weights = [0.307 0.019 0.037 0.041 0.045 0.045 0.159 0.092 0.254], Final Value = \$1421402.49, Sharpe Ratio = -17.14

Simulation Run = 735

Weights = [0.168 0.024 0.156 0.137 0.124 0.019 0.038 0.21 0.124], Final Value = \$1501236.22, Sharpe Ratio = -21.46

Simulation Run = 736

Weights = [0.146 0.083 0.064 0.101 0.101 0.169 0.153 0.006 0.178], Final Value = \$1502768.49, Sharpe Ratio = -16.93

Simulation Run = 737

Weights = [0.152 0.003 0.046 0.064 0.063 0.169 0.161 0.271 0.07], Final Value = \$1615852.64, Sharpe Ratio = -14.71

Simulation Run = 738

Weights = [0.213 0.046 0.004 0.038 0.181 0.05 0.157 0.192 0.118], Final Value = \$1567602.41, Sharpe Ratio = -17.92

Simulation Run = 739

Weights = [0.234 0.042 0.058 0.061 0.268 0.107 0.012 0.204 0.014], Final Value = \$1698269.11, Sharpe Ratio = -20.72

Simulation Run = 740

Weights = [0.122 0.153 0.101 0.141 0.153 0.051 0.137 0.089 0.054], Final Value = \$1553579.84, Sharpe Ratio = -19.07

Simulation Run = 741

Weights = [0.208 0.067 0.079 0.034 0.125 0.042 0.093 0.242 0.109], Final Value = \$1525660.01, Sharpe Ratio = -19.98

Simulation Run = 742

Weights = [0.024 0.163 0.062 0.052 0.099 0.008 0.202 0.151 0.239], Final Value = \$1336594.24, Sharpe Ratio = -18.77

Simulation Run = 743
Weights = [0.014 0.193 0.039 0.181 0.08 0.173 0.112 0.048 0.16], Final Value =
\$1493212.96, Sharpe Ratio = -20.04

Simulation Run = 744
Weights = [0.175 0.015 0.07 0.142 0.033 0.082 0.17 0.196 0.117], Final Value =
\$1540251.13, Sharpe Ratio = -15.79

Simulation Run = 745
Weights = [0.224 0.223 0.067 0.094 0.004 0.122 0.133 0.125 0.01], Final Value =
\$1585737.01, Sharpe Ratio = -16.65

Simulation Run = 746
Weights = [0.162 0.205 0.303 0.021 0.002 0.061 0.181 0.061 0.005], Final Value =
\$1443519.06, Sharpe Ratio = -14.18

Simulation Run = 747
Weights = [0.169 0.07 0.164 0.062 0.024 0.133 0.097 0.132 0.149], Final Value =
\$1459882.61, Sharpe Ratio = -17.43

Simulation Run = 748
Weights = [0.01 0.076 0.055 0.199 0.07 0.143 0.114 0.162 0.172], Final Value =
\$1499676.35, Sharpe Ratio = -19.27

Simulation Run = 749
Weights = [0.102 0.138 0.115 0.004 0.057 0.152 0.178 0.135 0.12], Final Value =
\$1473366.68, Sharpe Ratio = -15.67

Simulation Run = 750
Weights = [0.15 0.128 0.084 0.158 0.066 0.156 0.02 0.141 0.096], Final Value =
\$1564574.66, Sharpe Ratio = -20.81

Simulation Run = 751
Weights = [0.013 0.173 0.054 0.165 0.104 0.199 0.156 0.066 0.069], Final Value =
\$1582069.10, Sharpe Ratio = -16.68

Simulation Run = 752
Weights = [0.124 0.184 0.058 0.079 0.187 0.084 0.065 0.081 0.136], Final Value =

\$1503730.65, Sharpe Ratio = -24.42

Simulation Run = 753

Weights = [0.1 0.149 0.078 0.011 0.134 0.082 0.153 0.15 0.143], Final Value = \$1461050.16, Sharpe Ratio = -18.86

Simulation Run = 754

Weights = [0.048 0.059 0.103 0.116 0.058 0.238 0.098 0.145 0.136], Final Value = \$1538420.18, Sharpe Ratio = -16.62

Simulation Run = 755

Weights = [0.005 0.135 0.059 0.151 0.196 0.059 0.121 0.145 0.128], Final Value = \$1508139.37, Sharpe Ratio = -21.99

Simulation Run = 756

Weights = [0.001 0.144 0.084 0.131 0.198 0.126 0.226 0.084 0.005], Final Value = \$1616887.92, Sharpe Ratio = -15.00

Simulation Run = 757

Weights = [0.155 0.008 0.01 0.002 0.243 0.122 0.14 0.262 0.058], Final Value = \$1655245.92, Sharpe Ratio = -17.08

Simulation Run = 758

Weights = [0.174 0.043 0.075 0.072 0.166 0.111 0.102 0.096 0.161], Final Value = \$1522383.92, Sharpe Ratio = -19.62

Simulation Run = 759

Weights = [0.009 0.099 0.115 0.126 0.218 0. 0.26 0.148 0.023], Final Value = \$1558814.34, Sharpe Ratio = -14.71

Simulation Run = 760

Weights = [0.161 0.16 0.127 0.054 0.077 0.081 0.173 0.116 0.051], Final Value = \$1523166.19, Sharpe Ratio = -16.24

Simulation Run = 761

Weights = [0.046 0.092 0.116 0.127 0.156 0.021 0.095 0.112 0.235], Final Value = \$1381726.37, Sharpe Ratio = -23.77

Simulation Run = 762
Weights = [0.024 0.084 0.016 0.182 0.175 0.026 0.179 0.158 0.155], Final Value =
\$1505527.60, Sharpe Ratio = -19.25

Simulation Run = 763
Weights = [0.061 0.028 0.086 0.036 0.05 0.141 0.223 0.207 0.168], Final Value =
\$1465664.11, Sharpe Ratio = -14.32

Simulation Run = 764
Weights = [0.121 0.004 0.057 0.094 0.259 0.187 0.019 0.159 0.1], Final Value =
\$1647484.93, Sharpe Ratio = -20.46

Simulation Run = 765
Weights = [0.139 0.031 0.124 0.195 0.003 0.154 0.149 0.12 0.085], Final Value =
\$1565875.73, Sharpe Ratio = -14.99

Simulation Run = 766
Weights = [0.072 0.211 0.097 0.086 0.035 0.128 0.133 0.157 0.081], Final Value =
\$1496840.00, Sharpe Ratio = -18.07

Simulation Run = 767
Weights = [0.042 0.139 0.053 0.078 0.131 0.087 0.141 0.155 0.175], Final Value =
\$1452218.29, Sharpe Ratio = -20.30

Simulation Run = 768
Weights = [0.184 0.004 0.147 0.127 0.166 0.049 0.048 0.144 0.131], Final Value =
\$1524785.00, Sharpe Ratio = -20.94

Simulation Run = 769
Weights = [0.041 0.011 0.059 0.126 0.189 0.187 0.11 0.117 0.16], Final Value =
\$1561566.10, Sharpe Ratio = -18.44

Simulation Run = 770
Weights = [0.123 0.053 0.137 0.129 0.142 0.095 0.079 0.128 0.114], Final Value =
\$1529574.95, Sharpe Ratio = -19.83

Simulation Run = 771
Weights = [0.07 0.219 0.114 0.045 0.141 0.16 0.072 0.019 0.16], Final Value =
\$1447682.23, Sharpe Ratio = -21.94

Simulation Run = 772
Weights = [0.097 0.129 0.255 0.039 0.159 0.113 0.117 0.04 0.053], Final Value =
\$1496681.07, Sharpe Ratio = -17.07

Simulation Run = 773
Weights = [0.034 0.175 0.135 0.183 0.049 0.077 0.2 0.007 0.141], Final Value =
\$1429289.86, Sharpe Ratio = -16.55

Simulation Run = 774
Weights = [0.092 0.013 0.096 0.16 0.165 0.148 0.079 0.167 0.08], Final Value =
\$1614167.22, Sharpe Ratio = -18.60

Simulation Run = 775
Weights = [0.152 0.037 0.043 0.124 0.165 0.092 0.179 0.1 0.108], Final Value =
\$1579201.70, Sharpe Ratio = -16.63

Simulation Run = 776
Weights = [0.197 0.1 0.025 0.104 0.164 0.094 0.114 0.172 0.03], Final Value =
\$1647615.50, Sharpe Ratio = -18.54

Simulation Run = 777
Weights = [0.169 0.169 0.053 0.068 0.099 0.009 0.157 0.205 0.071], Final Value =
\$1519114.14, Sharpe Ratio = -18.66

Simulation Run = 778
Weights = [0.138 0.131 0.132 0.04 0.136 0.128 0.124 0.02 0.152], Final Value =
\$1465843.68, Sharpe Ratio = -18.70

Simulation Run = 779
Weights = [0.136 0.085 0.015 0.151 0.176 0.097 0.153 0.012 0.175], Final Value =
\$1526179.69, Sharpe Ratio = -19.16

Simulation Run = 780
Weights = [0.207 0.002 0.203 0.213 0.029 0.063 0.01 0.048 0.226], Final Value =
\$1412654.60, Sharpe Ratio = -20.57

Simulation Run = 781

Weights = [0.127 0.092 0.048 0.196 0.077 0.195 0.148 0.088 0.029], Final Value = \$1661314.63, Sharpe Ratio = -15.40

Simulation Run = 782

Weights = [0.197 0.047 0.166 0.19 0.067 0.091 0.022 0.199 0.022], Final Value = \$1610235.91, Sharpe Ratio = -18.43

Simulation Run = 783

Weights = [0.01 0.118 0.162 0.072 0.117 0.123 0.15 0.168 0.081], Final Value = \$1499263.51, Sharpe Ratio = -17.04

Simulation Run = 784

Weights = [0.026 0.064 0.159 0.085 0.094 0.156 0.086 0.148 0.181], Final Value = \$1442761.53, Sharpe Ratio = -19.11

Simulation Run = 785

Weights = [0.086 0.128 0.015 0.162 0.225 0.137 0.072 0.063 0.112], Final Value = \$1597200.61, Sharpe Ratio = -22.45

Simulation Run = 786

Weights = [0.212 0.088 0.096 0.095 0.031 0.055 0.203 0.177 0.043], Final Value = \$1557775.37, Sharpe Ratio = -14.63

Simulation Run = 787

Weights = [0.101 0.182 0.171 0.15 0.12 0.035 0.05 0.078 0.115], Final Value = \$1452311.65, Sharpe Ratio = -23.32

Simulation Run = 788

Weights = [0.261 0.029 0.006 0.087 0.277 0.18 0.1 0.033 0.027], Final Value = \$1743155.15, Sharpe Ratio = -17.00

Simulation Run = 789

Weights = [0.261 0.156 0.119 0.039 0.176 0.148 0.042 0.017 0.042], Final Value = \$1604364.45, Sharpe Ratio = -19.61

Simulation Run = 790

Weights = [0.07 0.163 0.107 0.138 0.16 0.188 0.067 0.094 0.013], Final Value = \$1631742.44, Sharpe Ratio = -18.94

Simulation Run = 791
Weights = [0.165 0.164 0.073 0.099 0.111 0.092 0.061 0.114 0.121], Final Value =
\$1512039.12, Sharpe Ratio = -22.45

Simulation Run = 792
Weights = [0.014 0.046 0.242 0.003 0.024 0.273 0.333 0.001 0.063], Final Value =
\$1505466.93, Sharpe Ratio = -9.95

Simulation Run = 793
Weights = [0.116 0.178 0.077 0.165 0.083 0.169 0.028 0.092 0.093], Final Value =
\$1559769.54, Sharpe Ratio = -21.42

Simulation Run = 794
Weights = [0.196 0.042 0.048 0.071 0.12 0.141 0.211 0.156 0.016], Final Value =
\$1659802.83, Sharpe Ratio = -13.78

Simulation Run = 795
Weights = [0.015 0.158 0.045 0.2 0.116 0.129 0.168 0.126 0.043], Final Value =
\$1598321.63, Sharpe Ratio = -17.15

Simulation Run = 796
Weights = [0.114 0.117 0.116 0.184 0.105 0.016 0.174 0.166 0.007], Final Value =
\$1581519.06, Sharpe Ratio = -16.61

Simulation Run = 797
Weights = [0.157 0.047 0.19 0.26 0.115 0.113 0.034 0.013 0.072], Final Value =
\$1580624.15, Sharpe Ratio = -18.81

Simulation Run = 798
Weights = [0.07 0.046 0.168 0.112 0.109 0.036 0.168 0.176 0.114], Final Value =
\$1470878.60, Sharpe Ratio = -16.86

Simulation Run = 799
Weights = [0.036 0.126 0.171 0.028 0.191 0.133 0.071 0.18 0.064], Final Value =
\$1530617.84, Sharpe Ratio = -19.92

Simulation Run = 800
Weights = [0.218 0.162 0.141 0.198 0.05 0.087 0.018 0.113 0.013], Final Value =

\$1595666.90, Sharpe Ratio = -20.01

Simulation Run = 801

Weights = [0.027 0.207 0.206 0.156 0.036 0.08 0.043 0.057 0.188], Final Value = \$1351847.15, Sharpe Ratio = -22.77

Simulation Run = 802

Weights = [0.036 0.125 0.007 0.159 0.251 0.052 0.247 0.046 0.077], Final Value = \$1585966.65, Sharpe Ratio = -15.95

Simulation Run = 803

Weights = [0.074 0.184 0.045 0.19 0.164 0.164 0.077 0.077 0.026], Final Value = \$1644054.16, Sharpe Ratio = -20.19

Simulation Run = 804

Weights = [0.177 0.27 0.022 0.159 0.028 0.122 0.042 0.041 0.141], Final Value = \$1491971.19, Sharpe Ratio = -23.71

Simulation Run = 805

Weights = [0.186 0.096 0.167 0.07 0.01 0.255 0.063 0.043 0.109], Final Value = \$1533290.69, Sharpe Ratio = -15.78

Simulation Run = 806

Weights = [0.051 0.114 0.102 0.064 0.146 0.096 0.057 0.209 0.162], Final Value = \$1462503.39, Sharpe Ratio = -23.40

Simulation Run = 807

Weights = [0.048 0.146 0.06 0.157 0.015 0.214 0.042 0.266 0.052], Final Value = \$1600700.88, Sharpe Ratio = -18.42

Simulation Run = 808

Weights = [0.067 0.13 0.175 0.102 0.156 0.062 0.146 0.117 0.044], Final Value = \$1524837.69, Sharpe Ratio = -17.68

Simulation Run = 809

Weights = [0.067 0.096 0.068 0.131 0.134 0.156 0.106 0.124 0.118], Final Value = \$1552216.85, Sharpe Ratio = -19.11

Simulation Run = 810
Weights = [0.058 0.145 0.019 0.074 0.123 0.06 0.236 0.062 0.222], Final Value =
\$1405588.38, Sharpe Ratio = -16.67

Simulation Run = 811
Weights = [0.003 0.139 0.137 0.2 0.083 0.04 0.245 0.1 0.053], Final Value =
\$1508233.43, Sharpe Ratio = -14.63

Simulation Run = 812
Weights = [0.123 0.145 0.143 0.122 0.063 0.06 0.135 0.182 0.027], Final Value =
\$1541840.39, Sharpe Ratio = -17.41

Simulation Run = 813
Weights = [0.176 0.035 0.197 0.086 0.167 0.032 0.164 0.008 0.136], Final Value =
\$1464704.11, Sharpe Ratio = -16.87

Simulation Run = 814
Weights = [0.113 0.091 0.268 0.168 0. 0.203 0.076 0.062 0.019], Final Value =
\$1559072.44, Sharpe Ratio = -14.83

Simulation Run = 815
Weights = [0.19 0.12 0.112 0.136 0.114 0.039 0.114 0.116 0.06], Final Value =
\$1552079.70, Sharpe Ratio = -19.06

Simulation Run = 816
Weights = [0.08 0.158 0.128 0.064 0.048 0.158 0.038 0.156 0.17], Final Value =
\$1435864.58, Sharpe Ratio = -21.43

Simulation Run = 817
Weights = [0.172 0.182 0.011 0.171 0.036 0.079 0.084 0.122 0.142], Final Value =
\$1506172.97, Sharpe Ratio = -21.90

Simulation Run = 818
Weights = [0.174 0.185 0.088 0.022 0.176 0.106 0.101 0.03 0.119], Final Value =
\$1503341.34, Sharpe Ratio = -20.76

Simulation Run = 819
Weights = [0.13 0.063 0.219 0.145 0.081 0.138 0.113 0.071 0.04], Final Value =
\$1559949.99, Sharpe Ratio = -15.85

Simulation Run = 820
Weights = [0.023 0.134 0.164 0.088 0.127 0.138 0.034 0.176 0.116], Final Value =
\$1483948.19, Sharpe Ratio = -21.65

Simulation Run = 821
Weights = [0.029 0.061 0.028 0.105 0.142 0.219 0.159 0.046 0.21], Final Value =
\$1506039.10, Sharpe Ratio = -16.82

Simulation Run = 822
Weights = [0. 0.166 0.075 0.028 0.183 0.048 0.122 0.197 0.18], Final Value =
\$1413788.07, Sharpe Ratio = -22.83

Simulation Run = 823
Weights = [0.199 0.204 0.025 0.19 0.048 0.074 0.103 0.055 0.102], Final Value =
\$1536830.98, Sharpe Ratio = -20.67

Simulation Run = 824
Weights = [0.069 0.106 0.023 0.303 0.133 0.166 0.125 0.038 0.038], Final Value =
\$1676537.16, Sharpe Ratio = -17.50

Simulation Run = 825
Weights = [0.035 0.127 0.031 0.147 0.14 0.183 0.073 0.146 0.116], Final Value =
\$1572544.65, Sharpe Ratio = -20.55

Simulation Run = 826
Weights = [0.168 0.122 0.166 0.144 0.042 0.116 0.175 0.016 0.051], Final Value =
\$1539860.05, Sharpe Ratio = -15.03

Simulation Run = 827
Weights = [0.108 0.138 0.034 0.121 0.016 0.227 0.084 0.107 0.166], Final Value =
\$1515897.99, Sharpe Ratio = -18.05

Simulation Run = 828
Weights = [0.093 0.077 0.03 0.219 0.162 0.126 0.127 0.076 0.091], Final Value =
\$1614057.62, Sharpe Ratio = -18.68

Simulation Run = 829

Weights = [0.141 0.201 0.228 0.203 0.037 0.011 0.135 0.035 0.009], Final Value = \$1499788.60, Sharpe Ratio = -16.93

Simulation Run = 830

Weights = [0.015 0.254 0.026 0.146 0.133 0.03 0.009 0.101 0.285], Final Value = \$1331222.19, Sharpe Ratio = -34.28

Simulation Run = 831

Weights = [0.059 0.167 0.082 0.157 0.03 0.076 0.139 0.107 0.184], Final Value = \$1415038.88, Sharpe Ratio = -19.73

Simulation Run = 832

Weights = [0.128 0.021 0.095 0.204 0.001 0.198 0.144 0.121 0.087], Final Value = \$1595143.06, Sharpe Ratio = -14.66

Simulation Run = 833

Weights = [0.051 0.08 0.025 0.076 0.235 0.164 0.144 0.165 0.06], Final Value = \$1637627.75, Sharpe Ratio = -17.55

Simulation Run = 834

Weights = [0.151 0.161 0.023 0.108 0.151 0.116 0.065 0.151 0.074], Final Value = \$1593133.86, Sharpe Ratio = -21.82

Simulation Run = 835

Weights = [0.044 0.027 0.043 0.223 0.063 0.223 0.148 0.008 0.221], Final Value = \$1509532.72, Sharpe Ratio = -16.34

Simulation Run = 836

Weights = [0.053 0.168 0.002 0.144 0.157 0.175 0.024 0.093 0.184], Final Value = \$1519223.17, Sharpe Ratio = -24.77

Simulation Run = 837

Weights = [0.188 0.182 0.08 0.034 0.025 0.205 0.031 0.113 0.143], Final Value = \$1496927.78, Sharpe Ratio = -19.55

Simulation Run = 838

Weights = [0.055 0.136 0.024 0.132 0.147 0.015 0.224 0.076 0.191], Final Value = \$1435920.97, Sharpe Ratio = -17.59

Simulation Run = 839
Weights = [0.158 0.078 0.201 0.161 0.03 0.063 0.154 0.106 0.049], Final Value =
\$1521573.12, Sharpe Ratio = -15.50

Simulation Run = 840
Weights = [0.087 0.085 0.174 0.078 0.015 0.12 0.091 0.203 0.146], Final Value =
\$1438559.22, Sharpe Ratio = -18.19

Simulation Run = 841
Weights = [0.07 0.183 0.073 0.079 0.182 0.043 0.168 0.015 0.188], Final Value =
\$1417608.25, Sharpe Ratio = -20.28

Simulation Run = 842
Weights = [0.12 0.136 0.025 0.143 0.023 0.021 0.096 0.247 0.189], Final Value =
\$1433914.97, Sharpe Ratio = -22.67

Simulation Run = 843
Weights = [0.221 0.056 0.08 0.164 0.177 0.035 0.016 0.232 0.018], Final Value =
\$1652750.25, Sharpe Ratio = -21.55

Simulation Run = 844
Weights = [0.121 0.09 0.184 0.129 0.161 0.001 0.09 0.053 0.172], Final Value =
\$1416185.83, Sharpe Ratio = -21.64

Simulation Run = 845
Weights = [0.107 0.211 0.045 0.219 0.069 0.188 0.013 0.021 0.127], Final Value =
\$1547526.10, Sharpe Ratio = -22.53

Simulation Run = 846
Weights = [0.143 0.155 0.171 0.075 0.145 0.161 0.071 0.046 0.034], Final Value =
\$1573584.88, Sharpe Ratio = -18.42

Simulation Run = 847
Weights = [0.013 0.119 0.041 0.207 0.009 0.168 0.156 0.097 0.19], Final Value =
\$1470759.84, Sharpe Ratio = -17.23

Simulation Run = 848
Weights = [0.207 0.019 0.119 0.115 0.104 0.043 0.077 0.096 0.22], Final Value =

\$1434350.87, Sharpe Ratio = -21.14

Simulation Run = 849

Weights = [0.155 0.16 0.122 0.224 0.05 0.077 0.087 0.088 0.038], Final Value = \$1568197.88, Sharpe Ratio = -19.09

Simulation Run = 850

Weights = [0.16 0.052 0.02 0.161 0.138 0.042 0.172 0.167 0.089], Final Value = \$1586967.94, Sharpe Ratio = -17.39

Simulation Run = 851

Weights = [0.079 0.065 0.146 0.158 0.153 0.024 0.134 0.206 0.036], Final Value = \$1564477.84, Sharpe Ratio = -18.00

Simulation Run = 852

Weights = [0. 0.013 0.09 0.172 0.046 0.294 0.091 0.228 0.065], Final Value = \$1642049.08, Sharpe Ratio = -14.80

Simulation Run = 853

Weights = [0.113 0.092 0.034 0.102 0.156 0.073 0.168 0.134 0.129], Final Value = \$1530219.33, Sharpe Ratio = -18.23

Simulation Run = 854

Weights = [0.193 0.021 0.088 0.041 0.256 0.061 0.158 0.163 0.019], Final Value = \$1646465.08, Sharpe Ratio = -16.62

Simulation Run = 855

Weights = [0.042 0.099 0.166 0.161 0.179 0.152 0.082 0.111 0.008], Final Value = \$1620259.01, Sharpe Ratio = -18.02

Simulation Run = 856

Weights = [0.103 0.158 0.013 0.119 0.132 0.133 0.11 0.087 0.144], Final Value = \$1528545.49, Sharpe Ratio = -20.64

Simulation Run = 857

Weights = [0.049 0.019 0.192 0.195 0.232 0.062 0.084 0.105 0.062], Final Value = \$1572523.75, Sharpe Ratio = -19.10

Simulation Run = 858
Weights = [0.18 0.233 0.233 0.099 0.051 0.067 0.082 0.006 0.048], Final Value =
\$1466098.86, Sharpe Ratio = -18.82

Simulation Run = 859
Weights = [0.158 0.228 0.131 0.068 0.037 0.034 0.104 0.1 0.139], Final Value =
\$1403938.88, Sharpe Ratio = -21.08

Simulation Run = 860
Weights = [0.147 0.165 0.019 0.179 0.131 0.016 0.141 0.1 0.101], Final Value =
\$1538156.58, Sharpe Ratio = -20.53

Simulation Run = 861
Weights = [0.122 0.156 0.109 0.107 0.161 0.089 0.003 0.094 0.159], Final Value =
\$1474306.30, Sharpe Ratio = -26.13

Simulation Run = 862
Weights = [0.076 0.033 0.185 0.24 0.097 0.066 0.008 0.208 0.086], Final Value =
\$1539051.44, Sharpe Ratio = -20.45

Simulation Run = 863
Weights = [0.029 0.091 0.093 0.141 0.042 0.118 0.218 0.056 0.212], Final Value =
\$1410860.46, Sharpe Ratio = -15.61

Simulation Run = 864
Weights = [0.138 0.051 0.098 0.095 0.19 0.13 0.106 0.052 0.139], Final Value =
\$1540702.56, Sharpe Ratio = -19.15

Simulation Run = 865
Weights = [0.034 0.234 0.192 0.119 0.055 0.056 0.082 0.122 0.106], Final Value =
\$1409837.62, Sharpe Ratio = -21.29

Simulation Run = 866
Weights = [0.027 0.216 0.061 0.238 0.059 0.09 0.084 0.056 0.168], Final Value =
\$1451155.77, Sharpe Ratio = -23.34

Simulation Run = 867
Weights = [0.113 0.051 0.143 0.17 0.082 0.064 0.172 0.008 0.197], Final Value =
\$1426579.05, Sharpe Ratio = -17.20

Simulation Run = 868
Weights = [0.054 0.164 0.04 0.168 0.108 0.049 0.236 0.117 0.063], Final Value =
\$1545477.27, Sharpe Ratio = -15.65

Simulation Run = 869
Weights = [0.102 0.035 0.146 0.174 0.104 0.121 0.103 0.12 0.097], Final Value =
\$1549787.49, Sharpe Ratio = -17.76

Simulation Run = 870
Weights = [0.114 0.065 0.184 0.101 0.154 0.063 0.167 0.065 0.087], Final Value =
\$1507178.54, Sharpe Ratio = -16.54

Simulation Run = 871
Weights = [0.215 0.133 0.08 0.066 0.08 0.168 0.235 0.006 0.017], Final Value =
\$1618776.16, Sharpe Ratio = -13.10

Simulation Run = 872
Weights = [0.144 0.169 0.104 0.092 0.136 0.101 0.115 0.01 0.13], Final Value =
\$1489092.48, Sharpe Ratio = -20.09

Simulation Run = 873
Weights = [0.2 0.074 0.173 0.077 0.185 0.069 0.089 0.085 0.048], Final Value =
\$1568453.79, Sharpe Ratio = -18.64

Simulation Run = 874
Weights = [0.137 0.079 0.098 0.129 0.065 0.046 0.165 0.113 0.167], Final Value =
\$1451243.57, Sharpe Ratio = -17.72

Simulation Run = 875
Weights = [0.127 0.059 0.132 0.12 0.174 0.151 0.143 0.066 0.029], Final Value =
\$1626683.00, Sharpe Ratio = -16.03

Simulation Run = 876
Weights = [0.125 0.143 0.123 0.013 0.124 0.073 0.156 0.174 0.069], Final Value =
\$1509292.83, Sharpe Ratio = -17.47

Simulation Run = 877

Weights = [0.016 0.046 0.08 0.216 0.219 0.057 0.057 0.088 0.221], Final Value = \$1466424.95, Sharpe Ratio = -25.38

Simulation Run = 878

Weights = [0.101 0.186 0.025 0.172 0.078 0.021 0.234 0.134 0.049], Final Value = \$1549636.93, Sharpe Ratio = -15.77

Simulation Run = 879

Weights = [0.071 0.092 0.224 0.045 0.051 0.144 0.12 0.234 0.019], Final Value = \$1534155.06, Sharpe Ratio = -15.49

Simulation Run = 880

Weights = [0.068 0.091 0.168 0.089 0.097 0.146 0.103 0.031 0.208], Final Value = \$1409156.26, Sharpe Ratio = -19.11

Simulation Run = 881

Weights = [0.012 0.088 0.171 0.071 0.121 0.204 0.09 0.038 0.204], Final Value = \$1427379.00, Sharpe Ratio = -18.62

Simulation Run = 882

Weights = [0.161 0.126 0.18 0.048 0.214 0.137 0.087 0.046 0.], Final Value = \$1612102.46, Sharpe Ratio = -17.90

Simulation Run = 883

Weights = [0.147 0.144 0.092 0.141 0.139 0.008 0.078 0.169 0.082], Final Value = \$1526217.83, Sharpe Ratio = -22.56

Simulation Run = 884

Weights = [0.154 0.217 0.092 0.136 0.157 0.132 0.074 0.004 0.033], Final Value = \$1596269.31, Sharpe Ratio = -20.63

Simulation Run = 885

Weights = [0.186 0.104 0.061 0.055 0.056 0.073 0.089 0.167 0.209], Final Value = \$1428885.19, Sharpe Ratio = -21.16

Simulation Run = 886

Weights = [0.016 0.135 0.166 0.083 0.154 0.083 0.171 0.028 0.163], Final Value = \$1414766.85, Sharpe Ratio = -17.97

Simulation Run = 887
Weights = [0.278 0.029 0.163 0.145 0.05 0.157 0.01 0.151 0.017], Final Value =
\$1645088.22, Sharpe Ratio = -16.80

Simulation Run = 888
Weights = [0.202 0.098 0.188 0.136 0.152 0.094 0.073 0.05 0.006], Final Value =
\$1606812.36, Sharpe Ratio = -18.05

Simulation Run = 889
Weights = [0.042 0.068 0.127 0.02 0.159 0.184 0.133 0.117 0.149], Final Value =
\$1494608.72, Sharpe Ratio = -17.27

Simulation Run = 890
Weights = [0.13 0.081 0.118 0.098 0.136 0.108 0.119 0.121 0.086], Final Value =
\$1549033.18, Sharpe Ratio = -18.17

Simulation Run = 891
Weights = [0.174 0.099 0.207 0.036 0.065 0.123 0.209 0.015 0.071], Final Value =
\$1495454.52, Sharpe Ratio = -13.81

Simulation Run = 892
Weights = [0.203 0.02 0.169 0.03 0.035 0.064 0.081 0.171 0.227], Final Value =
\$1380922.28, Sharpe Ratio = -19.22

Simulation Run = 893
Weights = [0.036 0.101 0.206 0.046 0.178 0.075 0.071 0.184 0.102], Final Value =
\$1468159.75, Sharpe Ratio = -20.65

Simulation Run = 894
Weights = [0.197 0.115 0.055 0.08 0.131 0.184 0.076 0.133 0.031], Final Value =
\$1652528.74, Sharpe Ratio = -17.80

Simulation Run = 895
Weights = [0.059 0.112 0.174 0.097 0.155 0.147 0.071 0.017 0.167], Final Value =
\$1453814.54, Sharpe Ratio = -20.57

Simulation Run = 896
Weights = [0.139 0.011 0.194 0.018 0. 0.239 0.029 0.23 0.139], Final Value =

\$1496957.54, Sharpe Ratio = -16.09

Simulation Run = 897

Weights = [0.094 0.063 0.052 0.127 0.158 0.084 0.176 0.138 0.106], Final Value = \$1557055.22, Sharpe Ratio = -17.24

Simulation Run = 898

Weights = [0.147 0.005 0.065 0.018 0.075 0.142 0.056 0.247 0.245], Final Value = \$1441576.42, Sharpe Ratio = -20.36

Simulation Run = 899

Weights = [0.213 0.004 0.049 0.187 0.02 0.073 0.207 0.188 0.059], Final Value = \$1610061.58, Sharpe Ratio = -14.11

Simulation Run = 900

Weights = [0.024 0.105 0.048 0.148 0.226 0.012 0.174 0.162 0.101], Final Value = \$1535228.06, Sharpe Ratio = -19.31

Simulation Run = 901

Weights = [0.156 0.135 0.064 0.087 0.096 0.161 0.092 0.066 0.143], Final Value = \$1519650.82, Sharpe Ratio = -19.38

Simulation Run = 902

Weights = [0.194 0.112 0.062 0.032 0.01 0.046 0.179 0.202 0.163], Final Value = \$1436430.35, Sharpe Ratio = -16.71

Simulation Run = 903

Weights = [0.056 0.171 0.103 0.031 0.102 0.164 0.178 0.108 0.088], Final Value = \$1510251.81, Sharpe Ratio = -16.07

Simulation Run = 904

Weights = [0.057 0.124 0.205 0.106 0.086 0.199 0.042 0.027 0.154], Final Value = \$1454901.05, Sharpe Ratio = -19.15

Simulation Run = 905

Weights = [0.207 0.031 0.155 0.011 0.045 0.142 0.138 0.082 0.19], Final Value = \$1438731.59, Sharpe Ratio = -16.02

Simulation Run = 906
Weights = [0.014 0.157 0.124 0.072 0.089 0.019 0.238 0.105 0.181], Final Value =
\$1363904.52, Sharpe Ratio = -16.18

Simulation Run = 907
Weights = [0.054 0.204 0.11 0.106 0.143 0.042 0.055 0.092 0.195], Final Value =
\$1391936.17, Sharpe Ratio = -26.90

Simulation Run = 908
Weights = [0.096 0.083 0.098 0.138 0.131 0.02 0.14 0.143 0.151], Final Value =
\$1467633.40, Sharpe Ratio = -19.83

Simulation Run = 909
Weights = [0.015 0.213 0.003 0.211 0.177 0.098 0.153 0.005 0.126], Final Value =
\$1532766.83, Sharpe Ratio = -20.59

Simulation Run = 910
Weights = [0.172 0.123 0.023 0.19 0.072 0.152 0.172 0.053 0.045], Final Value =
\$1636297.80, Sharpe Ratio = -15.61

Simulation Run = 911
Weights = [0.049 0.14 0.006 0.205 0.019 0.197 0.204 0.074 0.107], Final Value =
\$1567706.92, Sharpe Ratio = -14.79

Simulation Run = 912
Weights = [0.071 0.076 0.085 0.098 0.083 0.131 0.202 0.063 0.191], Final Value =
\$1450707.21, Sharpe Ratio = -15.89

Simulation Run = 913
Weights = [0.02 0.08 0.175 0.009 0.167 0.16 0.079 0.165 0.146], Final Value =
\$1465662.61, Sharpe Ratio = -19.42

Simulation Run = 914
Weights = [0.213 0.101 0.033 0.043 0.175 0.136 0.163 0.068 0.069], Final Value =
\$1612847.58, Sharpe Ratio = -16.40

Simulation Run = 915
Weights = [0.111 0.121 0.167 0.161 0.097 0.018 0.121 0.104 0.1], Final Value =
\$1472208.00, Sharpe Ratio = -19.20

Simulation Run = 916
Weights = [0.129 0.105 0.049 0.071 0.135 0.147 0.096 0.138 0.13], Final Value =
\$1542237.28, Sharpe Ratio = -19.64

Simulation Run = 917
Weights = [0.216 0.13 0.049 0.094 0.226 0.006 0.083 0.065 0.13], Final Value =
\$1525018.90, Sharpe Ratio = -23.62

Simulation Run = 918
Weights = [0.041 0.118 0.038 0.206 0.189 0.17 0.055 0.008 0.174], Final Value =
\$1540422.57, Sharpe Ratio = -22.91

Simulation Run = 919
Weights = [0.163 0.138 0.186 0.156 0.056 0.084 0.149 0.049 0.02], Final Value =
\$1550300.97, Sharpe Ratio = -15.95

Simulation Run = 920
Weights = [0.074 0.076 0.103 0.151 0.199 0.078 0.103 0.137 0.08], Final Value =
\$1569539.62, Sharpe Ratio = -20.17

Simulation Run = 921
Weights = [0.112 0.135 0.06 0.172 0.077 0.055 0.134 0.123 0.131], Final Value =
\$1496354.43, Sharpe Ratio = -19.71

Simulation Run = 922
Weights = [0.066 0.064 0.152 0.049 0.049 0.209 0.149 0.036 0.227], Final Value =
\$1406986.38, Sharpe Ratio = -15.96

Simulation Run = 923
Weights = [0.182 0.058 0.034 0.127 0.009 0.201 0.194 0.077 0.118], Final Value =
\$1575174.44, Sharpe Ratio = -13.91

Simulation Run = 924
Weights = [0.084 0.154 0.162 0.214 0.054 0.153 0.009 0.153 0.017], Final Value =
\$1592797.49, Sharpe Ratio = -19.38

Simulation Run = 925

Weights = [0.119 0.14 0.163 0.026 0.17 0.099 0.094 0.015 0.173], Final Value = \$1424801.57, Sharpe Ratio = -20.94

Simulation Run = 926

Weights = [0.065 0.188 0.138 0.204 0.003 0.027 0.211 0.126 0.039], Final Value = \$1496608.10, Sharpe Ratio = -15.40

Simulation Run = 927

Weights = [0.177 0.103 0.036 0.239 0.163 0.074 0.067 0.083 0.058], Final Value = \$1636841.98, Sharpe Ratio = -21.38

Simulation Run = 928

Weights = [0.128 0.048 0.028 0.057 0.255 0.09 0.076 0.194 0.123], Final Value = \$1580815.30, Sharpe Ratio = -22.08

Simulation Run = 929

Weights = [0.141 0.01 0.033 0.147 0.091 0.092 0.2 0.225 0.062], Final Value = \$1617200.85, Sharpe Ratio = -14.94

Simulation Run = 930

Weights = [0.072 0.079 0.193 0.095 0.202 0.047 0.046 0.151 0.116], Final Value = \$1480546.75, Sharpe Ratio = -22.24

Simulation Run = 931

Weights = [0.156 0.218 0.094 0.071 0.033 0.15 0.185 0.072 0.021], Final Value = \$1562230.54, Sharpe Ratio = -15.10

Simulation Run = 932

Weights = [0.204 0.032 0.132 0.024 0.009 0.059 0.153 0.207 0.181], Final Value = \$1420441.60, Sharpe Ratio = -16.46

Simulation Run = 933

Weights = [0.119 0.097 0.154 0.019 0.171 0.028 0.155 0.074 0.182], Final Value = \$1402560.09, Sharpe Ratio = -18.98

Simulation Run = 934

Weights = [0.021 0.179 0.088 0.03 0.15 0.173 0.159 0.024 0.177], Final Value = \$1444559.12, Sharpe Ratio = -18.05

Simulation Run = 935
Weights = [0.117 0.012 0.202 0.155 0.24 0.2 0.055 0.02 0.], Final Value =
\$1680985.41, Sharpe Ratio = -16.60

Simulation Run = 936
Weights = [0.074 0.184 0.154 0.078 0.067 0.199 0.095 0.118 0.03], Final Value =
\$1559447.89, Sharpe Ratio = -17.02

Simulation Run = 937
Weights = [0.036 0.298 0.031 0.163 0.105 0.027 0.004 0.18 0.157], Final Value =
\$1431672.77, Sharpe Ratio = -32.23

Simulation Run = 938
Weights = [0.184 0.117 0.1 0.123 0.009 0.133 0.07 0.11 0.154], Final Value =
\$1482320.63, Sharpe Ratio = -19.37

Simulation Run = 939
Weights = [0.064 0.013 0.097 0.116 0.098 0.192 0.293 0.12 0.008], Final Value =
\$1648827.08, Sharpe Ratio = -11.45

Simulation Run = 940
Weights = [0.118 0.106 0.086 0.125 0.166 0.076 0.157 0.124 0.041], Final Value =
\$1592597.68, Sharpe Ratio = -17.50

Simulation Run = 941
Weights = [0.047 0. 0.151 0.275 0.016 0.177 0.09 0.006 0.237], Final Value =
\$1444106.59, Sharpe Ratio = -17.66

Simulation Run = 942
Weights = [0.039 0.071 0.088 0.218 0.001 0.09 0.191 0.212 0.09], Final Value =
\$1528091.59, Sharpe Ratio = -15.41

Simulation Run = 943
Weights = [0.145 0.071 0.039 0.059 0.142 0.157 0.12 0.18 0.087], Final Value =
\$1598846.63, Sharpe Ratio = -17.57

Simulation Run = 944
Weights = [0.207 0.119 0.037 0.022 0.163 0.017 0.075 0.147 0.213], Final Value =

\$1433126.22, Sharpe Ratio = -24.40

Simulation Run = 945

Weights = [0.115 0.136 0.121 0.18 0.056 0.136 0.066 0.131 0.058], Final Value = \$1566976.22, Sharpe Ratio = -19.06

Simulation Run = 946

Weights = [0.196 0.058 0.126 0.089 0.098 0.16 0.232 0.01 0.029], Final Value = \$1612667.64, Sharpe Ratio = -12.94

Simulation Run = 947

Weights = [0.008 0.271 0.033 0.141 0.032 0.023 0.249 0.093 0.152], Final Value = \$1396819.60, Sharpe Ratio = -16.42

Simulation Run = 948

Weights = [0.124 0.092 0.137 0.148 0.089 0.146 0.16 0.096 0.008], Final Value = \$1616438.22, Sharpe Ratio = -15.12

Simulation Run = 949

Weights = [0.113 0.045 0.083 0.203 0.083 0.102 0.099 0.151 0.121], Final Value = \$1548469.15, Sharpe Ratio = -19.01

Simulation Run = 950

Weights = [0.048 0.139 0.097 0.125 0.127 0.114 0.159 0.111 0.079], Final Value = \$1537821.14, Sharpe Ratio = -17.54

Simulation Run = 951

Weights = [0.117 0.18 0.086 0.122 0.097 0.051 0.129 0.068 0.151], Final Value = \$1448643.69, Sharpe Ratio = -20.74

Simulation Run = 952

Weights = [0.043 0.087 0.121 0.186 0.223 0.07 0.16 0.104 0.004], Final Value = \$1626919.41, Sharpe Ratio = -17.15

Simulation Run = 953

Weights = [0.109 0.194 0.045 0.232 0.079 0.087 0.141 0.049 0.064], Final Value = \$1568894.29, Sharpe Ratio = -18.80

Simulation Run = 954
Weights = [0.094 0.169 0.241 0.057 0.057 0.011 0.23 0.084 0.057], Final Value =
\$1421884.69, Sharpe Ratio = -14.43

Simulation Run = 955
Weights = [0.002 0.02 0.242 0.216 0.054 0.163 0.174 0.022 0.108], Final Value =
\$1493671.84, Sharpe Ratio = -14.21

Simulation Run = 956
Weights = [0.023 0.052 0.084 0.19 0.205 0.041 0.171 0.133 0.102], Final Value =
\$1547773.86, Sharpe Ratio = -18.18

Simulation Run = 957
Weights = [0.001 0.007 0.216 0.203 0.099 0.17 0.161 0.084 0.059], Final Value =
\$1563707.36, Sharpe Ratio = -14.41

Simulation Run = 958
Weights = [0.18 0.117 0.03 0.121 0.091 0.158 0.158 0.06 0.085], Final Value =
\$1594439.01, Sharpe Ratio = -16.28

Simulation Run = 959
Weights = [0.194 0.129 0.174 0.008 0.187 0.046 0.059 0.023 0.18], Final Value =
\$1414038.54, Sharpe Ratio = -22.82

Simulation Run = 960
Weights = [0.022 0.192 0.022 0.083 0.168 0.173 0.087 0.209 0.044], Final Value =
\$1609640.81, Sharpe Ratio = -20.29

Simulation Run = 961
Weights = [0.201 0.068 0.077 0.066 0.099 0.06 0.143 0.175 0.11], Final Value =
\$1527538.63, Sharpe Ratio = -17.66

Simulation Run = 962
Weights = [0.08 0.009 0.108 0.144 0.078 0.181 0.178 0.092 0.131], Final Value =
\$1544018.97, Sharpe Ratio = -14.86

Simulation Run = 963
Weights = [0.123 0.229 0.085 0.051 0.107 0.164 0.133 0.089 0.02], Final Value =
\$1581885.96, Sharpe Ratio = -17.32

Simulation Run = 964
Weights = [0.043 0.158 0.054 0.093 0.076 0.151 0.125 0.218 0.082], Final Value =
\$1545256.52, Sharpe Ratio = -18.27

Simulation Run = 965
Weights = [0.12 0.117 0.109 0.044 0.028 0.227 0.244 0.095 0.015], Final Value =
\$1601764.10, Sharpe Ratio = -12.14

Simulation Run = 966
Weights = [0.118 0.12 0.054 0.19 0.067 0.069 0.161 0.026 0.195], Final Value =
\$1451334.64, Sharpe Ratio = -18.80

Simulation Run = 967
Weights = [0.152 0.156 0.089 0.06 0.287 0.119 0.087 0.023 0.026], Final Value =
\$1630466.81, Sharpe Ratio = -20.41

Simulation Run = 968
Weights = [0.137 0.095 0.157 0.137 0.091 0.092 0.101 0.053 0.137], Final Value =
\$1476305.62, Sharpe Ratio = -19.14

Simulation Run = 969
Weights = [0.035 0.17 0.087 0.132 0.028 0.051 0.145 0.16 0.192], Final Value =
\$1386093.98, Sharpe Ratio = -19.99

Simulation Run = 970
Weights = [0.235 0.16 0.048 0.047 0.077 0.069 0.146 0.108 0.111], Final Value =
\$1511081.15, Sharpe Ratio = -18.08

Simulation Run = 971
Weights = [0.17 0.177 0.205 0.21 0.049 0. 0.043 0.067 0.078], Final Value =
\$1466695.30, Sharpe Ratio = -21.06

Simulation Run = 972
Weights = [0.186 0.014 0.207 0.186 0.024 0.023 0.06 0.186 0.113], Final Value =
\$1481133.08, Sharpe Ratio = -18.38

Simulation Run = 973

Weights = [0.158 0.048 0.099 0.073 0.098 0.11 0.166 0.148 0.099], Final Value = \$1543007.45, Sharpe Ratio = -16.00

Simulation Run = 974

Weights = [0.023 0.142 0.083 0.265 0.119 0.046 0.053 0.031 0.238], Final Value = \$1406051.81, Sharpe Ratio = -26.46

Simulation Run = 975

Weights = [0.064 0.07 0.179 0.039 0.063 0.174 0.025 0.182 0.204], Final Value = \$1412582.19, Sharpe Ratio = -20.21

Simulation Run = 976

Weights = [0.085 0.057 0.008 0.119 0.186 0.027 0.129 0.155 0.233], Final Value = \$1451038.76, Sharpe Ratio = -22.40

Simulation Run = 977

Weights = [0.047 0.031 0.054 0.189 0.214 0.09 0.121 0.132 0.122], Final Value = \$1575725.81, Sharpe Ratio = -19.92

Simulation Run = 978

Weights = [0.091 0.148 0.139 0.077 0.199 0.015 0.173 0.13 0.029], Final Value = \$1539335.59, Sharpe Ratio = -17.66

Simulation Run = 979

Weights = [0.082 0.072 0.121 0.091 0.251 0.008 0.081 0.128 0.166], Final Value = \$1463797.82, Sharpe Ratio = -23.83

Simulation Run = 980

Weights = [0.036 0.08 0.107 0.059 0.033 0.273 0.175 0.054 0.184], Final Value = \$1474341.27, Sharpe Ratio = -14.27

Simulation Run = 981

Weights = [0.105 0.118 0.16 0.039 0.134 0.019 0.084 0.126 0.217], Final Value = \$1358389.67, Sharpe Ratio = -23.05

Simulation Run = 982

Weights = [0.167 0.034 0.081 0.212 0.103 0.154 0.136 0.035 0.076], Final Value = \$1623312.03, Sharpe Ratio = -16.18

Simulation Run = 983
Weights = [0.227 0.149 0.04 0.102 0.07 0.09 0.089 0.117 0.116], Final Value =
\$1532802.46, Sharpe Ratio = -20.22

Simulation Run = 984
Weights = [0.216 0.23 0.046 0.131 0.055 0.039 0.032 0.061 0.188], Final Value =
\$1428409.24, Sharpe Ratio = -26.53

Simulation Run = 985
Weights = [0.217 0.146 0.08 0.014 0.131 0.014 0.087 0.106 0.203], Final Value =
\$1406827.28, Sharpe Ratio = -23.13

Simulation Run = 986
Weights = [0.063 0.212 0.336 0.094 0.011 0.041 0.049 0.133 0.06], Final Value =
\$1382194.42, Sharpe Ratio = -18.30

Simulation Run = 987
Weights = [0.082 0.164 0.278 0.11 0.026 0.038 0.17 0.009 0.122], Final Value =
\$1364528.26, Sharpe Ratio = -16.00

Simulation Run = 988
Weights = [0.069 0.029 0.129 0.036 0.21 0.185 0.117 0.045 0.18], Final Value =
\$1497736.88, Sharpe Ratio = -18.03

Simulation Run = 989
Weights = [0.066 0.19 0.121 0.167 0.005 0.165 0.192 0.082 0.013], Final Value =
\$1570385.24, Sharpe Ratio = -14.48

Simulation Run = 990
Weights = [0.184 0.166 0.186 0.008 0.071 0.042 0.022 0.105 0.216], Final Value =
\$1338246.53, Sharpe Ratio = -24.05

Simulation Run = 991
Weights = [0.079 0.153 0.129 0.018 0.127 0.018 0.174 0.179 0.124], Final Value =
\$1427961.67, Sharpe Ratio = -18.26

Simulation Run = 992
Weights = [0.144 0.176 0.102 0.179 0.109 0.025 0.009 0.079 0.176], Final Value =

\$1439220.85, Sharpe Ratio = -27.39

Simulation Run = 993

Weights = [0.051 0.032 0.221 0.098 0.167 0.142 0.02 0.114 0.156], Final Value = \$1471054.62, Sharpe Ratio = -20.45

Simulation Run = 994

Weights = [0.062 0.075 0.107 0.032 0.135 0.082 0.13 0.175 0.202], Final Value = \$1418551.05, Sharpe Ratio = -19.83

Simulation Run = 995

Weights = [0.173 0.076 0.144 0.162 0.026 0.194 0.152 0.05 0.023], Final Value = \$1617855.74, Sharpe Ratio = -14.14

Simulation Run = 996

Weights = [0.189 0.11 0.119 0.075 0.129 0.09 0.186 0.075 0.026], Final Value = \$1585640.48, Sharpe Ratio = -15.39

Simulation Run = 997

Weights = [0.055 0.107 0.084 0.072 0.119 0.075 0.098 0.164 0.226], Final Value = \$1400319.56, Sharpe Ratio = -22.58

Simulation Run = 998

Weights = [0.188 0.122 0.014 0.176 0.164 0.129 0.136 0.025 0.045], Final Value = \$1655674.89, Sharpe Ratio = -17.79

Simulation Run = 999

Weights = [0.071 0.119 0.041 0.179 0.021 0.131 0.173 0.1 0.165], Final Value = \$1484743.92, Sharpe Ratio = -16.89

Simulation Run = 1000

Weights = [0.13 0.108 0.095 0.196 0.025 0.062 0.061 0.14 0.183], Final Value = \$1446908.79, Sharpe Ratio = -22.20

Simulation Run = 1001

Weights = [0.068 0.181 0.148 0.117 0.007 0.191 0.101 0.05 0.137], Final Value = \$1456285.50, Sharpe Ratio = -17.74

Simulation Run = 1002
Weights = [0.081 0.028 0.132 0.189 0.243 0.144 0.067 0.043 0.075], Final Value =
\$1620279.71, Sharpe Ratio = -19.46

Simulation Run = 1003
Weights = [0.097 0.052 0.097 0.087 0.024 0.141 0.11 0.225 0.167], Final Value =
\$1473550.09, Sharpe Ratio = -17.82

Simulation Run = 1004
Weights = [0.021 0.02 0.066 0.181 0.242 0.184 0.111 0.158 0.016], Final Value =
\$1704177.51, Sharpe Ratio = -17.16

Simulation Run = 1005
Weights = [0.173 0.196 0.116 0.092 0.178 0.085 0.127 0.009 0.023], Final Value =
\$1578918.13, Sharpe Ratio = -18.76

Simulation Run = 1006
Weights = [0.16 0.173 0.087 0.082 0.179 0.153 0.012 0.012 0.142], Final Value =
\$1521588.14, Sharpe Ratio = -23.79

Simulation Run = 1007
Weights = [0.038 0.1 0.169 0.08 0.212 0.037 0.204 0.143 0.017], Final Value =
\$1552170.21, Sharpe Ratio = -15.77

Simulation Run = 1008
Weights = [0.186 0.097 0.011 0.306 0.008 0.103 0.097 0.141 0.052], Final Value =
\$1642220.22, Sharpe Ratio = -17.99

Simulation Run = 1009
Weights = [0.007 0.169 0.023 0.118 0.062 0.142 0.144 0.166 0.169], Final Value =
\$1467772.08, Sharpe Ratio = -19.00

Simulation Run = 1010
Weights = [0.111 0.165 0.056 0.078 0.206 0.172 0.101 0.095 0.017], Final Value =
\$1646728.16, Sharpe Ratio = -18.71

Simulation Run = 1011
Weights = [0.047 0.207 0.198 0.156 0.035 0.131 0.072 0.044 0.11], Final Value =
\$1442656.30, Sharpe Ratio = -19.62

Simulation Run = 1012
Weights = [0.058 0.062 0.214 0.186 0.004 0.005 0.18 0.161 0.129], Final Value =
\$1409736.03, Sharpe Ratio = -15.77

Simulation Run = 1013
Weights = [0.11 0.21 0.044 0.119 0.1 0.157 0.184 0.022 0.054], Final Value =
\$1577173.41, Sharpe Ratio = -16.16

Simulation Run = 1014
Weights = [0.068 0.041 0.085 0.158 0.096 0.178 0.113 0.181 0.081], Final Value =
\$1598427.80, Sharpe Ratio = -16.91

Simulation Run = 1015
Weights = [0.159 0.06 0.054 0.009 0.089 0.275 0.165 0.086 0.103], Final Value =
\$1599560.76, Sharpe Ratio = -13.81

Simulation Run = 1016
Weights = [0.086 0.118 0.1 0.194 0.081 0.05 0.121 0.065 0.186], Final Value =
\$1435096.21, Sharpe Ratio = -20.74

Simulation Run = 1017
Weights = [0.092 0.165 0.163 0.135 0.064 0.082 0.096 0.045 0.158], Final Value =
\$1417953.92, Sharpe Ratio = -20.51

Simulation Run = 1018
Weights = [0.115 0.131 0.205 0.064 0.052 0.162 0.077 0.111 0.084], Final Value =
\$1492790.63, Sharpe Ratio = -17.52

Simulation Run = 1019
Weights = [0.064 0.113 0.041 0.178 0.231 0.003 0.179 0.02 0.17], Final Value =
\$1482944.33, Sharpe Ratio = -19.92

Simulation Run = 1020
Weights = [0.016 0.028 0.012 0.199 0.109 0.029 0.256 0.255 0.096], Final Value =
\$1559764.96, Sharpe Ratio = -14.72

Simulation Run = 1021

Weights = [0.165 0.05 0.159 0.154 0.026 0.116 0.074 0.128 0.128], Final Value = \$1500833.15, Sharpe Ratio = -18.14

Simulation Run = 1022

Weights = [0.006 0.162 0.163 0.098 0.087 0.061 0.177 0.138 0.107], Final Value = \$1435395.92, Sharpe Ratio = -17.30

Simulation Run = 1023

Weights = [0.094 0.159 0.159 0.049 0.059 0.017 0.169 0.109 0.185], Final Value = \$1350629.23, Sharpe Ratio = -18.30

Simulation Run = 1024

Weights = [0.17 0.023 0.148 0.107 0.036 0.166 0.079 0.124 0.146], Final Value = \$1508117.24, Sharpe Ratio = -17.18

Simulation Run = 1025

Weights = [0.107 0.126 0.142 0.104 0.109 0.11 0.139 0.081 0.083], Final Value = \$1518960.51, Sharpe Ratio = -17.53

Simulation Run = 1026

Weights = [0.156 0.122 0.028 0.144 0.138 0.084 0.102 0.143 0.083], Final Value = \$1584846.72, Sharpe Ratio = -20.43

Simulation Run = 1027

Weights = [0.09 0.152 0.145 0.16 0.08 0.037 0.108 0.151 0.077], Final Value = \$1494197.55, Sharpe Ratio = -19.79

Simulation Run = 1028

Weights = [0.234 0.002 0.027 0.231 0.085 0.099 0.137 0.047 0.137], Final Value = \$1591882.13, Sharpe Ratio = -17.11

Simulation Run = 1029

Weights = [0.12 0.102 0.002 0.195 0.219 0.025 0.244 0.05 0.044], Final Value = \$1628827.06, Sharpe Ratio = -15.52

Simulation Run = 1030

Weights = [0.038 0.174 0.159 0.172 0.034 0. 0.108 0.158 0.157], Final Value = \$1380683.67, Sharpe Ratio = -21.12

Simulation Run = 1031
Weights = [0.126 0.213 0.02 0.202 0.041 0.151 0.047 0.142 0.058], Final Value =
\$1597367.68, Sharpe Ratio = -21.05

Simulation Run = 1032
Weights = [0.318 0.025 0.024 0.02 0.045 0.115 0.218 0.087 0.149], Final Value =
\$1537524.45, Sharpe Ratio = -13.76

Simulation Run = 1033
Weights = [0.209 0.007 0.13 0.126 0.072 0.112 0.209 0.132 0.003], Final Value =
\$1638073.12, Sharpe Ratio = -13.24

Simulation Run = 1034
Weights = [0.17 0.08 0.126 0.042 0.103 0.102 0.126 0.138 0.113], Final Value =
\$1506781.97, Sharpe Ratio = -17.68

Simulation Run = 1035
Weights = [0.029 0.106 0.163 0.14 0.178 0.061 0.178 0.05 0.097], Final Value =
\$1494124.77, Sharpe Ratio = -17.23

Simulation Run = 1036
Weights = [0.094 0.183 0.14 0.029 0.036 0.097 0.111 0.191 0.118], Final Value =
\$1435697.66, Sharpe Ratio = -19.08

Simulation Run = 1037
Weights = [0.088 0.064 0.09 0.172 0.027 0.133 0.147 0.153 0.126], Final Value =
\$1520041.81, Sharpe Ratio = -16.60

Simulation Run = 1038
Weights = [0.163 0.206 0.15 0.068 0.142 0.064 0.103 0.006 0.098], Final Value =
\$1474463.61, Sharpe Ratio = -20.65

Simulation Run = 1039
Weights = [0.161 0.22 0.121 0.248 0.04 0.006 0.133 0.071 0.], Final Value =
\$1559387.79, Sharpe Ratio = -18.26

Simulation Run = 1040
Weights = [0.096 0.149 0.135 0.108 0.038 0.205 0.138 0.036 0.095], Final Value =

\$1521313.76, Sharpe Ratio = -15.89

Simulation Run = 1041

Weights = [0.153 0.119 0.123 0.157 0.12 0.022 0.099 0.039 0.168], Final Value = \$1445027.52, Sharpe Ratio = -21.74

Simulation Run = 1042

Weights = [0.206 0.019 0.029 0.123 0.104 0.194 0.009 0.15 0.166], Final Value = \$1582672.10, Sharpe Ratio = -19.93

Simulation Run = 1043

Weights = [0.093 0.077 0.136 0.063 0.278 0.11 0.103 0.027 0.113], Final Value = \$1539820.83, Sharpe Ratio = -20.10

Simulation Run = 1044

Weights = [0.085 0.043 0.155 0.126 0.166 0.01 0.165 0.126 0.126], Final Value = \$1475508.72, Sharpe Ratio = -17.81

Simulation Run = 1045

Weights = [0.041 0.043 0.115 0.222 0.004 0.087 0.147 0.156 0.184], Final Value = \$1444476.02, Sharpe Ratio = -17.40

Simulation Run = 1046

Weights = [0.088 0.138 0.123 0.142 0.08 0.076 0.09 0.145 0.119], Final Value = \$1480836.91, Sharpe Ratio = -20.73

Simulation Run = 1047

Weights = [0.116 0.055 0.13 0.027 0.163 0.194 0.068 0.066 0.181], Final Value = \$1490544.48, Sharpe Ratio = -19.18

Simulation Run = 1048

Weights = [0.172 0.198 0.008 0.138 0.077 0.2 0.113 0.046 0.049], Final Value = \$1629000.83, Sharpe Ratio = -17.38

Simulation Run = 1049

Weights = [0.104 0.165 0.159 0.146 0.037 0.053 0.195 0.014 0.126], Final Value = \$1427819.46, Sharpe Ratio = -16.27

Simulation Run = 1050
Weights = [0.19 0.109 0.091 0.03 0.173 0.114 0.179 0.1 0.013], Final Value =
\$1619625.44, Sharpe Ratio = -15.53

Simulation Run = 1051
Weights = [0.167 0.086 0.147 0.074 0.087 0.075 0.058 0.172 0.136], Final Value =
\$1473724.68, Sharpe Ratio = -20.75

Simulation Run = 1052
Weights = [0.178 0.052 0.125 0.15 0.052 0.052 0.221 0.047 0.124], Final Value =
\$1491651.70, Sharpe Ratio = -14.69

Simulation Run = 1053
Weights = [0.112 0.207 0.154 0.05 0.172 0.146 0.083 0.05 0.025], Final Value =
\$1564720.06, Sharpe Ratio = -19.33

Simulation Run = 1054
Weights = [0.054 0.196 0.155 0.176 0.082 0.141 0.097 0.027 0.071], Final Value =
\$1517918.54, Sharpe Ratio = -18.92

Simulation Run = 1055
Weights = [0.109 0.067 0.123 0.099 0.169 0.064 0.082 0.132 0.155], Final Value =
\$1481536.59, Sharpe Ratio = -21.67

Simulation Run = 1056
Weights = [0.22 0.012 0.233 0.177 0.002 0.021 0.018 0.165 0.152], Final Value =
\$1436974.71, Sharpe Ratio = -19.16

Simulation Run = 1057
Weights = [0.012 0.242 0.015 0.358 0.023 0.107 0.038 0.109 0.097], Final Value =
\$1550352.98, Sharpe Ratio = -23.61

Simulation Run = 1058
Weights = [0.098 0.124 0.152 0.159 0.15 0.046 0.106 0.075 0.088], Final Value =
\$1509502.26, Sharpe Ratio = -20.09

Simulation Run = 1059
Weights = [0.03 0.041 0.038 0.146 0.186 0.181 0.185 0.177 0.016], Final Value =
\$1684404.58, Sharpe Ratio = -14.99

Simulation Run = 1060
Weights = [0.206 0.079 0.072 0.078 0.057 0.081 0.102 0.104 0.22], Final Value =
\$1431339.05, Sharpe Ratio = -20.06

Simulation Run = 1061
Weights = [0.046 0.191 0.156 0.189 0.008 0.167 0.026 0.127 0.092], Final Value =
\$1499189.81, Sharpe Ratio = -20.08

Simulation Run = 1062
Weights = [0.054 0.214 0.187 0.153 0.151 0.015 0.08 0.137 0.009], Final Value =
\$1523138.07, Sharpe Ratio = -20.99

Simulation Run = 1063
Weights = [0.165 0.019 0.185 0.011 0.032 0.171 0.191 0.121 0.105], Final Value =
\$1502727.63, Sharpe Ratio = -13.45

Simulation Run = 1064
Weights = [0.13 0.062 0.014 0.154 0.101 0.038 0.168 0.206 0.13], Final Value =
\$1534988.65, Sharpe Ratio = -18.06

Simulation Run = 1065
Weights = [0.184 0.11 0.019 0.159 0.028 0.092 0.079 0.21 0.119], Final Value =
\$1547097.93, Sharpe Ratio = -20.21

Simulation Run = 1066
Weights = [0.077 0.072 0.021 0.044 0.17 0.143 0.174 0.159 0.138], Final Value =
\$1544216.35, Sharpe Ratio = -16.95

Simulation Run = 1067
Weights = [0.175 0.007 0.122 0.126 0.176 0.095 0.11 0.054 0.137], Final Value =
\$1540980.84, Sharpe Ratio = -18.62

Simulation Run = 1068
Weights = [0.112 0.091 0.064 0.132 0.049 0.175 0.145 0.133 0.099], Final Value =
\$1563718.35, Sharpe Ratio = -16.17

Simulation Run = 1069

Weights = [0.037 0.108 0.132 0.091 0.091 0.173 0.123 0.158 0.086], Final Value = \$1532127.43, Sharpe Ratio = -17.08

Simulation Run = 1070

Weights = [0.05 0.045 0.149 0.141 0.026 0.054 0.216 0.083 0.235], Final Value = \$1356724.00, Sharpe Ratio = -15.68

Simulation Run = 1071

Weights = [0.165 0.003 0.171 0.149 0.095 0.036 0.12 0.132 0.127], Final Value = \$1492712.79, Sharpe Ratio = -17.73

Simulation Run = 1072

Weights = [0.012 0.137 0.011 0.176 0.174 0.166 0.056 0.14 0.129], Final Value = \$1572549.60, Sharpe Ratio = -22.74

Simulation Run = 1073

Weights = [0.144 0.134 0.065 0.013 0.059 0.013 0.2 0.169 0.202], Final Value = \$1380941.78, Sharpe Ratio = -17.31

Simulation Run = 1074

Weights = [0.199 0.027 0.133 0.219 0.058 0.044 0.158 0.156 0.006], Final Value = \$1621399.50, Sharpe Ratio = -15.26

Simulation Run = 1075

Weights = [0.234 0.141 0.109 0.1 0.057 0.043 0.163 0.092 0.061], Final Value = \$1530354.93, Sharpe Ratio = -16.66

Simulation Run = 1076

Weights = [0.106 0.081 0.173 0.046 0.157 0.052 0.074 0.088 0.224], Final Value = \$1375676.97, Sharpe Ratio = -22.55

Simulation Run = 1077

Weights = [0.05 0.197 0.015 0.173 0.158 0.066 0.224 0.012 0.107], Final Value = \$1525919.37, Sharpe Ratio = -16.98

Simulation Run = 1078

Weights = [0.182 0.042 0.068 0.139 0.032 0.175 0.037 0.163 0.162], Final Value = \$1536323.94, Sharpe Ratio = -19.12

Simulation Run = 1079
Weights = [0.122 0.015 0.034 0.227 0.263 0.062 0.09 0.17 0.018], Final Value =
\$1706279.30, Sharpe Ratio = -19.79

Simulation Run = 1080
Weights = [0.071 0.101 0.12 0.109 0.051 0.179 0.122 0.169 0.077], Final Value =
\$1549270.86, Sharpe Ratio = -16.48

Simulation Run = 1081
Weights = [0.155 0.158 0.095 0.137 0.124 0.032 0.023 0.12 0.155], Final Value =
\$1464575.38, Sharpe Ratio = -26.19

Simulation Run = 1082
Weights = [0.085 0.036 0.128 0.018 0.083 0.173 0.196 0.115 0.166], Final Value =
\$1468432.87, Sharpe Ratio = -14.69

Simulation Run = 1083
Weights = [0.192 0.147 0.026 0.269 0.172 0.045 0.095 0.052 0.001], Final Value =
\$1677721.84, Sharpe Ratio = -20.30

Simulation Run = 1084
Weights = [0.122 0.013 0.056 0.131 0.201 0.036 0.044 0.238 0.158], Final Value =
\$1532143.37, Sharpe Ratio = -24.22

Simulation Run = 1085
Weights = [0.194 0.144 0.101 0.163 0.006 0.028 0.173 0.19 0.002], Final Value =
\$1574560.61, Sharpe Ratio = -15.77

Simulation Run = 1086
Weights = [0.135 0.09 0.199 0.026 0.045 0.046 0.223 0.209 0.028], Final Value =
\$1499649.38, Sharpe Ratio = -13.78

Simulation Run = 1087
Weights = [0.089 0.085 0.041 0.165 0.079 0.118 0.14 0.134 0.148], Final Value =
\$1521459.54, Sharpe Ratio = -18.31

Simulation Run = 1088
Weights = [0.067 0.085 0.125 0.016 0.072 0.149 0.169 0.173 0.143], Final Value =

\$1463936.56, Sharpe Ratio = -15.99

Simulation Run = 1089

Weights = [0.149 0.204 0.204 0.008 0.05 0.182 0.162 0.041 0.001], Final Value = \$1541200.38, Sharpe Ratio = -14.46

Simulation Run = 1090

Weights = [0.098 0. 0.206 0.045 0.063 0.23 0.187 0.018 0.153], Final Value = \$1479875.25, Sharpe Ratio = -13.41

Simulation Run = 1091

Weights = [0.16 0.148 0.183 0.071 0.193 0.007 0.067 0.11 0.062], Final Value = \$1504698.76, Sharpe Ratio = -21.65

Simulation Run = 1092

Weights = [0.213 0.091 0.018 0.124 0.057 0.156 0.029 0.191 0.123], Final Value = \$1580454.40, Sharpe Ratio = -20.26

Simulation Run = 1093

Weights = [0.006 0.073 0.105 0.229 0.039 0.112 0.189 0.203 0.044], Final Value = \$1575411.00, Sharpe Ratio = -15.06

Simulation Run = 1094

Weights = [0.135 0.123 0.102 0.076 0.085 0.115 0.137 0.065 0.161], Final Value = \$1462148.10, Sharpe Ratio = -18.34

Simulation Run = 1095

Weights = [0.1 0.028 0.109 0.179 0.029 0.169 0.122 0.099 0.165], Final Value = \$1506194.03, Sharpe Ratio = -16.72

Simulation Run = 1096

Weights = [0.173 0.075 0.135 0.153 0.131 0.12 0.092 0.003 0.12], Final Value = \$1536231.13, Sharpe Ratio = -18.94

Simulation Run = 1097

Weights = [0.151 0.058 0.161 0.036 0.174 0.13 0.121 0.069 0.101], Final Value = \$1530941.61, Sharpe Ratio = -17.40

Simulation Run = 1098
Weights = [0.033 0.255 0.084 0.074 0.067 0.061 0.096 0.248 0.083], Final Value =
\$1466481.38, Sharpe Ratio = -22.30

Simulation Run = 1099
Weights = [0.101 0.143 0.003 0.209 0.054 0.219 0.156 0.038 0.078], Final Value =
\$1622927.25, Sharpe Ratio = -15.75

Simulation Run = 1100
Weights = [0.002 0.19 0.068 0.081 0.175 0.274 0.022 0.094 0.093], Final Value =
\$1584311.33, Sharpe Ratio = -19.96

Simulation Run = 1101
Weights = [0.091 0.14 0.09 0.115 0.042 0.063 0.108 0.194 0.156], Final Value =
\$1442085.98, Sharpe Ratio = -20.61

Simulation Run = 1102
Weights = [0.181 0.144 0.025 0.135 0.107 0.043 0.078 0.147 0.14], Final Value =
\$1510711.10, Sharpe Ratio = -23.11

Simulation Run = 1103
Weights = [0.023 0.185 0.047 0.195 0.031 0.219 0.137 0.101 0.062], Final Value =
\$1587352.96, Sharpe Ratio = -16.40

Simulation Run = 1104
Weights = [0.11 0.129 0.077 0.067 0.185 0.104 0.186 0.061 0.081], Final Value =
\$1552380.42, Sharpe Ratio = -16.81

Simulation Run = 1105
Weights = [0.155 0.156 0.075 0.133 0.097 0.077 0.158 0.052 0.097], Final Value =
\$1523992.17, Sharpe Ratio = -17.98

Simulation Run = 1106
Weights = [0.07 0.085 0.156 0.082 0.101 0.155 0.128 0.073 0.151], Final Value =
\$1469022.14, Sharpe Ratio = -17.47

Simulation Run = 1107
Weights = [0.144 0.108 0.143 0.005 0.113 0.132 0.13 0.033 0.192], Final Value =
\$1421997.57, Sharpe Ratio = -18.16

Simulation Run = 1108
Weights = [0.125 0.188 0.113 0.073 0.109 0.061 0.03 0.189 0.114], Final Value =
\$1473619.75, Sharpe Ratio = -24.59

Simulation Run = 1109
Weights = [0.089 0.064 0.082 0.112 0.139 0.135 0.152 0.161 0.067], Final Value =
\$1591245.16, Sharpe Ratio = -16.67

Simulation Run = 1110
Weights = [0.009 0.161 0.046 0.184 0.004 0.139 0.147 0.171 0.139], Final Value =
\$1486281.15, Sharpe Ratio = -17.90

Simulation Run = 1111
Weights = [0.048 0.014 0.142 0.134 0.135 0.067 0.202 0.197 0.061], Final Value =
\$1554948.36, Sharpe Ratio = -15.12

Simulation Run = 1112
Weights = [0.206 0.043 0.152 0.081 0.212 0.014 0.039 0.221 0.033], Final Value =
\$1592572.43, Sharpe Ratio = -20.77

Simulation Run = 1113
Weights = [0.003 0.132 0.13 0.144 0.085 0.181 0.158 0.121 0.046], Final Value =
\$1565424.72, Sharpe Ratio = -15.76

Simulation Run = 1114
Weights = [0.048 0.004 0.12 0.151 0.084 0.17 0.278 0.054 0.092], Final Value =
\$1561047.25, Sharpe Ratio = -12.25

Simulation Run = 1115
Weights = [0.052 0.066 0.095 0.108 0.219 0.156 0.059 0.18 0.065], Final Value =
\$1614259.09, Sharpe Ratio = -20.18

Simulation Run = 1116
Weights = [0.123 0.133 0.013 0.139 0.149 0.105 0.146 0.092 0.099], Final Value =
\$1574854.58, Sharpe Ratio = -18.75

Simulation Run = 1117

Weights = [0.06 0.211 0.023 0.028 0.177 0.116 0.084 0.225 0.076], Final Value = \$1551808.10, Sharpe Ratio = -22.40

Simulation Run = 1118

Weights = [0.058 0.067 0.1 0.099 0.15 0.042 0.168 0.104 0.211], Final Value = \$1413983.14, Sharpe Ratio = -18.99

Simulation Run = 1119

Weights = [0.101 0.086 0.116 0.068 0.127 0.147 0.234 0.066 0.054], Final Value = \$1570083.49, Sharpe Ratio = -13.77

Simulation Run = 1120

Weights = [0.162 0.032 0.077 0.118 0.064 0.211 0.043 0.216 0.076], Final Value = \$1624874.86, Sharpe Ratio = -17.29

Simulation Run = 1121

Weights = [0.043 0.221 0.231 0.186 0.092 0.027 0.118 0.01 0.072], Final Value = \$1436881.07, Sharpe Ratio = -19.07

Simulation Run = 1122

Weights = [0.025 0.101 0.321 0.259 0.024 0.098 0.027 0.007 0.137], Final Value = \$1403408.52, Sharpe Ratio = -18.03

Simulation Run = 1123

Weights = [0.037 0.164 0.005 0.224 0.131 0.197 0.095 0.123 0.023], Final Value = \$1672743.63, Sharpe Ratio = -18.56

Simulation Run = 1124

Weights = [0.054 0.192 0.104 0.057 0.11 0.106 0.126 0.046 0.206], Final Value = \$1387539.12, Sharpe Ratio = -20.84

Simulation Run = 1125

Weights = [0.141 0.14 0.093 0.016 0.103 0.105 0.205 0.135 0.063], Final Value = \$1534298.62, Sharpe Ratio = -15.23

Simulation Run = 1126

Weights = [0.123 0.129 0.138 0.008 0.226 0.18 0.008 0.032 0.156], Final Value = \$1499363.30, Sharpe Ratio = -22.46

Simulation Run = 1127
Weights = [0.051 0.221 0.112 0.094 0.053 0.158 0.115 0.095 0.101], Final Value =
\$1483145.97, Sharpe Ratio = -18.71

Simulation Run = 1128
Weights = [0.154 0.093 0.021 0.043 0.077 0.177 0.126 0.17 0.139], Final Value =
\$1542937.44, Sharpe Ratio = -17.21

Simulation Run = 1129
Weights = [0.111 0.157 0.137 0.127 0.039 0.101 0.126 0.117 0.085], Final Value =
\$1496753.55, Sharpe Ratio = -17.88

Simulation Run = 1130
Weights = [0.071 0.217 0.035 0.093 0.111 0.121 0.105 0.063 0.183], Final Value =
\$1447854.61, Sharpe Ratio = -22.26

Simulation Run = 1131
Weights = [0.164 0.1 0.162 0.074 0.143 0.151 0.048 0.149 0.009], Final Value =
\$1616321.60, Sharpe Ratio = -18.23

Simulation Run = 1132
Weights = [0.064 0.037 0.012 0.198 0.089 0.15 0.116 0.211 0.124], Final Value =
\$1587766.37, Sharpe Ratio = -18.20

Simulation Run = 1133
Weights = [0.136 0.123 0.026 0.043 0.204 0.217 0.068 0.123 0.062], Final Value =
\$1646038.95, Sharpe Ratio = -18.78

Simulation Run = 1134
Weights = [0.158 0.141 0.151 0.156 0.002 0.081 0.065 0.142 0.104], Final Value =
\$1480953.23, Sharpe Ratio = -19.67

Simulation Run = 1135
Weights = [0.067 0.188 0.077 0.086 0.158 0.011 0.2 0.096 0.118], Final Value =
\$1459593.24, Sharpe Ratio = -18.18

Simulation Run = 1136
Weights = [0.214 0.116 0.218 0.019 0.075 0.189 0.108 0.055 0.007], Final Value =

\$1580106.40, Sharpe Ratio = -14.95

Simulation Run = 1137

Weights = [0.015 0.267 0.023 0.193 0.052 0.022 0.245 0.111 0.072], Final Value = \$1490019.58, Sharpe Ratio = -16.16

Simulation Run = 1138

Weights = [0.091 0.137 0.063 0.053 0.159 0.173 0.059 0.142 0.124], Final Value = \$1541135.28, Sharpe Ratio = -21.09

Simulation Run = 1139

Weights = [0.162 0.086 0.054 0.275 0.166 0.158 0.061 0.011 0.027], Final Value = \$1696991.83, Sharpe Ratio = -18.98

Simulation Run = 1140

Weights = [0.172 0.148 0. 0.078 0.062 0.171 0.088 0.137 0.144], Final Value = \$1538853.26, Sharpe Ratio = -19.19

Simulation Run = 1141

Weights = [0.106 0.134 0.099 0.18 0.144 0.057 0.099 0.105 0.077], Final Value = \$1548395.16, Sharpe Ratio = -20.81

Simulation Run = 1142

Weights = [0.049 0.071 0.043 0.104 0.218 0.161 0.095 0.059 0.2], Final Value = \$1510077.67, Sharpe Ratio = -21.19

Simulation Run = 1143

Weights = [0.064 0.171 0.128 0.12 0.204 0.025 0.197 0.002 0.088], Final Value = \$1490984.56, Sharpe Ratio = -17.64

Simulation Run = 1144

Weights = [0.065 0.045 0.075 0.131 0.187 0.091 0.014 0.211 0.179], Final Value = \$1505898.53, Sharpe Ratio = -25.24

Simulation Run = 1145

Weights = [0.007 0.16 0.119 0.135 0.181 0.161 0.036 0.169 0.033], Final Value = \$1597706.25, Sharpe Ratio = -21.16

Simulation Run = 1146
Weights = [0.07 0.139 0.032 0.198 0.201 0.05 0.029 0.144 0.138], Final Value =
\$1534897.22, Sharpe Ratio = -27.46

Simulation Run = 1147
Weights = [0.224 0.055 0.075 0.036 0.085 0.208 0.031 0.149 0.137], Final Value =
\$1562824.95, Sharpe Ratio = -18.33

Simulation Run = 1148
Weights = [0.101 0.162 0.1 0.061 0.121 0.175 0.151 0.09 0.04], Final Value =
\$1580849.79, Sharpe Ratio = -16.32

Simulation Run = 1149
Weights = [0.155 0.147 0.157 0.047 0.083 0.107 0.176 0.03 0.098], Final Value =
\$1479024.60, Sharpe Ratio = -16.00

Simulation Run = 1150
Weights = [0.086 0.133 0.14 0.059 0.134 0.093 0.13 0.069 0.156], Final Value =
\$1440627.17, Sharpe Ratio = -19.34

Simulation Run = 1151
Weights = [0.134 0.115 0.198 0.002 0.118 0.201 0.023 0.114 0.095], Final Value =
\$1514631.31, Sharpe Ratio = -18.61

Simulation Run = 1152
Weights = [0.096 0.06 0.041 0.154 0.179 0.124 0.157 0.187 0.002], Final Value =
\$1682964.83, Sharpe Ratio = -16.39

Simulation Run = 1153
Weights = [0.031 0.242 0.249 0.114 0.082 0.002 0.202 0.028 0.051], Final Value =
\$1408699.68, Sharpe Ratio = -15.96

Simulation Run = 1154
Weights = [0.076 0.217 0.181 0.105 0.118 0.079 0.114 0.02 0.089], Final Value =
\$1458800.67, Sharpe Ratio = -19.76

Simulation Run = 1155
Weights = [0.113 0.117 0.149 0.071 0.095 0.147 0.124 0.08 0.104], Final Value =
\$1505504.76, Sharpe Ratio = -17.35

Simulation Run = 1156
Weights = [0.153 0.122 0.135 0.05 0.152 0.032 0.134 0.118 0.105], Final Value =
\$1482794.59, Sharpe Ratio = -19.16

Simulation Run = 1157
Weights = [0.078 0.185 0.214 0.037 0.198 0.125 0.025 0.055 0.083], Final Value =
\$1487694.23, Sharpe Ratio = -21.91

Simulation Run = 1158
Weights = [0.038 0.207 0.119 0.111 0.016 0.184 0.113 0.122 0.089], Final Value =
\$1497301.71, Sharpe Ratio = -17.63

Simulation Run = 1159
Weights = [0.16 0.065 0.151 0.026 0.192 0.011 0.143 0.096 0.156], Final Value =
\$1444839.19, Sharpe Ratio = -19.05

Simulation Run = 1160
Weights = [0.14 0.003 0.114 0.117 0.079 0.085 0.159 0.124 0.178], Final Value =
\$1472440.04, Sharpe Ratio = -16.83

Simulation Run = 1161
Weights = [0.175 0.008 0.148 0.132 0.126 0.144 0.153 0.027 0.088], Final Value =
\$1577640.59, Sharpe Ratio = -15.41

Simulation Run = 1162
Weights = [0.218 0.064 0.055 0.027 0.159 0.166 0.217 0.074 0.02], Final Value =
\$1657992.16, Sharpe Ratio = -13.55

Simulation Run = 1163
Weights = [0.145 0.198 0.01 0.105 0.037 0.206 0.059 0.085 0.155], Final Value =
\$1520085.93, Sharpe Ratio = -20.01

Simulation Run = 1164
Weights = [0.096 0.137 0.085 0.197 0.181 0.042 0.179 0.056 0.025], Final Value =
\$1597875.55, Sharpe Ratio = -17.34

Simulation Run = 1165

Weights = [0.027 0.029 0.042 0.181 0.202 0.116 0.153 0.192 0.06], Final Value =
\$1637078.92, Sharpe Ratio = -17.44

Simulation Run = 1166
Weights = [0.036 0.209 0.047 0.009 0.238 0.198 0.066 0.172 0.027], Final Value =
\$1622816.82, Sharpe Ratio = -20.43

Simulation Run = 1167
Weights = [0.116 0.101 0.078 0.126 0.008 0.151 0.074 0.163 0.182], Final Value =
\$1467655.02, Sharpe Ratio = -19.56

Simulation Run = 1168
Weights = [0.086 0.125 0.04 0.055 0.173 0.258 0.131 0.069 0.064], Final Value =
\$1634791.06, Sharpe Ratio = -16.03

Simulation Run = 1169
Weights = [0.124 0.123 0.147 0.134 0.13 0.094 0.134 0.04 0.074], Final Value =
\$1533672.03, Sharpe Ratio = -17.89

Simulation Run = 1170
Weights = [0.062 0.099 0.173 0.095 0.073 0.163 0.111 0.166 0.057], Final Value =
\$1541355.61, Sharpe Ratio = -16.63

Simulation Run = 1171
Weights = [0.009 0.093 0.172 0.055 0.006 0.153 0.029 0.24 0.244], Final Value =
\$1346505.21, Sharpe Ratio = -21.12

Simulation Run = 1172
Weights = [0.124 0.046 0.011 0.129 0.194 0.039 0.1 0.218 0.14], Final Value =
\$1553287.28, Sharpe Ratio = -22.04

Simulation Run = 1173
Weights = [0.033 0.113 0.038 0.17 0.147 0.127 0.136 0.157 0.078], Final Value =
\$1588484.07, Sharpe Ratio = -18.64

Simulation Run = 1174
Weights = [0.114 0.163 0.092 0.008 0.136 0.097 0.122 0.068 0.201], Final Value =
\$1409153.18, Sharpe Ratio = -20.66

Simulation Run = 1175
Weights = [0.137 0.081 0.097 0.197 0.026 0.112 0.13 0.151 0.071], Final Value =
\$1568315.92, Sharpe Ratio = -16.78

Simulation Run = 1176
Weights = [0.119 0.12 0.187 0.032 0.126 0.117 0.16 0.033 0.108], Final Value =
\$1471083.34, Sharpe Ratio = -16.48

Simulation Run = 1177
Weights = [0.158 0.036 0.154 0.146 0.045 0.139 0.009 0.188 0.125], Final Value =
\$1525088.13, Sharpe Ratio = -19.50

Simulation Run = 1178
Weights = [0.203 0.158 0.06 0.194 0.126 0.018 0.131 0.106 0.004], Final Value =
\$1620401.38, Sharpe Ratio = -18.76

Simulation Run = 1179
Weights = [0.073 0.09 0.177 0.025 0.056 0.177 0.158 0.071 0.172], Final Value =
\$1423833.94, Sharpe Ratio = -15.75

Simulation Run = 1180
Weights = [0.047 0.073 0.064 0.03 0.163 0.134 0.222 0.1 0.166], Final Value =
\$1484419.23, Sharpe Ratio = -15.47

Simulation Run = 1181
Weights = [0.06 0.176 0.044 0.198 0.154 0.081 0.101 0.095 0.091], Final Value =
\$1553469.15, Sharpe Ratio = -22.06

Simulation Run = 1182
Weights = [0.262 0.222 0.128 0.002 0.014 0.019 0.118 0.158 0.077], Final Value =
\$1453912.18, Sharpe Ratio = -18.59

Simulation Run = 1183
Weights = [0.2 0.217 0.138 0.183 0.012 0.098 0.008 0.1 0.044], Final Value =
\$1542551.33, Sharpe Ratio = -21.12

Simulation Run = 1184
Weights = [0.2 0.052 0.056 0.103 0.155 0.205 0.094 0.092 0.042], Final Value =

\$1676211.26, Sharpe Ratio = -16.58

Simulation Run = 1185

Weights = [0.004 0.08 0.224 0.135 0.196 0.115 0.056 0.13 0.059], Final Value = \$1536770.94, Sharpe Ratio = -19.39

Simulation Run = 1186

Weights = [0.082 0.086 0.209 0.025 0.005 0.174 0.079 0.043 0.296], Final Value = \$1294182.17, Sharpe Ratio = -18.61

Simulation Run = 1187

Weights = [0.137 0.041 0.28 0.109 0.072 0.196 0.01 0.105 0.049], Final Value = \$1552200.12, Sharpe Ratio = -16.34

Simulation Run = 1188

Weights = [0.046 0.121 0.138 0.051 0.078 0.145 0.238 0.099 0.084], Final Value = \$1498558.38, Sharpe Ratio = -13.86

Simulation Run = 1189

Weights = [0.099 0.137 0.17 0.087 0.105 0.177 0.126 0.067 0.031], Final Value = \$1569600.43, Sharpe Ratio = -16.18

Simulation Run = 1190

Weights = [0.211 0.11 0.191 0.095 0.036 0.052 0.081 0.127 0.098], Final Value = \$1470807.68, Sharpe Ratio = -18.66

Simulation Run = 1191

Weights = [0.001 0.067 0.022 0.114 0.103 0.182 0.083 0.241 0.187], Final Value = \$1509023.47, Sharpe Ratio = -20.19

Simulation Run = 1192

Weights = [0.123 0.111 0.066 0.064 0.169 0.065 0.18 0.097 0.124], Final Value = \$1508780.92, Sharpe Ratio = -17.71

Simulation Run = 1193

Weights = [0.101 0.189 0.165 0.092 0.055 0.065 0.077 0.071 0.185], Final Value = \$1372214.44, Sharpe Ratio = -22.15

Simulation Run = 1194
Weights = [0.174 0.176 0.154 0.169 0.091 0.088 0.011 0.024 0.114], Final Value =
\$1492876.56, Sharpe Ratio = -22.99

Simulation Run = 1195
Weights = [0.024 0.195 0.158 0.118 0.04 0.202 0.119 0.111 0.032], Final Value =
\$1545612.24, Sharpe Ratio = -16.32

Simulation Run = 1196
Weights = [0.131 0.276 0.028 0.006 0.005 0.141 0.111 0.264 0.037], Final Value =
\$1539681.65, Sharpe Ratio = -18.31

Simulation Run = 1197
Weights = [0.028 0.015 0.161 0.08 0.073 0.184 0.142 0.177 0.14], Final Value =
\$1493515.82, Sharpe Ratio = -15.69

Simulation Run = 1198
Weights = [0.093 0.14 0.163 0.052 0.099 0.144 0.177 0.01 0.122], Final Value =
\$1465154.76, Sharpe Ratio = -15.97

Simulation Run = 1199
Weights = [0.114 0.047 0.232 0.011 0.002 0.312 0.24 0. 0.042], Final Value =
\$1560961.63, Sharpe Ratio = -10.81

Simulation Run = 1200
Weights = [0.068 0.099 0.043 0.211 0.083 0.144 0.07 0.054 0.227], Final Value =
\$1466557.97, Sharpe Ratio = -22.19

Simulation Run = 1201
Weights = [0.182 0.071 0.11 0.127 0.17 0.108 0.175 0.036 0.022], Final Value =
\$1630837.46, Sharpe Ratio = -15.56

Simulation Run = 1202
Weights = [0.066 0.168 0.154 0.166 0.146 0.145 0.014 0.119 0.022], Final Value =
\$1593114.81, Sharpe Ratio = -20.97

Simulation Run = 1203
Weights = [0.145 0.174 0.128 0.132 0.116 0.169 0.022 0.073 0.04], Final Value =
\$1592397.47, Sharpe Ratio = -20.23

Simulation Run = 1204
Weights = [0.006 0.032 0.103 0.124 0.186 0.225 0.168 0.151 0.005], Final Value =
\$1677897.38, Sharpe Ratio = -14.46

Simulation Run = 1205
Weights = [0.175 0.049 0.157 0.077 0.092 0.167 0.047 0.042 0.193], Final Value =
\$1464184.49, Sharpe Ratio = -19.37

Simulation Run = 1206
Weights = [0.178 0.053 0.103 0.067 0.194 0.169 0.045 0.017 0.173], Final Value =
\$1527545.84, Sharpe Ratio = -20.67

Simulation Run = 1207
Weights = [0.164 0.087 0.161 0.066 0.061 0.061 0.155 0.127 0.116], Final Value =
\$1463960.03, Sharpe Ratio = -16.73

Simulation Run = 1208
Weights = [0.051 0.127 0.003 0.184 0.096 0.073 0.153 0.165 0.146], Final Value =
\$1512264.58, Sharpe Ratio = -19.52

Simulation Run = 1209
Weights = [0.037 0.266 0.152 0.11 0.111 0.078 0.001 0.053 0.192], Final Value =
\$1366314.92, Sharpe Ratio = -28.07

Simulation Run = 1210
Weights = [0.15 0.013 0.096 0.025 0.126 0.114 0.171 0.142 0.162], Final Value =
\$1495429.23, Sharpe Ratio = -16.21

Simulation Run = 1211
Weights = [0.303 0.087 0.024 0.1 0.133 0.173 0.157 0.016 0.006], Final Value =
\$1705891.78, Sharpe Ratio = -14.77

Simulation Run = 1212
Weights = [0.242 0.08 0.01 0.164 0.066 0.239 0.058 0.12 0.022], Final Value =
\$1718547.41, Sharpe Ratio = -16.20

Simulation Run = 1213

Weights = [0.134 0.123 0.133 0.181 0.187 0.089 0.02 0.101 0.033], Final Value = \$1607820.94, Sharpe Ratio = -21.91

Simulation Run = 1214

Weights = [0.175 0.171 0.121 0.213 0.064 0.019 0.063 0.145 0.028], Final Value = \$1559720.39, Sharpe Ratio = -20.83

Simulation Run = 1215

Weights = [0.136 0.038 0.191 0.143 0.161 0.01 0.076 0.026 0.219], Final Value = \$1395567.93, Sharpe Ratio = -21.89

Simulation Run = 1216

Weights = [0.04 0.002 0.031 0.212 0.13 0.225 0.09 0.103 0.168], Final Value = \$1587316.77, Sharpe Ratio = -18.01

Simulation Run = 1217

Weights = [0.099 0.181 0.098 0.012 0.146 0.14 0.157 0.033 0.133], Final Value = \$1475185.33, Sharpe Ratio = -17.86

Simulation Run = 1218

Weights = [0.02 0.186 0.203 0.102 0.152 0.122 0.019 0.115 0.081], Final Value = \$1486503.15, Sharpe Ratio = -22.19

Simulation Run = 1219

Weights = [0.086 0.246 0.042 0.225 0.056 0.009 0.171 0.157 0.009], Final Value = \$1563665.52, Sharpe Ratio = -18.27

Simulation Run = 1220

Weights = [0.09 0.058 0.09 0.069 0.129 0.14 0.158 0.165 0.1], Final Value = \$1550053.66, Sharpe Ratio = -16.50

Simulation Run = 1221

Weights = [0.091 0.233 0.045 0.177 0.03 0.252 0.051 0.072 0.049], Final Value = \$1611012.07, Sharpe Ratio = -18.24

Simulation Run = 1222

Weights = [0.014 0.069 0.102 0.04 0.208 0.164 0.248 0.136 0.019], Final Value = \$1617118.22, Sharpe Ratio = -13.46

Simulation Run = 1223
Weights = [0.133 0.134 0.069 0.02 0.151 0.16 0.09 0.163 0.08], Final Value =
\$1569420.72, Sharpe Ratio = -19.05

Simulation Run = 1224
Weights = [0.12 0.05 0.114 0.227 0.126 0.22 0.027 0.025 0.091], Final Value =
\$1623689.30, Sharpe Ratio = -18.43

Simulation Run = 1225
Weights = [0.12 0.011 0.109 0.073 0.129 0.206 0.067 0.136 0.149], Final Value =
\$1547564.32, Sharpe Ratio = -17.99

Simulation Run = 1226
Weights = [0.103 0.061 0.232 0.133 0.149 0.003 0.193 0.12 0.005], Final Value =
\$1541152.83, Sharpe Ratio = -14.93

Simulation Run = 1227
Weights = [0.061 0.132 0.158 0.094 0.065 0.146 0.074 0.132 0.137], Final Value =
\$1460590.94, Sharpe Ratio = -19.58

Simulation Run = 1228
Weights = [0.009 0.068 0.043 0.075 0.123 0.206 0.216 0.216 0.045], Final Value =
\$1623494.61, Sharpe Ratio = -13.89

Simulation Run = 1229
Weights = [0.07 0.152 0.125 0.096 0.017 0.185 0.047 0.299 0.011], Final Value =
\$1589459.72, Sharpe Ratio = -17.82

Simulation Run = 1230
Weights = [0.047 0.011 0.177 0.141 0.187 0.089 0.196 0.142 0.011], Final Value =
\$1606434.86, Sharpe Ratio = -14.67

Simulation Run = 1231
Weights = [0.04 0.162 0.164 0.031 0.177 0.091 0.143 0.032 0.16], Final Value =
\$1413867.23, Sharpe Ratio = -19.35

Simulation Run = 1232
Weights = [0.087 0.086 0.087 0.148 0.124 0.132 0.132 0.098 0.106], Final Value =

\$1551223.18, Sharpe Ratio = -17.99

Simulation Run = 1233

Weights = [0.118 0.065 0.139 0.136 0.141 0.08 0.035 0.151 0.135], Final Value = \$1504005.01, Sharpe Ratio = -22.26

Simulation Run = 1234

Weights = [0.112 0.126 0.105 0.192 0.036 0.025 0.206 0.013 0.186], Final Value = \$1408663.22, Sharpe Ratio = -16.73

Simulation Run = 1235

Weights = [0.102 0.12 0.06 0.153 0.092 0.158 0.192 0.12 0.004], Final Value = \$1645186.37, Sharpe Ratio = -14.74

Simulation Run = 1236

Weights = [0.085 0.115 0.158 0.181 0.079 0.105 0.172 0.065 0.04], Final Value = \$1554461.87, Sharpe Ratio = -15.66

Simulation Run = 1237

Weights = [0.121 0.149 0.169 0.009 0.179 0.01 0.181 0.062 0.12], Final Value = \$1427812.01, Sharpe Ratio = -17.74

Simulation Run = 1238

Weights = [0.224 0.189 0.033 0.116 0.032 0.159 0.101 0.034 0.112], Final Value = \$1544327.09, Sharpe Ratio = -18.36

Simulation Run = 1239

Weights = [0.116 0.038 0.134 0.156 0.019 0.071 0.185 0.099 0.181], Final Value = \$1433555.90, Sharpe Ratio = -15.93

Simulation Run = 1240

Weights = [0.028 0.191 0.192 0.186 0.024 0.138 0.015 0.065 0.162], Final Value = \$1411649.49, Sharpe Ratio = -21.86

Simulation Run = 1241

Weights = [0.026 0.051 0.212 0.048 0.11 0.168 0.089 0.153 0.144], Final Value = \$1457348.88, Sharpe Ratio = -17.70

Simulation Run = 1242
Weights = [0.051 0.199 0.159 0.068 0.196 0.031 0.047 0.054 0.194], Final Value =
\$1374564.54, Sharpe Ratio = -26.78

Simulation Run = 1243
Weights = [0.117 0.183 0.13 0.082 0.1 0.059 0.047 0.175 0.108], Final Value =
\$1469282.41, Sharpe Ratio = -23.39

Simulation Run = 1244
Weights = [0.128 0.098 0.073 0.133 0.15 0.138 0.09 0.175 0.015], Final Value =
\$1650737.11, Sharpe Ratio = -18.41

Simulation Run = 1245
Weights = [0.171 0.024 0.153 0.028 0.131 0.073 0.109 0.218 0.093], Final Value =
\$1525282.60, Sharpe Ratio = -17.81

Simulation Run = 1246
Weights = [0.063 0.064 0.193 0.155 0.144 0.116 0.049 0.137 0.079], Final Value =
\$1539382.26, Sharpe Ratio = -19.56

Simulation Run = 1247
Weights = [0.201 0.064 0.05 0.105 0.124 0.176 0.077 0.091 0.113], Final Value =
\$1596730.70, Sharpe Ratio = -18.43

Simulation Run = 1248
Weights = [0.131 0.082 0.054 0.197 0.108 0.035 0.014 0.177 0.202], Final Value =
\$1467870.57, Sharpe Ratio = -26.65

Simulation Run = 1249
Weights = [0.068 0.167 0.172 0.044 0.166 0.06 0.164 0.008 0.151], Final Value =
\$1408776.65, Sharpe Ratio = -18.56

Simulation Run = 1250
Weights = [0.02 0.119 0.056 0.165 0.034 0.13 0.164 0.122 0.189], Final Value =
\$1449055.87, Sharpe Ratio = -17.68

Simulation Run = 1251
Weights = [0.048 0.009 0.055 0.103 0.234 0.118 0.202 0.031 0.2], Final Value =
\$1502700.94, Sharpe Ratio = -16.74

Simulation Run = 1252
Weights = [0.104 0.095 0.089 0.085 0.194 0.1 0.111 0.215 0.007], Final Value =
\$1633707.45, Sharpe Ratio = -18.49

Simulation Run = 1253
Weights = [0.166 0.212 0.185 0.035 0.024 0.016 0.106 0.205 0.05], Final Value =
\$1450206.02, Sharpe Ratio = -18.84

Simulation Run = 1254
Weights = [0.16 0.026 0.164 0.157 0.135 0.075 0.107 0.077 0.1], Final Value =
\$1538227.58, Sharpe Ratio = -18.07

Simulation Run = 1255
Weights = [0.027 0.105 0.121 0.033 0.122 0.185 0.168 0.062 0.176], Final Value =
\$1451613.04, Sharpe Ratio = -16.46

Simulation Run = 1256
Weights = [0.21 0.108 0.066 0.006 0.191 0.106 0.013 0.287 0.013], Final Value =
\$1645047.85, Sharpe Ratio = -21.10

Simulation Run = 1257
Weights = [0.118 0.024 0.078 0.193 0.068 0.12 0.055 0.223 0.123], Final Value =
\$1560979.84, Sharpe Ratio = -19.79

Simulation Run = 1258
Weights = [0.172 0.091 0.034 0.094 0.094 0.09 0.177 0.071 0.179], Final Value =
\$1484422.32, Sharpe Ratio = -17.28

Simulation Run = 1259
Weights = [0.153 0.059 0.102 0.201 0.071 0.129 0.146 0.013 0.125], Final Value =
\$1541121.23, Sharpe Ratio = -16.69

Simulation Run = 1260
Weights = [0.036 0.053 0.067 0.158 0.184 0.174 0.046 0.167 0.115], Final Value =
\$1591085.56, Sharpe Ratio = -20.87

Simulation Run = 1261

Weights = [0.104 0.094 0.006 0.082 0.085 0.079 0.176 0.187 0.188], Final Value = \$1469241.00, Sharpe Ratio = -17.94

Simulation Run = 1262

Weights = [0.163 0.016 0.093 0.017 0.221 0.092 0.118 0.161 0.119], Final Value = \$1552637.52, Sharpe Ratio = -18.66

Simulation Run = 1263

Weights = [0.212 0.033 0.037 0.206 0.206 0.086 0.1 0.024 0.096], Final Value = \$1632566.04, Sharpe Ratio = -19.61

Simulation Run = 1264

Weights = [0.014 0.142 0.139 0.03 0.177 0.007 0.198 0.179 0.113], Final Value = \$1434240.09, Sharpe Ratio = -17.63

Simulation Run = 1265

Weights = [0.057 0.099 0.076 0.206 0.07 0.16 0.119 0.114 0.098], Final Value = \$1564448.40, Sharpe Ratio = -17.73

Simulation Run = 1266

Weights = [0.179 0.063 0.126 0.033 0.066 0.184 0.128 0.087 0.133], Final Value = \$1514229.48, Sharpe Ratio = -15.98

Simulation Run = 1267

Weights = [0.055 0.154 0.155 0.04 0.143 0.118 0.153 0.057 0.125], Final Value = \$1456132.77, Sharpe Ratio = -17.88

Simulation Run = 1268

Weights = [0.004 0.115 0.228 0.111 0.006 0.132 0.007 0.182 0.215], Final Value = \$1347084.63, Sharpe Ratio = -21.19

Simulation Run = 1269

Weights = [0.139 0.106 0.105 0.142 0.007 0.197 0.081 0.169 0.055], Final Value = \$1591142.22, Sharpe Ratio = -16.60

Simulation Run = 1270

Weights = [0.124 0.036 0.186 0.138 0.052 0.184 0.081 0.017 0.182], Final Value = \$1464630.67, Sharpe Ratio = -17.37

Simulation Run = 1271
Weights = [0.133 0.194 0.137 0.187 0.099 0.126 0.049 0.033 0.042], Final Value =
\$1568303.61, Sharpe Ratio = -20.49

Simulation Run = 1272
Weights = [0.001 0.201 0.135 0.085 0.011 0.036 0.254 0.113 0.165], Final Value =
\$1348693.46, Sharpe Ratio = -15.09

Simulation Run = 1273
Weights = [0.055 0.088 0.121 0.183 0.158 0.026 0.153 0.19 0.026], Final Value =
\$1578605.22, Sharpe Ratio = -17.73

Simulation Run = 1274
Weights = [0.081 0.077 0.233 0.156 0.087 0.137 0.167 0.05 0.012], Final Value =
\$1566418.05, Sharpe Ratio = -14.38

Simulation Run = 1275
Weights = [0.154 0.121 0.148 0.005 0.094 0.072 0.147 0.093 0.166], Final Value =
\$1413105.29, Sharpe Ratio = -18.04

Simulation Run = 1276
Weights = [0.071 0.113 0.151 0.11 0.197 0.189 0.112 0.053 0.003], Final Value =
\$1636609.47, Sharpe Ratio = -16.78

Simulation Run = 1277
Weights = [0.039 0.09 0.159 0.16 0.12 0.116 0.136 0.164 0.015], Final Value =
\$1588731.65, Sharpe Ratio = -16.56

Simulation Run = 1278
Weights = [0.223 0.13 0.044 0.144 0.156 0.053 0.04 0.127 0.081], Final Value =
\$1586184.07, Sharpe Ratio = -23.25

Simulation Run = 1279
Weights = [0.167 0.041 0.171 0.17 0.1 0.07 0.054 0.187 0.04], Final Value =
\$1583322.06, Sharpe Ratio = -18.62

Simulation Run = 1280
Weights = [0.077 0.028 0.234 0.121 0.005 0.11 0.189 0.143 0.092], Final Value =

\$1470850.85, Sharpe Ratio = -13.92

Simulation Run = 1281

Weights = [0.201 0.084 0.088 0.005 0.017 0.172 0.19 0.006 0.238], Final Value = \$1407602.57, Sharpe Ratio = -14.94

Simulation Run = 1282

Weights = [0.002 0.061 0.172 0.186 0.146 0.061 0.104 0.096 0.173], Final Value = \$1438326.91, Sharpe Ratio = -20.36

Simulation Run = 1283

Weights = [0.125 0.157 0.173 0.042 0.104 0.157 0.019 0.085 0.139], Final Value = \$1461950.74, Sharpe Ratio = -21.30

Simulation Run = 1284

Weights = [0.069 0.067 0.175 0.132 0.193 0.048 0.111 0.027 0.178], Final Value = \$1436098.04, Sharpe Ratio = -20.57

Simulation Run = 1285

Weights = [0.07 0.218 0.142 0.013 0.224 0.081 0.028 0.058 0.165], Final Value = \$1419371.79, Sharpe Ratio = -26.73

Simulation Run = 1286

Weights = [0.184 0.133 0.211 0.063 0.042 0.024 0.199 0.068 0.075], Final Value = \$1446986.95, Sharpe Ratio = -15.04

Simulation Run = 1287

Weights = [0.057 0.24 0.092 0.26 0.066 0.168 0.009 0.012 0.095], Final Value = \$1540052.50, Sharpe Ratio = -22.70

Simulation Run = 1288

Weights = [0.138 0.077 0.063 0.171 0.226 0.075 0.057 0.056 0.137], Final Value = \$1557590.94, Sharpe Ratio = -23.57

Simulation Run = 1289

Weights = [0.185 0.189 0.043 0.024 0.131 0.077 0.127 0.222 0.003], Final Value = \$1605916.17, Sharpe Ratio = -18.47

Simulation Run = 1290
Weights = [0.131 0.059 0.042 0.028 0.034 0.188 0.25 0.09 0.177], Final Value =
\$1487763.80, Sharpe Ratio = -13.14

Simulation Run = 1291
Weights = [0.187 0.081 0.146 0.216 0.003 0.159 0.022 0.093 0.094], Final Value =
\$1557149.70, Sharpe Ratio = -18.37

Simulation Run = 1292
Weights = [0.059 0.077 0.041 0.042 0.165 0.19 0.159 0.211 0.057], Final Value =
\$1620742.87, Sharpe Ratio = -15.95

Simulation Run = 1293
Weights = [0.165 0.067 0.168 0.085 0.11 0.008 0.184 0.123 0.09], Final Value =
\$1484859.28, Sharpe Ratio = -16.13

Simulation Run = 1294
Weights = [0.131 0.156 0.022 0.192 0.154 0.062 0.046 0.066 0.171], Final Value =
\$1505038.55, Sharpe Ratio = -26.45

Simulation Run = 1295
Weights = [0.017 0.216 0.007 0.323 0.062 0.196 0.015 0.055 0.108], Final Value =
\$1586842.70, Sharpe Ratio = -22.35

Simulation Run = 1296
Weights = [0.17 0.103 0.044 0.107 0.093 0.073 0.06 0.099 0.251], Final Value =
\$1417415.87, Sharpe Ratio = -24.24

Simulation Run = 1297
Weights = [0.045 0.126 0.205 0.025 0.184 0.027 0.192 0.135 0.061], Final Value =
\$1470800.74, Sharpe Ratio = -16.39

Simulation Run = 1298
Weights = [0.049 0.098 0.018 0.174 0.134 0.154 0.123 0.072 0.178], Final Value =
\$1522845.56, Sharpe Ratio = -19.64

Simulation Run = 1299
Weights = [0.119 0.066 0.193 0.131 0.042 0.066 0.104 0.099 0.181], Final Value =
\$1405780.31, Sharpe Ratio = -18.74

Simulation Run = 1300
Weights = [0.075 0.094 0.189 0.197 0.047 0.082 0.187 0. 0.128], Final Value =
\$1453118.36, Sharpe Ratio = -15.63

Simulation Run = 1301
Weights = [0.063 0.114 0.145 0.205 0.066 0.019 0.105 0.087 0.194], Final Value =
\$1395256.36, Sharpe Ratio = -21.27

Simulation Run = 1302
Weights = [0.09 0.205 0.148 0.002 0.058 0.193 0.062 0.143 0.1], Final Value =
\$1479260.95, Sharpe Ratio = -18.94

Simulation Run = 1303
Weights = [0.145 0.002 0.073 0.072 0.27 0.089 0.13 0.013 0.207], Final Value =
\$1503523.16, Sharpe Ratio = -19.85

Simulation Run = 1304
Weights = [0.012 0.011 0.186 0.208 0.009 0.027 0.2 0.177 0.169], Final Value =
\$1404643.78, Sharpe Ratio = -15.32

Simulation Run = 1305
Weights = [0.153 0.21 0.196 0.04 0.129 0.062 0.162 0.006 0.042], Final Value =
\$1488191.63, Sharpe Ratio = -16.98

Simulation Run = 1306
Weights = [0.055 0.066 0.098 0.207 0.097 0.037 0.186 0.125 0.129], Final Value =
\$1494758.19, Sharpe Ratio = -17.09

Simulation Run = 1307
Weights = [0.198 0.014 0.013 0.022 0.187 0.116 0.162 0.153 0.135], Final Value =
\$1576600.67, Sharpe Ratio = -16.75

Simulation Run = 1308
Weights = [0.167 0.168 0.109 0.042 0.149 0.111 0.13 0.105 0.019], Final Value =
\$1586184.63, Sharpe Ratio = -17.69

Simulation Run = 1309

Weights = [0.159 0.061 0.147 0.12 0.09 0.062 0.156 0.063 0.142], Final Value = \$1471403.44, Sharpe Ratio = -17.15

Simulation Run = 1310

Weights = [0.129 0.007 0.063 0.053 0.08 0.141 0.17 0.147 0.21], Final Value = \$1468984.82, Sharpe Ratio = -16.20

Simulation Run = 1311

Weights = [0.187 0.244 0.182 0.051 0.02 0.03 0.02 0.152 0.114], Final Value = \$1401790.66, Sharpe Ratio = -23.22

Simulation Run = 1312

Weights = [0.11 0.022 0.063 0.067 0.161 0.173 0.069 0.175 0.161], Final Value = \$1547178.99, Sharpe Ratio = -19.62

Simulation Run = 1313

Weights = [0.04 0.077 0.105 0.147 0.104 0.188 0.118 0.116 0.103], Final Value = \$1557485.56, Sharpe Ratio = -17.22

Simulation Run = 1314

Weights = [0.09 0.036 0.146 0.023 0.194 0.183 0.055 0.219 0.054], Final Value = \$1602999.86, Sharpe Ratio = -18.15

Simulation Run = 1315

Weights = [0.109 0.154 0.079 0.098 0.058 0.156 0.157 0.089 0.1], Final Value = \$1524882.45, Sharpe Ratio = -16.62

Simulation Run = 1316

Weights = [0.168 0.159 0.17 0.122 0.148 0.157 0.033 0.041 0.002], Final Value = \$1617440.68, Sharpe Ratio = -19.06

Simulation Run = 1317

Weights = [0.007 0.073 0.125 0.033 0.166 0.315 0.044 0.126 0.111], Final Value = \$1580286.23, Sharpe Ratio = -16.83

Simulation Run = 1318

Weights = [0.099 0.08 0.053 0.042 0.183 0.156 0.097 0.162 0.128], Final Value = \$1553628.08, Sharpe Ratio = -19.52

Simulation Run = 1319
Weights = [0.089 0.03 0.044 0.135 0.083 0.19 0.123 0.107 0.198], Final Value =
\$1512726.94, Sharpe Ratio = -17.53

Simulation Run = 1320
Weights = [0.07 0.062 0.178 0.02 0.159 0.149 0.17 0.147 0.045], Final Value =
\$1557582.75, Sharpe Ratio = -15.15

Simulation Run = 1321
Weights = [0.029 0.096 0.03 0.068 0.043 0.222 0.232 0.161 0.118], Final Value =
\$1542662.04, Sharpe Ratio = -13.47

Simulation Run = 1322
Weights = [0.152 0.252 0.16 0.105 0.129 0.137 0.02 0.015 0.03], Final Value =
\$1553380.83, Sharpe Ratio = -21.60

Simulation Run = 1323
Weights = [0.279 0.081 0.012 0.059 0.184 0.049 0.061 0.001 0.275], Final Value =
\$1435892.31, Sharpe Ratio = -24.33

Simulation Run = 1324
Weights = [0.099 0.059 0.053 0.125 0.158 0.03 0.168 0.193 0.116], Final Value =
\$1531572.96, Sharpe Ratio = -18.27

Simulation Run = 1325
Weights = [0.212 0.206 0.062 0.161 0.129 0.009 0.05 0.153 0.017], Final Value =
\$1593045.40, Sharpe Ratio = -23.16

Simulation Run = 1326
Weights = [0.152 0.135 0.021 0.107 0.111 0.147 0.13 0.1 0.097], Final Value =
\$1577981.90, Sharpe Ratio = -18.07

Simulation Run = 1327
Weights = [0.109 0.129 0.105 0.025 0.126 0.173 0.005 0.141 0.186], Final Value =
\$1463007.49, Sharpe Ratio = -22.80

Simulation Run = 1328
Weights = [0.187 0.045 0.022 0.115 0.118 0.026 0.188 0.179 0.121], Final Value =

\$1544226.26, Sharpe Ratio = -16.86

Simulation Run = 1329

Weights = [0.138 0.169 0.121 0.001 0.078 0.108 0.142 0.105 0.138], Final Value = \$1442811.84, Sharpe Ratio = -17.99

Simulation Run = 1330

Weights = [0.036 0.173 0.221 0.028 0.062 0.159 0.132 0.047 0.143], Final Value = \$1398646.69, Sharpe Ratio = -17.06

Simulation Run = 1331

Weights = [0.198 0.092 0.211 0.032 0.045 0.116 0.018 0.005 0.283], Final Value = \$1316472.39, Sharpe Ratio = -21.54

Simulation Run = 1332

Weights = [0.064 0.009 0.204 0. 0.19 0.172 0.074 0.039 0.246], Final Value = \$1398537.50, Sharpe Ratio = -19.30

Simulation Run = 1333

Weights = [0.184 0.066 0.165 0.13 0.18 0.047 0.036 0.044 0.149], Final Value = \$1486616.78, Sharpe Ratio = -22.59

Simulation Run = 1334

Weights = [0.052 0.136 0.169 0.156 0.092 0.14 0.058 0.173 0.023], Final Value = \$1572899.56, Sharpe Ratio = -18.80

Simulation Run = 1335

Weights = [0.064 0.162 0.1 0.168 0.034 0.122 0.229 0.085 0.036], Final Value = \$1554804.64, Sharpe Ratio = -14.22

Simulation Run = 1336

Weights = [0.121 0.026 0.239 0.056 0.231 0.136 0.02 0.011 0.159], Final Value = \$1477399.20, Sharpe Ratio = -20.41

Simulation Run = 1337

Weights = [0.055 0.189 0.11 0.132 0.076 0.038 0.232 0.037 0.13], Final Value = \$1429634.86, Sharpe Ratio = -16.02

Simulation Run = 1338
Weights = [0.118 0.135 0.074 0.15 0.128 0.145 0.144 0.032 0.075], Final Value =
\$1580340.00, Sharpe Ratio = -17.44

Simulation Run = 1339
Weights = [0.032 0.027 0.126 0.209 0.075 0.242 0.058 0.116 0.115], Final Value =
\$1580534.33, Sharpe Ratio = -17.06

Simulation Run = 1340
Weights = [0.058 0.065 0.051 0.112 0.073 0.212 0.102 0.152 0.175], Final Value =
\$1518506.35, Sharpe Ratio = -17.87

Simulation Run = 1341
Weights = [0.134 0.029 0.234 0.279 0.042 0.038 0.128 0.027 0.09], Final Value =
\$1499914.46, Sharpe Ratio = -16.13

Simulation Run = 1342
Weights = [0.197 0.047 0.085 0.193 0.207 0.056 0.057 0.032 0.125], Final Value =
\$1570870.71, Sharpe Ratio = -22.19

Simulation Run = 1343
Weights = [0.126 0.116 0.104 0.151 0.101 0.092 0.127 0.048 0.136], Final Value =
\$1495789.90, Sharpe Ratio = -19.03

Simulation Run = 1344
Weights = [0.041 0.086 0.176 0.166 0.07 0.104 0.163 0.076 0.116], Final Value =
\$1475776.66, Sharpe Ratio = -16.38

Simulation Run = 1345
Weights = [0.175 0.129 0.089 0.151 0.147 0.137 0.067 0.066 0.039], Final Value =
\$1623823.12, Sharpe Ratio = -19.54

Simulation Run = 1346
Weights = [0.02 0.138 0.208 0.123 0.008 0.027 0.165 0.139 0.172], Final Value =
\$1343182.75, Sharpe Ratio = -17.34

Simulation Run = 1347
Weights = [0.124 0.108 0.031 0.088 0.129 0.113 0.13 0.126 0.15], Final Value =
\$1517724.49, Sharpe Ratio = -19.29

Simulation Run = 1348
Weights = [0.044 0.205 0.129 0.007 0.025 0.201 0.219 0.017 0.152], Final Value =
\$1417198.51, Sharpe Ratio = -14.32

Simulation Run = 1349
Weights = [0.137 0.165 0.006 0.178 0.097 0.143 0.161 0.005 0.108], Final Value =
\$1570325.92, Sharpe Ratio = -17.50

Simulation Run = 1350
Weights = [0.053 0.095 0.204 0.042 0.174 0.164 0.031 0.031 0.207], Final Value =
\$1411877.99, Sharpe Ratio = -21.55

Simulation Run = 1351
Weights = [0.21 0.051 0.1 0.303 0.067 0.019 0.102 0.026 0.121], Final Value =
\$1540919.34, Sharpe Ratio = -19.12

Simulation Run = 1352
Weights = [0.135 0.205 0.112 0.229 0.051 0.031 0.111 0.015 0.11], Final Value =
\$1474679.92, Sharpe Ratio = -20.66

Simulation Run = 1353
Weights = [0.217 0.204 0.132 0.025 0.047 0.144 0.067 0.06 0.104], Final Value =
\$1485989.52, Sharpe Ratio = -19.26

Simulation Run = 1354
Weights = [0.037 0.126 0.024 0.171 0.218 0.156 0.072 0.092 0.104], Final Value =
\$1600063.47, Sharpe Ratio = -21.96

Simulation Run = 1355
Weights = [0.088 0.183 0.031 0.097 0.143 0.101 0.127 0.084 0.147], Final Value =
\$1493737.31, Sharpe Ratio = -20.94

Simulation Run = 1356
Weights = [0.023 0.115 0.002 0.187 0.043 0.011 0.176 0.228 0.216], Final Value =
\$1413849.61, Sharpe Ratio = -19.53

Simulation Run = 1357

Weights = [0.143 0.189 0.004 0.015 0.12 0.07 0.156 0.16 0.142], Final Value = \$1482129.56, Sharpe Ratio = -19.28

Simulation Run = 1358

Weights = [0.176 0.013 0.111 0.088 0.141 0.072 0.196 0.02 0.184], Final Value = \$1471946.28, Sharpe Ratio = -16.07

Simulation Run = 1359

Weights = [0.215 0.11 0.103 0.034 0.153 0.096 0.104 0.035 0.15], Final Value = \$1490906.65, Sharpe Ratio = -19.75

Simulation Run = 1360

Weights = [0.06 0.138 0.014 0.12 0.106 0.144 0.157 0.168 0.094], Final Value = \$1566830.01, Sharpe Ratio = -17.55

Simulation Run = 1361

Weights = [0.107 0.018 0.113 0.196 0.202 0.176 0.053 0.086 0.049], Final Value = \$1663112.97, Sharpe Ratio = -18.46

Simulation Run = 1362

Weights = [0.046 0.178 0.147 0.173 0.019 0.15 0.061 0.076 0.15], Final Value = \$1444706.02, Sharpe Ratio = -20.38

Simulation Run = 1363

Weights = [0.066 0.068 0.038 0.122 0.273 0.076 0.095 0.206 0.055], Final Value = \$1632085.70, Sharpe Ratio = -21.22

Simulation Run = 1364

Weights = [0.029 0.196 0.135 0.203 0.148 0.031 0.079 0.05 0.128], Final Value = \$1454583.44, Sharpe Ratio = -23.68

Simulation Run = 1365

Weights = [0.047 0.17 0.113 0.062 0.187 0.096 0.117 0.06 0.146], Final Value = \$1458836.30, Sharpe Ratio = -21.16

Simulation Run = 1366

Weights = [0.251 0.121 0.021 0.157 0.147 0.066 0.029 0.049 0.158], Final Value = \$1539846.06, Sharpe Ratio = -24.59

Simulation Run = 1367
Weights = [0.192 0.08 0.211 0.095 0.155 0.005 0.126 0.094 0.043], Final Value =
\$1524482.00, Sharpe Ratio = -17.50

Simulation Run = 1368
Weights = [0.067 0.037 0.025 0.094 0.243 0.07 0.041 0.171 0.25], Final Value =
\$1462093.26, Sharpe Ratio = -27.05

Simulation Run = 1369
Weights = [0.11 0.036 0.232 0.078 0.128 0.17 0.086 0.153 0.008], Final Value =
\$1599839.68, Sharpe Ratio = -15.72

Simulation Run = 1370
Weights = [0.066 0.136 0.024 0.157 0.11 0.137 0.142 0.142 0.086], Final Value =
\$1578379.30, Sharpe Ratio = -18.17

Simulation Run = 1371
Weights = [0.178 0.21 0.009 0.054 0.078 0.067 0.051 0.039 0.314], Final Value =
\$1330619.23, Sharpe Ratio = -27.01

Simulation Run = 1372
Weights = [0.055 0.082 0.175 0.035 0.181 0.083 0.207 0.149 0.033], Final Value =
\$1542933.69, Sharpe Ratio = -15.00

Simulation Run = 1373
Weights = [0.086 0.159 0.142 0.164 0.143 0.045 0.105 0.027 0.129], Final Value =
\$1464340.16, Sharpe Ratio = -21.37

Simulation Run = 1374
Weights = [0.019 0.045 0.075 0.068 0.279 0.023 0.166 0.085 0.24], Final Value =
\$1415857.80, Sharpe Ratio = -20.49

Simulation Run = 1375
Weights = [0.157 0.003 0.026 0.134 0.173 0.039 0.198 0.129 0.14], Final Value =
\$1553080.17, Sharpe Ratio = -16.64

Simulation Run = 1376
Weights = [0.043 0.114 0.121 0.026 0.147 0.035 0.243 0.254 0.017], Final Value =

\$1540208.23, Sharpe Ratio = -14.60

Simulation Run = 1377

Weights = [0.09 0.178 0.163 0.007 0.194 0.027 0.155 0.141 0.046], Final Value = \$1495204.41, Sharpe Ratio = -18.41

Simulation Run = 1378

Weights = [0.081 0.123 0.072 0.163 0.037 0.171 0.028 0.171 0.154], Final Value = \$1507710.20, Sharpe Ratio = -21.24

Simulation Run = 1379

Weights = [0.199 0.205 0.14 0.043 0.065 0.122 0.054 0.03 0.142], Final Value = \$1446920.92, Sharpe Ratio = -21.07

Simulation Run = 1380

Weights = [0.03 0.047 0.23 0.057 0.014 0.078 0.215 0.127 0.201], Final Value = \$1338511.52, Sharpe Ratio = -14.58

Simulation Run = 1381

Weights = [0.044 0.01 0.117 0.026 0.212 0.076 0.125 0.28 0.11], Final Value = \$1527703.94, Sharpe Ratio = -18.83

Simulation Run = 1382

Weights = [0.212 0.155 0.285 0.005 0.009 0.092 0.092 0.051 0.1], Final Value = \$1404971.31, Sharpe Ratio = -16.71

Simulation Run = 1383

Weights = [0.058 0.229 0.086 0.073 0.087 0.038 0.117 0.26 0.053], Final Value = \$1497987.58, Sharpe Ratio = -20.91

Simulation Run = 1384

Weights = [0.174 0.006 0.012 0.198 0.213 0.139 0.186 0.021 0.05], Final Value = \$1698846.22, Sharpe Ratio = -15.33

Simulation Run = 1385

Weights = [0.074 0.115 0.178 0.1 0.071 0.056 0.163 0.143 0.1], Final Value = \$1455957.43, Sharpe Ratio = -16.91

Simulation Run = 1386
Weights = [0.07 0.159 0.144 0.115 0.051 0.124 0.121 0.042 0.175], Final Value =
\$1414803.58, Sharpe Ratio = -18.98

Simulation Run = 1387
Weights = [0.136 0.136 0.16 0.01 0.004 0.189 0.136 0.149 0.08], Final Value =
\$1500818.95, Sharpe Ratio = -15.25

Simulation Run = 1388
Weights = [0.004 0.142 0.044 0.055 0.112 0.167 0.172 0.134 0.17], Final Value =
\$1470961.08, Sharpe Ratio = -17.32

Simulation Run = 1389
Weights = [0.124 0.085 0.073 0.135 0.108 0.055 0.126 0.143 0.152], Final Value =
\$1489561.74, Sharpe Ratio = -19.87

Simulation Run = 1390
Weights = [0.116 0.028 0.155 0.091 0.151 0.151 0.081 0.132 0.096], Final Value =
\$1558279.47, Sharpe Ratio = -18.07

Simulation Run = 1391
Weights = [0.004 0.029 0.088 0.068 0.081 0.166 0.204 0.204 0.157], Final Value =
\$1489454.42, Sharpe Ratio = -14.90

Simulation Run = 1392
Weights = [0.149 0.041 0.157 0.157 0.008 0.041 0.143 0.147 0.157], Final Value =
\$1439707.77, Sharpe Ratio = -17.05

Simulation Run = 1393
Weights = [0.184 0.066 0.002 0.111 0.056 0.26 0.163 0.032 0.126], Final Value =
\$1610717.42, Sharpe Ratio = -14.32

Simulation Run = 1394
Weights = [0.091 0.164 0.301 0.052 0.141 0.068 0.123 0.042 0.018], Final Value =
\$1478622.08, Sharpe Ratio = -16.64

Simulation Run = 1395
Weights = [0.148 0.206 0.119 0.069 0.209 0.096 0.027 0.091 0.035], Final Value =
\$1574909.41, Sharpe Ratio = -23.30

Simulation Run = 1396
Weights = [0.14 0.149 0.027 0.057 0.138 0.076 0.149 0.135 0.13], Final Value =
\$1509353.81, Sharpe Ratio = -19.24

Simulation Run = 1397
Weights = [0.021 0.135 0.137 0.111 0.066 0.142 0.017 0.161 0.208], Final Value =
\$1404925.83, Sharpe Ratio = -23.37

Simulation Run = 1398
Weights = [0.101 0.115 0.129 0.018 0.199 0.085 0.18 0.139 0.034], Final Value =
\$1562485.52, Sharpe Ratio = -16.40

Simulation Run = 1399
Weights = [0.162 0.137 0.202 0.19 0.024 0.169 0.049 0.005 0.063], Final Value =
\$1541368.76, Sharpe Ratio = -17.53

Simulation Run = 1400
Weights = [0.144 0.137 0.202 0.15 0.014 0.072 0.157 0.044 0.079], Final Value =
\$1471662.82, Sharpe Ratio = -15.99

Simulation Run = 1401
Weights = [0.026 0.071 0.17 0.152 0.144 0.096 0.09 0.07 0.181], Final Value =
\$1438910.14, Sharpe Ratio = -20.61

Simulation Run = 1402
Weights = [0.159 0.115 0.106 0.081 0.134 0.15 0.034 0.173 0.048], Final Value =
\$1600786.16, Sharpe Ratio = -19.94

Simulation Run = 1403
Weights = [0.038 0.004 0.093 0.012 0.04 0.277 0.277 0.063 0.196], Final Value =
\$1477479.32, Sharpe Ratio = -11.64

Simulation Run = 1404
Weights = [0.16 0.007 0.201 0.101 0.019 0.198 0.181 0.057 0.075], Final Value =
\$1549873.50, Sharpe Ratio = -13.06

Simulation Run = 1405

Weights = [0.12 0.004 0.041 0.173 0.158 0.163 0.016 0.148 0.176], Final Value = \$1569564.91, Sharpe Ratio = -21.85

Simulation Run = 1406

Weights = [0.118 0.091 0.154 0.076 0.184 0.05 0.043 0.154 0.129], Final Value = \$1482838.48, Sharpe Ratio = -23.08

Simulation Run = 1407

Weights = [0.132 0.03 0.167 0.078 0.09 0.106 0.081 0.104 0.212], Final Value = \$1417789.06, Sharpe Ratio = -19.61

Simulation Run = 1408

Weights = [0.102 0.051 0.089 0.18 0.148 0.08 0.09 0.159 0.102], Final Value = \$1563500.42, Sharpe Ratio = -20.21

Simulation Run = 1409

Weights = [0.097 0.095 0.197 0.088 0.019 0.012 0.12 0.249 0.123], Final Value = \$1409694.60, Sharpe Ratio = -18.23

Simulation Run = 1410

Weights = [0.119 0.05 0.125 0.108 0.181 0.222 0.067 0.025 0.103], Final Value = \$1594496.18, Sharpe Ratio = -17.90

Simulation Run = 1411

Weights = [0.209 0.022 0.002 0.157 0.025 0.201 0.111 0.051 0.224], Final Value = \$1524746.87, Sharpe Ratio = -16.94

Simulation Run = 1412

Weights = [0.236 0.008 0.068 0.225 0.04 0.14 0.044 0.015 0.224], Final Value = \$1504609.38, Sharpe Ratio = -19.92

Simulation Run = 1413

Weights = [0.262 0.025 0.199 0.177 0.038 0.103 0.017 0.095 0.085], Final Value = \$1551504.38, Sharpe Ratio = -17.97

Simulation Run = 1414

Weights = [0.061 0.201 0.108 0.095 0.005 0.021 0.16 0.144 0.204], Final Value = \$1337433.26, Sharpe Ratio = -19.47

Simulation Run = 1415
Weights = [0.182 0.107 0.106 0.035 0.034 0.079 0.091 0.149 0.216], Final Value =
\$1394408.59, Sharpe Ratio = -20.35

Simulation Run = 1416
Weights = [0.15 0.157 0.137 0.138 0.09 0.066 0.163 0.099 0.001], Final Value =
\$1577962.30, Sharpe Ratio = -16.34

Simulation Run = 1417
Weights = [0.041 0.03 0.028 0.136 0.132 0.201 0.18 0.17 0.082], Final Value =
\$1627895.13, Sharpe Ratio = -15.04

Simulation Run = 1418
Weights = [0.187 0.036 0.056 0.055 0.174 0.196 0.105 0.186 0.004], Final Value =
\$1703828.83, Sharpe Ratio = -15.98

Simulation Run = 1419
Weights = [0.15 0.067 0.098 0.157 0.164 0.122 0.051 0.118 0.072], Final Value =
\$1606276.01, Sharpe Ratio = -20.28

Simulation Run = 1420
Weights = [0.09 0.072 0.17 0.146 0.121 0.023 0.147 0.117 0.115], Final Value =
\$1470840.42, Sharpe Ratio = -18.06

Simulation Run = 1421
Weights = [0.196 0.065 0.119 0.097 0.092 0.111 0.148 0.006 0.167], Final Value =
\$1479351.76, Sharpe Ratio = -17.12

Simulation Run = 1422
Weights = [0.159 0.078 0.078 0.107 0.03 0.101 0.138 0.173 0.137], Final Value =
\$1500366.55, Sharpe Ratio = -17.37

Simulation Run = 1423
Weights = [0.12 0.181 0.085 0.157 0.016 0.08 0.043 0.143 0.175], Final Value =
\$1433469.68, Sharpe Ratio = -23.75

Simulation Run = 1424
Weights = [0.248 0.055 0.298 0.133 0.011 0.172 0.042 0.011 0.03], Final Value =

\$1554195.76, Sharpe Ratio = -15.02

Simulation Run = 1425

Weights = [0.005 0.03 0.191 0.161 0.132 0.214 0.048 0.122 0.099], Final Value = \$1556678.13, Sharpe Ratio = -17.67

Simulation Run = 1426

Weights = [0.096 0.05 0.191 0.131 0.217 0.127 0.009 0.075 0.103], Final Value = \$1546722.54, Sharpe Ratio = -21.16

Simulation Run = 1427

Weights = [0.097 0.137 0.167 0.09 0.046 0.043 0.167 0.07 0.182], Final Value = \$1370773.31, Sharpe Ratio = -17.71

Simulation Run = 1428

Weights = [0.188 0.165 0.129 0.103 0.096 0.142 0.011 0.05 0.116], Final Value = \$1514059.25, Sharpe Ratio = -21.85

Simulation Run = 1429

Weights = [0.011 0.106 0.201 0.16 0.189 0.057 0.025 0.065 0.185], Final Value = \$1412556.02, Sharpe Ratio = -24.26

Simulation Run = 1430

Weights = [0.089 0.114 0.091 0.165 0.067 0.185 0.114 0.111 0.065], Final Value = \$1588194.60, Sharpe Ratio = -16.97

Simulation Run = 1431

Weights = [0.015 0.136 0.126 0.072 0.217 0.016 0.062 0.216 0.141], Final Value = \$1448250.44, Sharpe Ratio = -25.41

Simulation Run = 1432

Weights = [0.146 0.056 0.028 0.149 0.116 0.136 0.092 0.136 0.141], Final Value = \$1565801.88, Sharpe Ratio = -19.55

Simulation Run = 1433

Weights = [0.054 0.109 0.024 0.224 0.11 0.218 0.109 0.061 0.091], Final Value = \$1623986.98, Sharpe Ratio = -17.59

Simulation Run = 1434
Weights = [0.01 0.216 0.137 0.085 0.083 0.214 0.04 0.105 0.11], Final Value =
\$1489902.12, Sharpe Ratio = -20.29

Simulation Run = 1435
Weights = [0.12 0.128 0.144 0.063 0.035 0.131 0.155 0.104 0.121], Final Value =
\$1466153.08, Sharpe Ratio = -16.34

Simulation Run = 1436
Weights = [0.053 0.15 0.026 0.248 0.276 0.078 0.038 0.016 0.116], Final Value =
\$1588127.81, Sharpe Ratio = -26.38

Simulation Run = 1437
Weights = [0.123 0.132 0.144 0.095 0.047 0.02 0.139 0.154 0.146], Final Value =
\$1414261.96, Sharpe Ratio = -18.87

Simulation Run = 1438
Weights = [0.002 0.231 0.064 0.163 0.049 0.088 0.159 0.122 0.122], Final Value =
\$1459238.53, Sharpe Ratio = -19.05

Simulation Run = 1439
Weights = [0.127 0.068 0.128 0.16 0.003 0.053 0.229 0.056 0.175], Final Value =
\$1421522.75, Sharpe Ratio = -14.76

Simulation Run = 1440
Weights = [0.123 0.14 0.17 0.075 0.079 0.092 0.15 0.017 0.154], Final Value =
\$1422048.36, Sharpe Ratio = -17.65

Simulation Run = 1441
Weights = [0.096 0.123 0.156 0.011 0.175 0.106 0.033 0.124 0.176], Final Value =
\$1432306.61, Sharpe Ratio = -23.50

Simulation Run = 1442
Weights = [0.178 0.031 0.111 0.125 0.122 0.205 0.017 0.108 0.104], Final Value =
\$1602492.62, Sharpe Ratio = -18.62

Simulation Run = 1443
Weights = [0.153 0.187 0.024 0.079 0.086 0.173 0.098 0.052 0.149], Final Value =
\$1515058.43, Sharpe Ratio = -19.62

Simulation Run = 1444
Weights = [0.053 0.095 0.161 0.12 0.171 0.019 0.064 0.215 0.101], Final Value =
\$1487057.98, Sharpe Ratio = -22.39

Simulation Run = 1445
Weights = [0.163 0.203 0.04 0.064 0.147 0.124 0.071 0.012 0.176], Final Value =
\$1476054.02, Sharpe Ratio = -23.21

Simulation Run = 1446
Weights = [0.152 0.169 0.01 0.033 0.099 0.143 0.127 0.11 0.157], Final Value =
\$1500395.58, Sharpe Ratio = -18.97

Simulation Run = 1447
Weights = [0.146 0.065 0.192 0.109 0.066 0.046 0.145 0.051 0.179], Final Value =
\$1402741.66, Sharpe Ratio = -17.55

Simulation Run = 1448
Weights = [0.086 0.125 0.021 0.173 0.113 0.167 0.065 0.069 0.182], Final Value =
\$1519210.09, Sharpe Ratio = -21.87

Simulation Run = 1449
Weights = [0.094 0.113 0.028 0.138 0.075 0.108 0.141 0.152 0.152], Final Value =
\$1506338.86, Sharpe Ratio = -18.80

Simulation Run = 1450
Weights = [0.164 0.192 0.126 0.104 0.016 0.131 0.11 0.012 0.143], Final Value =
\$1449702.24, Sharpe Ratio = -18.58

Simulation Run = 1451
Weights = [0.159 0.147 0.146 0.029 0.146 0.024 0.153 0.113 0.083], Final Value =
\$1480922.14, Sharpe Ratio = -18.23

Simulation Run = 1452
Weights = [0.083 0.002 0.178 0.052 0.03 0.264 0.232 0.103 0.055], Final Value =
\$1579611.99, Sharpe Ratio = -11.58

Simulation Run = 1453

Weights = [0.043 0.127 0.045 0.117 0.092 0.181 0.059 0.169 0.166], Final Value = \$1506345.46, Sharpe Ratio = -21.21

Simulation Run = 1454

Weights = [0.148 0.098 0.136 0.002 0.112 0.147 0.156 0.066 0.136], Final Value = \$1480510.90, Sharpe Ratio = -16.38

Simulation Run = 1455

Weights = [0.099 0.144 0.076 0.162 0.117 0.144 0.086 0.007 0.165], Final Value = \$1497109.31, Sharpe Ratio = -21.06

Simulation Run = 1456

Weights = [0.115 0.179 0.058 0.176 0.176 0.029 0.065 0.05 0.151], Final Value = \$1486331.05, Sharpe Ratio = -26.06

Simulation Run = 1457

Weights = [0.167 0.067 0.184 0.041 0.118 0.161 0.047 0.127 0.087], Final Value = \$1538797.33, Sharpe Ratio = -18.26

Simulation Run = 1458

Weights = [0.138 0.152 0.175 0.068 0.147 0.005 0.131 0.111 0.073], Final Value = \$1476953.49, Sharpe Ratio = -19.11

Simulation Run = 1459

Weights = [0.152 0.137 0.165 0.108 0.163 0.085 0.138 0.029 0.023], Final Value = \$1570626.46, Sharpe Ratio = -17.33

Simulation Run = 1460

Weights = [0.159 0.192 0.114 0.163 0.163 0.074 0.03 0.073 0.031], Final Value = \$1585993.52, Sharpe Ratio = -22.92

Simulation Run = 1461

Weights = [0. 0.247 0.075 0.282 0.022 0.029 0.296 0.009 0.039], Final Value = \$1509165.25, Sharpe Ratio = -13.63

Simulation Run = 1462

Weights = [0.221 0.173 0.029 0.142 0.048 0.023 0.065 0.153 0.146], Final Value = \$1484153.29, Sharpe Ratio = -23.47

Simulation Run = 1463
Weights = [0.071 0.156 0.107 0.13 0.144 0.163 0.045 0.021 0.162], Final Value =
\$1487805.14, Sharpe Ratio = -22.49

Simulation Run = 1464
Weights = [0.163 0.081 0.041 0.161 0.175 0.056 0.168 0.082 0.074], Final Value =
\$1597435.00, Sharpe Ratio = -17.61

Simulation Run = 1465
Weights = [0.045 0.152 0.178 0.113 0.151 0.049 0.11 0.141 0.062], Final Value =
\$1497861.56, Sharpe Ratio = -19.71

Simulation Run = 1466
Weights = [0.098 0.158 0.191 0.09 0.063 0.072 0.118 0.095 0.113], Final Value =
\$1435211.91, Sharpe Ratio = -18.63

Simulation Run = 1467
Weights = [0.17 0.018 0.046 0.123 0.179 0.149 0.122 0.085 0.108], Final Value =
\$1614040.74, Sharpe Ratio = -17.58

Simulation Run = 1468
Weights = [0.195 0.07 0.084 0.091 0.035 0.101 0.198 0.111 0.115], Final Value =
\$1517839.98, Sharpe Ratio = -14.94

Simulation Run = 1469
Weights = [0.134 0.012 0.257 0.027 0.02 0.102 0.166 0.048 0.234], Final Value =
\$1330898.29, Sharpe Ratio = -15.26

Simulation Run = 1470
Weights = [0.172 0.164 0.214 0.09 0.072 0.025 0.078 0.089 0.095], Final Value =
\$1439635.06, Sharpe Ratio = -19.96

Simulation Run = 1471
Weights = [0.146 0.154 0.051 0.116 0.102 0.047 0.026 0.228 0.129], Final Value =
\$1502223.88, Sharpe Ratio = -25.54

Simulation Run = 1472
Weights = [0.078 0.156 0.01 0.204 0.208 0.045 0.021 0.056 0.22], Final Value =

\$1468589.92, Sharpe Ratio = -30.54

Simulation Run = 1473

Weights = [0.158 0.122 0.028 0.16 0.028 0.247 0.153 0.002 0.104], Final Value = \$1598075.78, Sharpe Ratio = -14.92

Simulation Run = 1474

Weights = [0.087 0.03 0.066 0.123 0.198 0.058 0.104 0.198 0.137], Final Value = \$1537334.66, Sharpe Ratio = -21.01

Simulation Run = 1475

Weights = [0.004 0.115 0.187 0.155 0.191 0.113 0.05 0.026 0.159], Final Value = \$1455529.62, Sharpe Ratio = -22.36

Simulation Run = 1476

Weights = [0.078 0.175 0.107 0.101 0.04 0.102 0.111 0.147 0.139], Final Value = \$1447869.15, Sharpe Ratio = -19.78

Simulation Run = 1477

Weights = [0.173 0.076 0.145 0.107 0.159 0.026 0.081 0.117 0.115], Final Value = \$1501265.57, Sharpe Ratio = -20.98

Simulation Run = 1478

Weights = [0.038 0.116 0.151 0.131 0.096 0.155 0.138 0.061 0.114], Final Value = \$1497664.15, Sharpe Ratio = -17.19

Simulation Run = 1479

Weights = [0.043 0.077 0.135 0.126 0.158 0.153 0.138 0.009 0.161], Final Value = \$1487774.32, Sharpe Ratio = -17.95

Simulation Run = 1480

Weights = [0.192 0.204 0.108 0.119 0.046 0.132 0.104 0.09 0.007], Final Value = \$1591615.13, Sharpe Ratio = -17.55

Simulation Run = 1481

Weights = [0. 0.201 0.047 0.186 0.124 0.102 0.132 0.134 0.074], Final Value = \$1547169.98, Sharpe Ratio = -20.09

Simulation Run = 1482
Weights = [0.167 0.208 0.023 0.053 0.084 0.137 0.001 0.17 0.158], Final Value =
\$1493237.83, Sharpe Ratio = -24.69

Simulation Run = 1483
Weights = [0.132 0.159 0.015 0.15 0.095 0.082 0.064 0.118 0.186], Final Value =
\$1477776.02, Sharpe Ratio = -24.46

Simulation Run = 1484
Weights = [0.106 0.163 0.176 0.005 0.045 0.18 0.049 0.115 0.162], Final Value =
\$1420136.12, Sharpe Ratio = -19.45

Simulation Run = 1485
Weights = [0.156 0.158 0.02 0.158 0.099 0.159 0.127 0.021 0.101], Final Value =
\$1580264.11, Sharpe Ratio = -18.21

Simulation Run = 1486
Weights = [0.027 0.048 0.003 0.192 0.199 0.168 0.071 0.131 0.16], Final Value =
\$1584259.22, Sharpe Ratio = -21.44

Simulation Run = 1487
Weights = [0. 0.155 0.183 0.078 0.172 0.041 0.18 0.101 0.09], Final Value =
\$1451950.46, Sharpe Ratio = -17.54

Simulation Run = 1488
Weights = [0.092 0.136 0.116 0.128 0.134 0.143 0.005 0.173 0.072], Final Value =
\$1567744.10, Sharpe Ratio = -22.09

Simulation Run = 1489
Weights = [0.198 0.167 0.062 0.04 0.016 0.155 0.081 0.034 0.249], Final Value =
\$1393226.51, Sharpe Ratio = -20.16

Simulation Run = 1490
Weights = [0.057 0.082 0.113 0. 0.136 0.123 0.062 0.214 0.212], Final Value =
\$1417423.60, Sharpe Ratio = -22.18

Simulation Run = 1491
Weights = [0.039 0.178 0.12 0.144 0.192 0.14 0.143 0.041 0.003], Final Value =
\$1611684.15, Sharpe Ratio = -17.53

Simulation Run = 1492
Weights = [0.109 0.193 0.022 0.212 0. 0.17 0.07 0.21 0.013], Final Value =
\$1637702.59, Sharpe Ratio = -18.44

Simulation Run = 1493
Weights = [0.142 0.136 0.116 0.08 0.085 0.039 0.13 0.158 0.114], Final Value =
\$1470006.74, Sharpe Ratio = -19.23

Simulation Run = 1494
Weights = [0.023 0.217 0.154 0.057 0.044 0.057 0.185 0.179 0.086], Final Value =
\$1425164.73, Sharpe Ratio = -16.91

Simulation Run = 1495
Weights = [0.133 0.081 0.172 0.148 0.105 0.09 0.054 0.058 0.159], Final Value =
\$1462450.21, Sharpe Ratio = -21.01

Simulation Run = 1496
Weights = [0.26 0.163 0.177 0.021 0.096 0.001 0.026 0.035 0.222], Final Value =
\$1343113.68, Sharpe Ratio = -24.32

Simulation Run = 1497
Weights = [0.075 0.156 0.199 0.208 0.019 0.042 0.093 0.115 0.094], Final Value =
\$1450146.12, Sharpe Ratio = -19.12

Simulation Run = 1498
Weights = [0.093 0.133 0.08 0.261 0.127 0.104 0.085 0.085 0.031], Final Value =
\$1625729.29, Sharpe Ratio = -19.71

Simulation Run = 1499
Weights = [0.024 0.163 0.002 0.086 0.134 0.168 0.1 0.14 0.182], Final Value =
\$1492795.62, Sharpe Ratio = -21.21

Simulation Run = 1500
Weights = [0.036 0.098 0.15 0.204 0.002 0.066 0.174 0.038 0.233], Final Value =
\$1354883.08, Sharpe Ratio = -17.32

Simulation Run = 1501

Weights = [0.155 0.071 0.155 0.107 0.085 0.04 0.121 0.104 0.162], Final Value = \$1437556.48, Sharpe Ratio = -19.00

Simulation Run = 1502

Weights = [0.129 0.103 0.03 0.164 0.146 0.023 0.138 0.178 0.089], Final Value = \$1562344.59, Sharpe Ratio = -19.84

Simulation Run = 1503

Weights = [0.01 0.061 0.013 0.081 0.264 0.071 0.248 0.191 0.06], Final Value = \$1608214.45, Sharpe Ratio = -15.23

Simulation Run = 1504

Weights = [0.124 0.164 0.153 0.011 0.15 0.111 0.089 0.079 0.12], Final Value = \$1468419.29, Sharpe Ratio = -20.35

Simulation Run = 1505

Weights = [0.155 0.143 0.133 0.087 0.174 0.095 0.043 0.009 0.16], Final Value = \$1469737.65, Sharpe Ratio = -23.54

Simulation Run = 1506

Weights = [0.036 0.032 0.119 0.11 0.187 0.177 0.187 0.041 0.111], Final Value = \$1559267.21, Sharpe Ratio = -15.35

Simulation Run = 1507

Weights = [0.035 0.152 0.181 0.006 0.119 0.136 0.127 0.18 0.064], Final Value = \$1493314.80, Sharpe Ratio = -17.42

Simulation Run = 1508

Weights = [0.102 0.169 0.085 0.191 0.018 0.022 0.183 0.169 0.062], Final Value = \$1510796.06, Sharpe Ratio = -16.88

Simulation Run = 1509

Weights = [0.146 0.038 0.08 0.095 0.116 0.068 0.033 0.179 0.246], Final Value = \$1425146.72, Sharpe Ratio = -24.51

Simulation Run = 1510

Weights = [0.191 0.155 0.014 0.07 0.242 0.092 0.203 0.004 0.028], Final Value = \$1640697.94, Sharpe Ratio = -16.19

Simulation Run = 1511
Weights = [0.018 0.126 0.063 0.029 0.114 0.22 0.006 0.212 0.213], Final Value =
\$1458655.46, Sharpe Ratio = -22.32

Simulation Run = 1512
Weights = [0.14 0.032 0.081 0.177 0.174 0.078 0.011 0.091 0.215], Final Value =
\$1487601.42, Sharpe Ratio = -25.26

Simulation Run = 1513
Weights = [0.159 0.178 0.022 0.131 0.086 0.083 0.161 0.147 0.034], Final Value =
\$1596456.21, Sharpe Ratio = -17.43

Simulation Run = 1514
Weights = [0.109 0.071 0.136 0.157 0.131 0.086 0.155 0.11 0.045], Final Value =
\$1577671.15, Sharpe Ratio = -16.59

Simulation Run = 1515
Weights = [0.176 0.14 0.036 0.109 0.119 0.076 0.073 0.186 0.086], Final Value =
\$1565574.60, Sharpe Ratio = -21.66

Simulation Run = 1516
Weights = [0.047 0.175 0.184 0.078 0.194 0.043 0.026 0.16 0.092], Final Value =
\$1469020.61, Sharpe Ratio = -24.41

Simulation Run = 1517
Weights = [0.09 0.118 0.098 0.119 0.002 0.23 0.062 0.235 0.045], Final Value =
\$1598909.35, Sharpe Ratio = -16.62

Simulation Run = 1518
Weights = [0.2 0.191 0.009 0.027 0.185 0.061 0.197 0.1 0.029], Final Value =
\$1600751.73, Sharpe Ratio = -16.63

Simulation Run = 1519
Weights = [0.178 0.018 0.082 0.163 0.137 0.16 0.183 0.024 0.056], Final Value =
\$1643388.36, Sharpe Ratio = -14.60

Simulation Run = 1520
Weights = [0.096 0.088 0.096 0.135 0.027 0.195 0.149 0.182 0.033], Final Value =

\$1609812.67, Sharpe Ratio = -14.85

Simulation Run = 1521

Weights = [0.083 0.08 0.014 0.066 0.148 0.071 0.082 0.167 0.29], Final Value = \$1390418.65, Sharpe Ratio = -24.87

Simulation Run = 1522

Weights = [0.067 0.235 0.088 0.057 0.079 0.058 0.112 0.227 0.077], Final Value = \$1477817.91, Sharpe Ratio = -21.03

Simulation Run = 1523

Weights = [0.139 0.022 0.048 0.208 0.017 0.162 0.157 0.036 0.21], Final Value = \$1497163.83, Sharpe Ratio = -16.21

Simulation Run = 1524

Weights = [0.006 0.08 0.115 0.249 0.037 0.231 0.217 0.009 0.056], Final Value = \$1601814.73, Sharpe Ratio = -13.12

Simulation Run = 1525

Weights = [0.11 0.183 0.131 0.096 0.155 0.059 0.146 0.118 0.], Final Value = \$1572301.44, Sharpe Ratio = -17.96

Simulation Run = 1526

Weights = [0.024 0.173 0.119 0.111 0.156 0.11 0.163 0.104 0.04], Final Value = \$1550752.06, Sharpe Ratio = -17.45

Simulation Run = 1527

Weights = [0.138 0.078 0.164 0.117 0.174 0.078 0.191 0.034 0.026], Final Value = \$1581923.53, Sharpe Ratio = -15.30

Simulation Run = 1528

Weights = [0.118 0.088 0.031 0.094 0.186 0.136 0.064 0.185 0.098], Final Value = \$1597946.03, Sharpe Ratio = -21.18

Simulation Run = 1529

Weights = [0.007 0.1 0.048 0.113 0.087 0.182 0.15 0.154 0.158], Final Value = \$1505123.63, Sharpe Ratio = -17.32

Simulation Run = 1530
Weights = [0.162 0.138 0.121 0.064 0.071 0.047 0.141 0.135 0.12], Final Value =
\$1461203.19, Sharpe Ratio = -18.42

Simulation Run = 1531
Weights = [0.062 0.185 0.16 0.168 0.101 0.051 0.117 0.043 0.113], Final Value =
\$1451373.14, Sharpe Ratio = -20.23

Simulation Run = 1532
Weights = [0.114 0.114 0.06 0.177 0.155 0.094 0.011 0.111 0.162], Final Value =
\$1516953.15, Sharpe Ratio = -25.74

Simulation Run = 1533
Weights = [0.1 0.189 0.018 0.112 0.033 0.103 0.108 0.216 0.122], Final Value =
\$1502493.08, Sharpe Ratio = -20.35

Simulation Run = 1534
Weights = [0.142 0.053 0.096 0.106 0.167 0.089 0.087 0.144 0.115], Final Value =
\$1547525.16, Sharpe Ratio = -20.24

Simulation Run = 1535
Weights = [0.161 0.134 0.059 0.05 0.053 0.096 0.081 0.183 0.183], Final Value =
\$1446806.84, Sharpe Ratio = -21.27

Simulation Run = 1536
Weights = [0.01 0.119 0.032 0.204 0.079 0.114 0.18 0.113 0.149], Final Value =
\$1505402.12, Sharpe Ratio = -17.47

Simulation Run = 1537
Weights = [0.123 0.084 0.079 0.05 0.142 0.153 0.233 0.132 0.004], Final Value =
\$1636725.85, Sharpe Ratio = -13.49

Simulation Run = 1538
Weights = [0.1 0.026 0.091 0.09 0.194 0.115 0.137 0.151 0.096], Final Value =
\$1576282.07, Sharpe Ratio = -17.71

Simulation Run = 1539
Weights = [0.141 0.056 0.195 0.018 0.102 0.059 0.131 0.078 0.22], Final Value =
\$1363181.95, Sharpe Ratio = -18.44

Simulation Run = 1540
Weights = [0.032 0.135 0.091 0.135 0.065 0.154 0.17 0.169 0.05], Final Value =
\$1565793.51, Sharpe Ratio = -15.86

Simulation Run = 1541
Weights = [0.135 0.195 0.171 0.107 0.189 0. 0.003 0.043 0.157], Final Value =
\$1415059.05, Sharpe Ratio = -27.24

Simulation Run = 1542
Weights = [0.104 0.25 0.026 0.14 0.015 0.017 0.107 0.058 0.282], Final Value =
\$1309056.69, Sharpe Ratio = -24.80

Simulation Run = 1543
Weights = [0.091 0.128 0.164 0.316 0.161 0.024 0.04 0.076 0.002], Final Value =
\$1610186.91, Sharpe Ratio = -20.58

Simulation Run = 1544
Weights = [0.094 0.039 0.21 0.063 0.076 0.092 0.157 0.212 0.058], Final Value =
\$1512516.40, Sharpe Ratio = -15.30

Simulation Run = 1545
Weights = [0.067 0.047 0.125 0.018 0.151 0.229 0.042 0.084 0.237], Final Value =
\$1447475.93, Sharpe Ratio = -19.82

Simulation Run = 1546
Weights = [0.024 0.148 0.146 0.06 0.013 0.104 0.179 0.145 0.18], Final Value =
\$1374246.78, Sharpe Ratio = -16.70

Simulation Run = 1547
Weights = [0.051 0.266 0.065 0.175 0.001 0.12 0.099 0.034 0.188], Final Value =
\$1404256.62, Sharpe Ratio = -21.78

Simulation Run = 1548
Weights = [0.162 0.168 0.147 0.111 0.146 0.024 0.15 0.057 0.036], Final Value =
\$1533812.92, Sharpe Ratio = -18.08

Simulation Run = 1549

Weights = [0.172 0.076 0.09 0.144 0.114 0.169 0.154 0.07 0.011], Final Value = \$1659537.05, Sharpe Ratio = -15.13

Simulation Run = 1550

Weights = [0.198 0.034 0.01 0.116 0.1 0.126 0.142 0.192 0.082], Final Value = \$1623606.72, Sharpe Ratio = -16.56

Simulation Run = 1551

Weights = [0.239 0.08 0.027 0.048 0.054 0.244 0.128 0.03 0.151], Final Value = \$1565725.58, Sharpe Ratio = -15.29

Simulation Run = 1552

Weights = [0.003 0.17 0.177 0.127 0.116 0.144 0.074 0.167 0.023], Final Value = \$1552561.77, Sharpe Ratio = -18.90

Simulation Run = 1553

Weights = [0.006 0.011 0.172 0.14 0.204 0.159 0.152 0.137 0.019], Final Value = \$1627478.85, Sharpe Ratio = -15.40

Simulation Run = 1554

Weights = [0.125 0.017 0.293 0.008 0.023 0.006 0.141 0.19 0.197], Final Value = \$1310203.30, Sharpe Ratio = -16.28

Simulation Run = 1555

Weights = [0.082 0.075 0.075 0.025 0.012 0.153 0.253 0.125 0.201], Final Value = \$1421681.98, Sharpe Ratio = -13.57

Simulation Run = 1556

Weights = [0.121 0.012 0.212 0.151 0.111 0.03 0.049 0.015 0.298], Final Value = \$1319493.68, Sharpe Ratio = -22.55

Simulation Run = 1557

Weights = [0.099 0.095 0.157 0.025 0.088 0.2 0.021 0.187 0.127], Final Value = \$1501140.93, Sharpe Ratio = -19.26

Simulation Run = 1558

Weights = [0.137 0.169 0.014 0.145 0.149 0.157 0.13 0.032 0.066], Final Value = \$1616183.66, Sharpe Ratio = -18.36

Simulation Run = 1559
Weights = [0.038 0.153 0.147 0.099 0.129 0.155 0.167 0.025 0.087], Final Value =
\$1511434.60, Sharpe Ratio = -16.50

Simulation Run = 1560
Weights = [0.16 0.175 0.024 0.149 0.2 0.113 0.02 0.079 0.08], Final Value =
\$1606055.02, Sharpe Ratio = -24.60

Simulation Run = 1561
Weights = [0.02 0.191 0.038 0.155 0.055 0.005 0.221 0.258 0.057], Final Value =
\$1509734.07, Sharpe Ratio = -16.52

Simulation Run = 1562
Weights = [0.115 0.087 0.168 0.068 0.175 0.042 0.179 0.014 0.152], Final Value =
\$1439151.42, Sharpe Ratio = -17.37

Simulation Run = 1563
Weights = [0.058 0.062 0.095 0.141 0.095 0.191 0.147 0.064 0.146], Final Value =
\$1525388.39, Sharpe Ratio = -16.47

Simulation Run = 1564
Weights = [0.059 0.112 0.04 0.143 0.254 0.062 0.179 0.097 0.053], Final Value =
\$1607361.62, Sharpe Ratio = -18.07

Simulation Run = 1565
Weights = [0.077 0.008 0.115 0.172 0.03 0.138 0.034 0.12 0.307], Final Value =
\$1373477.99, Sharpe Ratio = -21.88

Simulation Run = 1566
Weights = [0.186 0.175 0.112 0.106 0.067 0.11 0.023 0.064 0.157], Final Value =
\$1463013.30, Sharpe Ratio = -23.09

Simulation Run = 1567
Weights = [0.085 0.146 0.136 0.115 0.061 0.144 0.157 0.112 0.044], Final Value =
\$1548724.07, Sharpe Ratio = -15.95

Simulation Run = 1568
Weights = [0.109 0.05 0.079 0.022 0.103 0.037 0.21 0.199 0.19], Final Value =

\$1423809.16, Sharpe Ratio = -16.37

Simulation Run = 1569

Weights = [0.163 0.007 0.154 0.075 0.151 0.143 0.12 0.072 0.115], Final Value = \$1545507.39, Sharpe Ratio = -16.78

Simulation Run = 1570

Weights = [0.163 0.202 0.015 0.003 0.145 0.122 0.084 0.16 0.106], Final Value = \$1536827.46, Sharpe Ratio = -21.31

Simulation Run = 1571

Weights = [0.168 0.158 0.093 0.103 0.11 0.067 0.164 0.009 0.128], Final Value = \$1482262.00, Sharpe Ratio = -18.07

Simulation Run = 1572

Weights = [0.224 0.074 0.213 0.017 0.021 0.172 0.037 0.093 0.149], Final Value = \$1454569.58, Sharpe Ratio = -17.52

Simulation Run = 1573

Weights = [0.013 0.05 0.161 0.193 0.251 0.138 0.007 0.008 0.179], Final Value = \$1502484.12, Sharpe Ratio = -23.28

Simulation Run = 1574

Weights = [0.11 0.034 0.164 0.037 0.15 0.147 0.141 0.051 0.165], Final Value = \$1472013.23, Sharpe Ratio = -16.90

Simulation Run = 1575

Weights = [0.03 0.192 0.138 0.093 0.042 0.141 0.228 0.111 0.025], Final Value = \$1528630.13, Sharpe Ratio = -14.04

Simulation Run = 1576

Weights = [0.052 0.227 0.156 0.202 0.026 0.019 0.053 0.209 0.056], Final Value = \$1474422.52, Sharpe Ratio = -22.12

Simulation Run = 1577

Weights = [0.149 0.198 0.074 0.167 0.003 0.053 0.194 0.139 0.023], Final Value = \$1551653.90, Sharpe Ratio = -15.79

Simulation Run = 1578
Weights = [0.311 0.049 0.144 0.003 0.056 0.059 0.253 0.074 0.052], Final Value =
\$1540808.08, Sharpe Ratio = -12.63

Simulation Run = 1579
Weights = [0.169 0.029 0.155 0.133 0.171 0.13 0.097 0.106 0.011], Final Value =
\$1646942.08, Sharpe Ratio = -16.79

Simulation Run = 1580
Weights = [0.213 0.19 0.097 0.019 0.242 0.024 0.154 0.009 0.052], Final Value =
\$1545645.80, Sharpe Ratio = -18.92

Simulation Run = 1581
Weights = [0.114 0.238 0.027 0.185 0.077 0.085 0.086 0.026 0.162], Final Value =
\$1470530.52, Sharpe Ratio = -23.75

Simulation Run = 1582
Weights = [0.083 0.147 0.025 0.164 0.107 0.061 0.179 0.168 0.067], Final Value =
\$1564704.32, Sharpe Ratio = -17.65

Simulation Run = 1583
Weights = [0.13 0.23 0.1 0.076 0.008 0.111 0.123 0.154 0.067], Final Value =
\$1497422.69, Sharpe Ratio = -18.19

Simulation Run = 1584
Weights = [0.096 0.049 0.14 0.258 0.075 0.162 0.063 0.082 0.076], Final Value =
\$1594578.14, Sharpe Ratio = -17.85

Simulation Run = 1585
Weights = [0.052 0.181 0.096 0.211 0.124 0.132 0.038 0.03 0.135], Final Value =
\$1507851.70, Sharpe Ratio = -23.57

Simulation Run = 1586
Weights = [0.112 0.104 0.13 0.173 0.008 0.12 0.138 0.178 0.037], Final Value =
\$1567009.19, Sharpe Ratio = -15.97

Simulation Run = 1587
Weights = [0.077 0.118 0.184 0.185 0.019 0.043 0.081 0.178 0.114], Final Value =
\$1447030.79, Sharpe Ratio = -19.63

Simulation Run = 1588
Weights = [0.19 0.085 0.069 0.167 0.065 0.196 0.037 0.054 0.139], Final Value =
\$1566350.13, Sharpe Ratio = -19.23

Simulation Run = 1589
Weights = [0.125 0.135 0.141 0.009 0.103 0.2 0.043 0.117 0.126], Final Value =
\$1500105.51, Sharpe Ratio = -19.26

Simulation Run = 1590
Weights = [0.111 0.274 0.04 0.101 0.045 0.053 0.091 0.015 0.269], Final Value =
\$1321102.37, Sharpe Ratio = -25.41

Simulation Run = 1591
Weights = [0.055 0.058 0.155 0.141 0.127 0.161 0.128 0.164 0.011], Final Value =
\$1620228.21, Sharpe Ratio = -15.89

Simulation Run = 1592
Weights = [0.056 0.103 0.003 0.04 0.066 0.169 0.184 0.182 0.197], Final Value =
\$1470520.80, Sharpe Ratio = -16.31

Simulation Run = 1593
Weights = [0.119 0.117 0.172 0.104 0.111 0.163 0.106 0.1 0.006], Final Value =
\$1601480.43, Sharpe Ratio = -16.47

Simulation Run = 1594
Weights = [0.177 0.001 0.116 0.249 0.066 0.076 0.164 0.062 0.09], Final Value =
\$1576376.40, Sharpe Ratio = -15.65

Simulation Run = 1595
Weights = [0.161 0.013 0.162 0.169 0.021 0.109 0.058 0.138 0.168], Final Value =
\$1473920.31, Sharpe Ratio = -18.72

Simulation Run = 1596
Weights = [0.126 0.182 0.029 0.174 0.052 0.163 0.151 0.103 0.02], Final Value =
\$1629291.07, Sharpe Ratio = -16.33

Simulation Run = 1597

Weights = [0.214 0.051 0.028 0.01 0.107 0.228 0.036 0.149 0.177], Final Value = \$1553913.55, Sharpe Ratio = -18.48

Simulation Run = 1598

Weights = [0.073 0.08 0.063 0.078 0.131 0.139 0.193 0.138 0.106], Final Value = \$1546843.10, Sharpe Ratio = -15.79

Simulation Run = 1599

Weights = [0.261 0.037 0.019 0.132 0.15 0.199 0.115 0.084 0.004], Final Value = \$1741445.69, Sharpe Ratio = -15.41

Simulation Run = 1600

Weights = [0.158 0.082 0.069 0.019 0.152 0.133 0.113 0.121 0.153], Final Value = \$1512113.41, Sharpe Ratio = -18.92

Simulation Run = 1601

Weights = [0.034 0.151 0.307 0.001 0.162 0.007 0.115 0.194 0.028], Final Value = \$1436517.55, Sharpe Ratio = -17.60

Simulation Run = 1602

Weights = [0.009 0.168 0.22 0.081 0.092 0.024 0.153 0.192 0.061], Final Value = \$1437617.32, Sharpe Ratio = -17.52

Simulation Run = 1603

Weights = [0.135 0.16 0.024 0.186 0.034 0.157 0.145 0.091 0.069], Final Value = \$1591987.65, Sharpe Ratio = -16.81

Simulation Run = 1604

Weights = [0.051 0.151 0.117 0.136 0.075 0.049 0.199 0.066 0.157], Final Value = \$1420398.75, Sharpe Ratio = -17.11

Simulation Run = 1605

Weights = [0.098 0.145 0.099 0.168 0.062 0.158 0.082 0.101 0.088], Final Value = \$1549520.55, Sharpe Ratio = -19.01

Simulation Run = 1606

Weights = [0.118 0.147 0.189 0.056 0.101 0.265 0.042 0.06 0.024], Final Value = \$1598092.96, Sharpe Ratio = -16.42

Simulation Run = 1607
Weights = [0.166 0.067 0.131 0.138 0.144 0.081 0.038 0.091 0.145], Final Value =
\$1507060.16, Sharpe Ratio = -22.18

Simulation Run = 1608
Weights = [0.115 0.125 0.114 0.09 0.098 0.164 0.108 0.126 0.06], Final Value =
\$1569043.28, Sharpe Ratio = -17.49

Simulation Run = 1609
Weights = [0.014 0.161 0.121 0.211 0.143 0.047 0.034 0.122 0.146], Final Value =
\$1462654.00, Sharpe Ratio = -25.69

Simulation Run = 1610
Weights = [0.018 0.112 0.005 0.234 0.181 0.04 0.108 0.159 0.142], Final Value =
\$1535316.99, Sharpe Ratio = -23.24

Simulation Run = 1611
Weights = [0.112 0.163 0.083 0.125 0.028 0.129 0.112 0.057 0.191], Final Value =
\$1432230.52, Sharpe Ratio = -19.64

Simulation Run = 1612
Weights = [0.079 0.134 0.158 0.023 0.136 0.061 0.199 0.134 0.077], Final Value =
\$1479172.66, Sharpe Ratio = -16.05

Simulation Run = 1613
Weights = [0.114 0.042 0.085 0.168 0.15 0.134 0.021 0.137 0.151], Final Value =
\$1548258.33, Sharpe Ratio = -22.23

Simulation Run = 1614
Weights = [0.143 0.003 0.16 0.203 0.062 0.157 0.046 0.04 0.187], Final Value =
\$1492330.77, Sharpe Ratio = -18.86

Simulation Run = 1615
Weights = [0.022 0.112 0.027 0.184 0.193 0.078 0.097 0.15 0.138], Final Value =
\$1537383.86, Sharpe Ratio = -22.97

Simulation Run = 1616
Weights = [0.138 0.082 0.065 0.102 0.077 0.112 0.21 0.186 0.028], Final Value =

\$1606332.05, Sharpe Ratio = -14.42

Simulation Run = 1617

Weights = [0.116 0.07 0.073 0.198 0.075 0.023 0.239 0.009 0.196], Final Value = \$1436749.39, Sharpe Ratio = -15.65

Simulation Run = 1618

Weights = [0.092 0.126 0.099 0.039 0.189 0.07 0.048 0.283 0.054], Final Value = \$1560543.01, Sharpe Ratio = -22.67

Simulation Run = 1619

Weights = [0.039 0.167 0.012 0.056 0.168 0.102 0.133 0.172 0.15], Final Value = \$1494327.79, Sharpe Ratio = -20.91

Simulation Run = 1620

Weights = [0.091 0.076 0.152 0.166 0.08 0.176 0.088 0.155 0.017], Final Value = \$1618977.92, Sharpe Ratio = -16.55

Simulation Run = 1621

Weights = [0.058 0.032 0.069 0.12 0.052 0.004 0.198 0.236 0.232], Final Value = \$1384696.16, Sharpe Ratio = -17.42

Simulation Run = 1622

Weights = [0.001 0.211 0.065 0.09 0.065 0.182 0.044 0.135 0.206], Final Value = \$1420392.68, Sharpe Ratio = -23.13

Simulation Run = 1623

Weights = [0.007 0.04 0.156 0.172 0.165 0.086 0.11 0.088 0.175], Final Value = \$1460011.24, Sharpe Ratio = -19.92

Simulation Run = 1624

Weights = [0.178 0.173 0.158 0.153 0.014 0.121 0.018 0.08 0.105], Final Value = \$1490645.76, Sharpe Ratio = -20.72

Simulation Run = 1625

Weights = [0.042 0.228 0.088 0.039 0.121 0.163 0.169 0.052 0.098], Final Value = \$1495360.57, Sharpe Ratio = -17.21

Simulation Run = 1626
Weights = [0.236 0.083 0.015 0.119 0.078 0.011 0.351 0.06 0.049], Final Value =
\$1581569.99, Sharpe Ratio = -11.60

Simulation Run = 1627
Weights = [0.166 0.225 0.121 0.106 0.117 0.058 0.061 0.068 0.078], Final Value =
\$1502980.38, Sharpe Ratio = -22.83

Simulation Run = 1628
Weights = [0.016 0.202 0.197 0.163 0.061 0.251 0.031 0.073 0.007], Final Value =
\$1586608.47, Sharpe Ratio = -17.18

Simulation Run = 1629
Weights = [0.202 0.063 0.129 0.004 0.033 0.146 0.12 0.267 0.037], Final Value =
\$1576709.66, Sharpe Ratio = -15.39

Simulation Run = 1630
Weights = [0.197 0.14 0.003 0.099 0.166 0.132 0.049 0.211 0.003], Final Value =
\$1687937.04, Sharpe Ratio = -20.28

Simulation Run = 1631
Weights = [0.132 0.05 0.194 0.124 0.066 0.195 0.137 0.006 0.097], Final Value =
\$1534430.44, Sharpe Ratio = -15.02

Simulation Run = 1632
Weights = [0.095 0.157 0.079 0.078 0.086 0.184 0.199 0.054 0.068], Final Value =
\$1560053.65, Sharpe Ratio = -14.83

Simulation Run = 1633
Weights = [0.097 0.152 0.151 0.035 0.19 0.082 0.097 0.138 0.058], Final Value =
\$1527165.42, Sharpe Ratio = -20.09

Simulation Run = 1634
Weights = [0.226 0.045 0.034 0.173 0.118 0.2 0.195 0.006 0.003], Final Value =
\$1722243.46, Sharpe Ratio = -13.49

Simulation Run = 1635
Weights = [0.172 0.061 0.097 0.093 0.027 0.154 0.148 0.094 0.154], Final Value =
\$1497614.69, Sharpe Ratio = -16.02

Simulation Run = 1636
Weights = [0.266 0.182 0.119 0.024 0.037 0.116 0.051 0.156 0.049], Final Value =
\$1544611.83, Sharpe Ratio = -18.94

Simulation Run = 1637
Weights = [0.018 0.001 0.225 0.096 0.09 0.165 0.067 0.115 0.223], Final Value =
\$1400376.61, Sharpe Ratio = -18.46

Simulation Run = 1638
Weights = [0.104 0.065 0.207 0.093 0.177 0.041 0.162 0.111 0.04], Final Value =
\$1534503.30, Sharpe Ratio = -16.36

Simulation Run = 1639
Weights = [0.152 0.079 0.17 0.026 0.117 0.132 0.051 0.129 0.143], Final Value =
\$1474550.11, Sharpe Ratio = -19.86

Simulation Run = 1640
Weights = [0.236 0.026 0.264 0.031 0.058 0.112 0.152 0.007 0.114], Final Value =
\$1460406.75, Sharpe Ratio = -14.56

Simulation Run = 1641
Weights = [0.002 0.209 0.023 0.078 0.155 0.059 0.188 0.154 0.131], Final Value =
\$1470946.03, Sharpe Ratio = -19.06

Simulation Run = 1642
Weights = [0.135 0.145 0.125 0.141 0.083 0.133 0.003 0.1 0.135], Final Value =
\$1499220.23, Sharpe Ratio = -22.72

Simulation Run = 1643
Weights = [0.138 0.198 0.046 0.108 0.053 0.065 0.122 0.135 0.135], Final Value =
\$1471291.34, Sharpe Ratio = -20.54

Simulation Run = 1644
Weights = [0.098 0.22 0.062 0.059 0.07 0.007 0.151 0.12 0.213], Final Value =
\$1352647.89, Sharpe Ratio = -21.27

Simulation Run = 1645

Weights = [0.045 0.043 0.209 0.205 0.081 0.071 0.112 0.066 0.168], Final Value = \$1430649.23, Sharpe Ratio = -18.35

Simulation Run = 1646

Weights = [0.179 0.11 0.065 0.164 0.05 0.119 0.134 0.104 0.076], Final Value = \$1576420.13, Sharpe Ratio = -17.13

Simulation Run = 1647

Weights = [0.24 0.053 0.007 0.177 0.113 0.119 0.031 0.01 0.249], Final Value = \$1497158.79, Sharpe Ratio = -23.23

Simulation Run = 1648

Weights = [0.13 0.186 0.02 0.023 0.208 0.053 0.157 0.189 0.032], Final Value = \$1588778.42, Sharpe Ratio = -18.91

Simulation Run = 1649

Weights = [0.023 0.08 0.093 0.233 0.075 0.094 0.014 0.258 0.129], Final Value = \$1521070.34, Sharpe Ratio = -23.02

Simulation Run = 1650

Weights = [0.048 0.023 0.108 0.072 0.086 0.145 0.23 0.129 0.159], Final Value = \$1480264.64, Sharpe Ratio = -14.20

Simulation Run = 1651

Weights = [0.146 0.11 0.052 0.121 0.146 0.114 0.153 0.074 0.083], Final Value = \$1581183.24, Sharpe Ratio = -17.55

Simulation Run = 1652

Weights = [0.149 0.2 0.053 0.131 0.059 0.026 0.195 0.095 0.092], Final Value = \$1494439.18, Sharpe Ratio = -17.26

Simulation Run = 1653

Weights = [0.178 0.185 0.042 0.063 0.105 0.003 0.208 0.206 0.009], Final Value = \$1570016.80, Sharpe Ratio = -16.17

Simulation Run = 1654

Weights = [0.194 0.02 0.206 0.172 0.058 0.064 0.184 0.01 0.092], Final Value = \$1510014.95, Sharpe Ratio = -14.61

Simulation Run = 1655
Weights = [0.175 0. 0.124 0.154 0.144 0.226 0.054 0.031 0.091], Final Value =
\$1632018.30, Sharpe Ratio = -16.93

Simulation Run = 1656
Weights = [0.121 0.049 0.09 0.03 0.134 0.076 0.15 0.175 0.174], Final Value =
\$1462793.13, Sharpe Ratio = -18.26

Simulation Run = 1657
Weights = [0.095 0.124 0.065 0.137 0.152 0.166 0.093 0.117 0.051], Final Value =
\$1619388.81, Sharpe Ratio = -18.81

Simulation Run = 1658
Weights = [0.01 0.01 0.082 0.216 0.26 0.113 0.105 0.054 0.151], Final Value =
\$1563297.95, Sharpe Ratio = -20.48

Simulation Run = 1659
Weights = [0.095 0.183 0.165 0.046 0.17 0.181 0.065 0.004 0.092], Final Value =
\$1516024.50, Sharpe Ratio = -19.81

Simulation Run = 1660
Weights = [0.022 0.198 0.043 0.165 0.179 0.097 0.108 0.159 0.03], Final Value =
\$1601866.97, Sharpe Ratio = -21.03

Simulation Run = 1661
Weights = [0.26 0.143 0.205 0.121 0.046 0.021 0.001 0.158 0.046], Final Value =
\$1512248.15, Sharpe Ratio = -20.43

Simulation Run = 1662
Weights = [0.121 0.114 0.16 0.019 0.041 0.13 0.156 0.089 0.169], Final Value =
\$1412661.92, Sharpe Ratio = -16.50

Simulation Run = 1663
Weights = [0.161 0.072 0.134 0.115 0.154 0.184 0.037 0.134 0.009], Final Value =
\$1659593.99, Sharpe Ratio = -17.94

Simulation Run = 1664
Weights = [0.154 0.126 0.011 0.118 0.046 0.055 0.195 0.159 0.137], Final Value =

\$1499627.05, Sharpe Ratio = -16.79

Simulation Run = 1665

Weights = [0.178 0.032 0.101 0.096 0.008 0.119 0.178 0.077 0.211], Final Value = \$1435202.50, Sharpe Ratio = -15.62

Simulation Run = 1666

Weights = [0.193 0.022 0.233 0.109 0.055 0.145 0.077 0.166 0.001], Final Value = \$1603147.42, Sharpe Ratio = -15.25

Simulation Run = 1667

Weights = [0.202 0.104 0.03 0.025 0.194 0.144 0.132 0.044 0.125], Final Value = \$1567744.46, Sharpe Ratio = -18.11

Simulation Run = 1668

Weights = [0.06 0.119 0.14 0.093 0.121 0.186 0.054 0.203 0.023], Final Value = \$1602579.85, Sharpe Ratio = -18.34

Simulation Run = 1669

Weights = [0.113 0.135 0.158 0.119 0.014 0.146 0.093 0.077 0.145], Final Value = \$1452321.33, Sharpe Ratio = -18.28

Simulation Run = 1670

Weights = [0.134 0.191 0.051 0.167 0.021 0.192 0.156 0.027 0.06], Final Value = \$1583680.07, Sharpe Ratio = -15.82

Simulation Run = 1671

Weights = [0.111 0.09 0.176 0.039 0.105 0.177 0.188 0.031 0.082], Final Value = \$1521993.01, Sharpe Ratio = -14.42

Simulation Run = 1672

Weights = [0.05 0.19 0.173 0.101 0.109 0.022 0.051 0.195 0.11], Final Value = \$1429520.48, Sharpe Ratio = -23.66

Simulation Run = 1673

Weights = [0.176 0.095 0.042 0.055 0.16 0.096 0.112 0.049 0.215], Final Value = \$1462807.03, Sharpe Ratio = -20.88

Simulation Run = 1674
Weights = [0.213 0.148 0.189 0.178 0.012 0.025 0.021 0.035 0.178], Final Value =
\$1394618.81, Sharpe Ratio = -22.40

Simulation Run = 1675
Weights = [0.018 0.188 0.064 0.181 0.176 0.198 0.057 0.095 0.022], Final Value =
\$1644127.31, Sharpe Ratio = -20.14

Simulation Run = 1676
Weights = [0.084 0.168 0.103 0.004 0.084 0.12 0.072 0.199 0.165], Final Value =
\$1430347.91, Sharpe Ratio = -21.64

Simulation Run = 1677
Weights = [0.163 0.115 0.034 0.052 0.223 0.113 0.198 0.002 0.1], Final Value =
\$1575062.87, Sharpe Ratio = -16.38

Simulation Run = 1678
Weights = [0.136 0.023 0.212 0.163 0.178 0.1 0.065 0.04 0.083], Final Value =
\$1553478.15, Sharpe Ratio = -18.57

Simulation Run = 1679
Weights = [0.128 0.181 0.197 0.196 0.116 0.043 0.032 0.052 0.055], Final Value =
\$1512100.46, Sharpe Ratio = -21.76

Simulation Run = 1680
Weights = [0.054 0.006 0.108 0.071 0.263 0.236 0.173 0.043 0.045], Final Value =
\$1664959.60, Sharpe Ratio = -14.52

Simulation Run = 1681
Weights = [0.031 0.126 0.205 0.027 0.094 0.015 0.05 0.244 0.208], Final Value =
\$1322776.93, Sharpe Ratio = -23.67

Simulation Run = 1682
Weights = [0.055 0.042 0.185 0.163 0.113 0.128 0.145 0.133 0.036], Final Value =
\$1577163.68, Sharpe Ratio = -15.64

Simulation Run = 1683
Weights = [0.133 0.056 0.089 0.172 0.082 0.135 0.047 0.137 0.148], Final Value =
\$1531086.15, Sharpe Ratio = -20.55

Simulation Run = 1684
Weights = [0.069 0.044 0.179 0.1 0.069 0.145 0.228 0.137 0.03], Final Value =
\$1564847.50, Sharpe Ratio = -13.04

Simulation Run = 1685
Weights = [0.2 0.172 0.162 0.026 0.146 0.236 0.02 0.01 0.029], Final Value =
\$1606737.97, Sharpe Ratio = -17.92

Simulation Run = 1686
Weights = [0.167 0.036 0.09 0.174 0.095 0.012 0.207 0.007 0.214], Final Value =
\$1430145.24, Sharpe Ratio = -16.66

Simulation Run = 1687
Weights = [0.101 0.119 0.133 0.061 0.212 0.068 0.054 0.08 0.172], Final Value =
\$1451547.15, Sharpe Ratio = -24.31

Simulation Run = 1688
Weights = [0.192 0.13 0.012 0.001 0.188 0.002 0.207 0.169 0.097], Final Value =
\$1528758.76, Sharpe Ratio = -17.00

Simulation Run = 1689
Weights = [0.146 0.111 0.07 0.145 0.146 0.151 0.188 0.027 0.014], Final Value =
\$1650145.45, Sharpe Ratio = -15.09

Simulation Run = 1690
Weights = [0.193 0.009 0.077 0.116 0.144 0.041 0.138 0.159 0.124], Final Value =
\$1543718.93, Sharpe Ratio = -18.15

Simulation Run = 1691
Weights = [0.021 0.019 0.108 0.061 0.147 0.137 0.045 0.227 0.237], Final Value =
\$1430972.44, Sharpe Ratio = -22.53

Simulation Run = 1692
Weights = [0.191 0.032 0.035 0.135 0.065 0.274 0.14 0.1 0.028], Final Value =
\$1709276.49, Sharpe Ratio = -13.66

Simulation Run = 1693

Weights = [0.17 0.231 0.01 0.212 0.03 0.166 0.083 0.096 0.001], Final Value = \$1655859.62, Sharpe Ratio = -18.44

Simulation Run = 1694

Weights = [0.086 0.172 0.024 0.086 0.162 0.163 0.011 0.163 0.134], Final Value = \$1545318.51, Sharpe Ratio = -24.36

Simulation Run = 1695

Weights = [0.133 0.077 0.052 0.063 0.153 0.245 0.095 0.118 0.063], Final Value = \$1647151.51, Sharpe Ratio = -16.52

Simulation Run = 1696

Weights = [0.067 0.151 0.107 0.163 0.112 0.133 0.045 0.069 0.153], Final Value = \$1485848.79, Sharpe Ratio = -22.79

Simulation Run = 1697

Weights = [0.073 0.162 0.05 0.027 0.212 0.197 0.136 0.123 0.02], Final Value = \$1638945.60, Sharpe Ratio = -17.08

Simulation Run = 1698

Weights = [0.142 0.005 0.067 0.217 0.155 0.081 0.091 0.161 0.081], Final Value = \$1620359.62, Sharpe Ratio = -19.21

Simulation Run = 1699

Weights = [0.056 0.142 0.153 0.132 0.144 0.097 0.059 0.113 0.103], Final Value = \$1498588.49, Sharpe Ratio = -21.79

Simulation Run = 1700

Weights = [0.063 0.126 0.151 0.179 0.166 0.077 0.047 0.087 0.103], Final Value = \$1513673.98, Sharpe Ratio = -22.60

Simulation Run = 1701

Weights = [0.015 0.085 0.131 0.14 0.139 0.139 0.147 0.062 0.142], Final Value = \$1492266.89, Sharpe Ratio = -17.70

Simulation Run = 1702

Weights = [0.214 0.002 0.102 0.072 0.15 0.174 0.069 0.12 0.096], Final Value = \$1608414.18, Sharpe Ratio = -17.54

Simulation Run = 1703
Weights = [0.173 0.104 0.121 0.099 0.086 0.183 0.169 0.006 0.059], Final Value =
\$1582950.38, Sharpe Ratio = -14.84

Simulation Run = 1704
Weights = [0.04 0.103 0.07 0.305 0.167 0.091 0.176 0.021 0.027], Final Value =
\$1641001.62, Sharpe Ratio = -16.70

Simulation Run = 1705
Weights = [0.148 0.099 0.057 0.003 0.003 0.204 0.122 0.16 0.204], Final Value =
\$1452104.32, Sharpe Ratio = -16.56

Simulation Run = 1706
Weights = [0.143 0.114 0.166 0.03 0.05 0.029 0.203 0.113 0.153], Final Value =
\$1392971.35, Sharpe Ratio = -15.85

Simulation Run = 1707
Weights = [0.134 0.136 0.057 0.071 0.114 0.119 0.06 0.168 0.14], Final Value =
\$1509700.33, Sharpe Ratio = -22.08

Simulation Run = 1708
Weights = [0.031 0.074 0.124 0.189 0.106 0.166 0.093 0.183 0.034], Final Value =
\$1614118.78, Sharpe Ratio = -17.37

Simulation Run = 1709
Weights = [0.068 0.092 0.181 0.153 0.175 0.165 0.092 0.03 0.043], Final Value =
\$1589543.20, Sharpe Ratio = -17.63

Simulation Run = 1710
Weights = [0.057 0.156 0.03 0.095 0.157 0.085 0.158 0.109 0.154], Final Value =
\$1486509.04, Sharpe Ratio = -19.72

Simulation Run = 1711
Weights = [0.167 0.153 0.011 0.11 0.1 0.102 0.133 0.039 0.184], Final Value =
\$1483522.82, Sharpe Ratio = -19.88

Simulation Run = 1712
Weights = [0.134 0.207 0.041 0.143 0.136 0.256 0.002 0.042 0.039], Final Value =

\$1658699.60, Sharpe Ratio = -19.68

Simulation Run = 1713

Weights = [0.063 0.072 0.215 0.127 0.086 0.031 0.235 0.109 0.061], Final Value = \$1479918.34, Sharpe Ratio = -14.03

Simulation Run = 1714

Weights = [0.17 0.12 0.087 0.133 0.141 0.17 0.176 0.003 0.], Final Value = \$1659631.02, Sharpe Ratio = -14.94

Simulation Run = 1715

Weights = [0.173 0.025 0.122 0.001 0.192 0.16 0.049 0.133 0.146], Final Value = \$1534824.76, Sharpe Ratio = -19.60

Simulation Run = 1716

Weights = [0.072 0.031 0.218 0.195 0.06 0.026 0.136 0.15 0.113], Final Value = \$1459456.18, Sharpe Ratio = -16.91

Simulation Run = 1717

Weights = [0.199 0.268 0.189 0.023 0.127 0.032 0.07 0.045 0.046], Final Value = \$1470764.58, Sharpe Ratio = -21.41

Simulation Run = 1718

Weights = [0.055 0.101 0.203 0.136 0.03 0.124 0.092 0.097 0.164], Final Value = \$1416374.87, Sharpe Ratio = -18.44

Simulation Run = 1719

Weights = [0.03 0.182 0.098 0.086 0.082 0.139 0.154 0.111 0.118], Final Value = \$1477319.20, Sharpe Ratio = -17.80

Simulation Run = 1720

Weights = [0.038 0.184 0.155 0.128 0.086 0.141 0.177 0.005 0.085], Final Value = \$1491458.52, Sharpe Ratio = -16.23

Simulation Run = 1721

Weights = [0.08 0.146 0.065 0.11 0.187 0.03 0.205 0.161 0.017], Final Value = \$1587532.34, Sharpe Ratio = -16.66

Simulation Run = 1722
Weights = [0.02 0.098 0.059 0.169 0.02 0.09 0.08 0.199 0.265], Final Value =
\$1376284.14, Sharpe Ratio = -22.90

Simulation Run = 1723
Weights = [0.019 0.12 0.086 0.105 0.046 0.184 0.146 0.109 0.185], Final Value =
\$1450837.13, Sharpe Ratio = -17.24

Simulation Run = 1724
Weights = [0.013 0.218 0.12 0.054 0.18 0.057 0.162 0.046 0.149], Final Value =
\$1413983.41, Sharpe Ratio = -20.03

Simulation Run = 1725
Weights = [0.038 0.099 0.114 0.189 0.044 0.229 0.136 0.117 0.034], Final Value =
\$1616454.98, Sharpe Ratio = -15.01

Simulation Run = 1726
Weights = [0.095 0.143 0.076 0.116 0.145 0.087 0.081 0.156 0.101], Final Value =
\$1531222.54, Sharpe Ratio = -21.96

Simulation Run = 1727
Weights = [0.25 0.07 0.055 0.132 0.027 0.028 0.123 0.072 0.243], Final Value =
\$1410340.54, Sharpe Ratio = -19.68

Simulation Run = 1728
Weights = [0.049 0.158 0.019 0.177 0.167 0.01 0.176 0.055 0.189], Final Value =
\$1447824.50, Sharpe Ratio = -20.52

Simulation Run = 1729
Weights = [0.218 0.161 0.048 0.032 0.074 0.247 0.031 0.089 0.1], Final Value =
\$1586521.16, Sharpe Ratio = -18.12

Simulation Run = 1730
Weights = [0.002 0.223 0.121 0.064 0.132 0.185 0.224 0.022 0.028], Final Value =
\$1550349.63, Sharpe Ratio = -14.47

Simulation Run = 1731
Weights = [0.147 0.187 0.165 0.06 0.063 0.113 0.081 0.173 0.011], Final Value =
\$1548833.56, Sharpe Ratio = -18.27

Simulation Run = 1732
Weights = [0.145 0.01 0.179 0.033 0.176 0.142 0.102 0.18 0.033], Final Value =
\$1603517.94, Sharpe Ratio = -16.40

Simulation Run = 1733
Weights = [0.198 0.047 0.103 0.084 0.015 0.187 0.189 0.168 0.009], Final Value =
\$1637297.07, Sharpe Ratio = -13.06

Simulation Run = 1734
Weights = [0.101 0.139 0.102 0.178 0.102 0.084 0.1 0.137 0.057], Final Value =
\$1562016.08, Sharpe Ratio = -19.61

Simulation Run = 1735
Weights = [0.062 0.094 0.095 0.185 0.071 0.087 0.209 0.076 0.121], Final Value =
\$1500900.74, Sharpe Ratio = -15.71

Simulation Run = 1736
Weights = [0.077 0.061 0.135 0.122 0.108 0.156 0.115 0.152 0.073], Final Value =
\$1566716.41, Sharpe Ratio = -17.01

Simulation Run = 1737
Weights = [0.084 0.042 0.176 0.133 0.191 0.153 0.02 0.029 0.172], Final Value =
\$1494402.12, Sharpe Ratio = -21.42

Simulation Run = 1738
Weights = [0.071 0.044 0.012 0.201 0.171 0.091 0.088 0.144 0.178], Final Value =
\$1538793.32, Sharpe Ratio = -22.34

Simulation Run = 1739
Weights = [0.036 0.246 0.03 0.099 0.206 0.086 0.027 0.147 0.122], Final Value =
\$1508064.64, Sharpe Ratio = -28.64

Simulation Run = 1740
Weights = [0.21 0.171 0.124 0.051 0.027 0.139 0.007 0.084 0.187], Final Value =
\$1427161.08, Sharpe Ratio = -22.08

Simulation Run = 1741

Weights = [0.227 0.011 0.143 0.027 0.104 0.116 0.141 0.097 0.134], Final Value = \$1510497.05, Sharpe Ratio = -16.08

Simulation Run = 1742

Weights = [0.194 0.116 0.186 0.012 0.029 0.021 0.163 0.108 0.171], Final Value = \$1368007.89, Sharpe Ratio = -16.94

Simulation Run = 1743

Weights = [0.172 0.133 0.065 0.095 0.17 0.156 0.045 0.101 0.063], Final Value = \$1613925.06, Sharpe Ratio = -20.64

Simulation Run = 1744

Weights = [0.055 0.041 0.191 0.16 0.043 0.087 0.242 0.097 0.086], Final Value = \$1491674.46, Sharpe Ratio = -13.40

Simulation Run = 1745

Weights = [0.236 0.146 0.124 0.226 0.018 0.044 0.04 0.14 0.026], Final Value = \$1579816.96, Sharpe Ratio = -19.80

Simulation Run = 1746

Weights = [0.083 0.187 0.127 0.184 0.077 0.025 0.088 0.157 0.073], Final Value = \$1495752.45, Sharpe Ratio = -21.44

Simulation Run = 1747

Weights = [0.175 0.124 0.037 0.13 0.052 0.006 0.211 0.137 0.129], Final Value = \$1483791.99, Sharpe Ratio = -16.46

Simulation Run = 1748

Weights = [0.095 0.272 0.018 0.101 0.128 0.053 0.019 0.141 0.173], Final Value = \$1440535.39, Sharpe Ratio = -30.53

Simulation Run = 1749

Weights = [0.159 0.02 0.162 0.115 0.2 0.041 0.077 0.189 0.037], Final Value = \$1594337.46, Sharpe Ratio = -19.05

Simulation Run = 1750

Weights = [0.071 0.07 0.164 0.02 0.157 0.038 0.161 0.088 0.231], Final Value = \$1355159.36, Sharpe Ratio = -18.84

Simulation Run = 1751
Weights = [0.133 0.057 0.134 0.168 0.15 0.197 0.05 0.036 0.075], Final Value =
\$1613733.11, Sharpe Ratio = -18.23

Simulation Run = 1752
Weights = [0.008 0.233 0.123 0.137 0.072 0.064 0.252 0.087 0.025], Final Value =
\$1505433.58, Sharpe Ratio = -14.60

Simulation Run = 1753
Weights = [0.033 0.014 0.197 0.132 0.048 0.211 0.189 0.13 0.044], Final Value =
\$1574669.73, Sharpe Ratio = -13.06

Simulation Run = 1754
Weights = [0.151 0.083 0.133 0.159 0.126 0.069 0.071 0.056 0.152], Final Value =
\$1485696.12, Sharpe Ratio = -21.39

Simulation Run = 1755
Weights = [0.19 0.16 0.093 0.088 0.089 0.117 0.104 0.129 0.031], Final Value =
\$1587033.46, Sharpe Ratio = -18.17

Simulation Run = 1756
Weights = [0.116 0.103 0.086 0.061 0.148 0.118 0.149 0.123 0.095], Final Value =
\$1543509.64, Sharpe Ratio = -17.56

Simulation Run = 1757
Weights = [0.177 0.147 0.173 0.056 0.108 0.001 0.178 0.081 0.08], Final Value =
\$1461760.49, Sharpe Ratio = -16.86

Simulation Run = 1758
Weights = [0.176 0.069 0.253 0.196 0.152 0.047 0.067 0.025 0.014], Final Value =
\$1571602.66, Sharpe Ratio = -17.72

Simulation Run = 1759
Weights = [0.062 0.029 0.18 0.052 0.127 0.115 0.105 0.156 0.174], Final Value =
\$1441144.22, Sharpe Ratio = -18.60

Simulation Run = 1760
Weights = [0.229 0.244 0.009 0.073 0.06 0.079 0.035 0.128 0.144], Final Value =

\$1486270.70, Sharpe Ratio = -24.63

Simulation Run = 1761

Weights = [0.051 0.027 0.131 0.129 0.077 0.157 0.14 0.15 0.137], Final Value = \$1509862.76, Sharpe Ratio = -16.48

Simulation Run = 1762

Weights = [0.173 0.066 0.172 0.043 0.016 0.116 0.073 0.291 0.05], Final Value = \$1538011.13, Sharpe Ratio = -16.96

Simulation Run = 1763

Weights = [0.074 0.027 0.096 0.165 0.07 0.191 0.001 0.228 0.148], Final Value = \$1547130.00, Sharpe Ratio = -20.08

Simulation Run = 1764

Weights = [0.132 0.065 0.045 0.082 0.148 0.128 0.083 0.092 0.225], Final Value = \$1471394.85, Sharpe Ratio = -21.59

Simulation Run = 1765

Weights = [0.167 0.282 0.06 0.033 0.072 0.12 0.115 0.15 0.001], Final Value = \$1574826.76, Sharpe Ratio = -18.62

Simulation Run = 1766

Weights = [0.076 0.125 0.117 0.025 0.204 0.169 0.101 0.069 0.114], Final Value = \$1527293.24, Sharpe Ratio = -19.22

Simulation Run = 1767

Weights = [0.227 0.012 0.13 0.041 0.138 0.1 0.097 0.151 0.105], Final Value = \$1550792.09, Sharpe Ratio = -17.77

Simulation Run = 1768

Weights = [0.154 0.136 0.031 0.138 0.151 0.116 0.073 0.07 0.13], Final Value = \$1552730.14, Sharpe Ratio = -22.08

Simulation Run = 1769

Weights = [0.063 0.059 0.186 0.188 0.096 0.042 0.03 0.167 0.17], Final Value = \$1433292.65, Sharpe Ratio = -22.39

Simulation Run = 1770
Weights = [0.074 0.199 0.029 0.231 0.019 0.021 0.04 0.175 0.212], Final Value =
\$1406516.70, Sharpe Ratio = -27.61

Simulation Run = 1771
Weights = [0.064 0.092 0.079 0.221 0.118 0.204 0.034 0.102 0.086], Final Value =
\$1613829.41, Sharpe Ratio = -19.58

Simulation Run = 1772
Weights = [0.081 0.214 0.078 0.218 0.06 0. 0.062 0.143 0.143], Final Value =
\$1441553.98, Sharpe Ratio = -25.41

Simulation Run = 1773
Weights = [0.051 0.103 0.11 0.079 0.214 0.194 0.076 0.161 0.012], Final Value =
\$1648698.40, Sharpe Ratio = -18.22

Simulation Run = 1774
Weights = [0.062 0.036 0.085 0.14 0.199 0.049 0.192 0.045 0.192], Final Value =
\$1467557.69, Sharpe Ratio = -17.81

Simulation Run = 1775
Weights = [0.216 0.002 0.17 0.213 0.029 0.092 0.235 0.036 0.007], Final Value =
\$1617568.55, Sharpe Ratio = -12.44

Simulation Run = 1776
Weights = [0.26 0.029 0.205 0.042 0.012 0.154 0.072 0.06 0.166], Final Value =
\$1455821.31, Sharpe Ratio = -16.54

Simulation Run = 1777
Weights = [0.185 0.196 0.114 0.039 0.052 0.006 0.191 0.035 0.182], Final Value =
\$1366729.91, Sharpe Ratio = -17.62

Simulation Run = 1778
Weights = [0.027 0.105 0.237 0.077 0.129 0.187 0.159 0.036 0.044], Final Value =
\$1531358.57, Sharpe Ratio = -14.81

Simulation Run = 1779
Weights = [0.153 0.143 0.017 0.13 0.022 0.132 0.15 0.156 0.097], Final Value =
\$1554290.14, Sharpe Ratio = -16.94

Simulation Run = 1780
Weights = [0.185 0.071 0.189 0.039 0.053 0.014 0.135 0.102 0.212], Final Value =
\$1351505.65, Sharpe Ratio = -18.32

Simulation Run = 1781
Weights = [0.018 0.074 0.184 0.193 0.151 0.16 0.036 0.156 0.028], Final Value =
\$1604496.21, Sharpe Ratio = -18.67

Simulation Run = 1782
Weights = [0.011 0.005 0.108 0.194 0.078 0.13 0.192 0.21 0.073], Final Value =
\$1576923.32, Sharpe Ratio = -14.76

Simulation Run = 1783
Weights = [0.187 0.141 0.176 0.065 0.184 0.145 0.028 0.067 0.007], Final Value =
\$1611643.97, Sharpe Ratio = -19.37

Simulation Run = 1784
Weights = [0.21 0.146 0.213 0.054 0.087 0.101 0.052 0.004 0.132], Final Value =
\$1443019.10, Sharpe Ratio = -19.91

Simulation Run = 1785
Weights = [0.037 0.029 0.001 0.123 0.215 0.215 0.207 0.038 0.136], Final Value =
\$1610095.90, Sharpe Ratio = -14.99

Simulation Run = 1786
Weights = [0.138 0.182 0.163 0.087 0.033 0.042 0.085 0.128 0.143], Final Value =
\$1404285.92, Sharpe Ratio = -21.00

Simulation Run = 1787
Weights = [0.095 0.109 0.186 0.151 0.147 0.092 0.057 0.051 0.112], Final Value =
\$1494981.63, Sharpe Ratio = -20.92

Simulation Run = 1788
Weights = [0.117 0.092 0.192 0.017 0.118 0.18 0.006 0.107 0.171], Final Value =
\$1449956.48, Sharpe Ratio = -20.49

Simulation Run = 1789

Weights = [0.122 0.156 0.026 0.179 0.117 0.075 0.139 0.144 0.043], Final Value = \$1603136.04, Sharpe Ratio = -18.80

Simulation Run = 1790

Weights = [0.086 0.074 0.057 0.058 0.146 0.247 0.088 0.144 0.101], Final Value = \$1603808.21, Sharpe Ratio = -17.17

Simulation Run = 1791

Weights = [0.161 0.127 0. 0.101 0.225 0.013 0.107 0.202 0.064], Final Value = \$1599357.92, Sharpe Ratio = -21.99

Simulation Run = 1792

Weights = [0.095 0.045 0.132 0.091 0.239 0.072 0.051 0.181 0.095], Final Value = \$1555747.68, Sharpe Ratio = -21.99

Simulation Run = 1793

Weights = [0.142 0.04 0.018 0.177 0.077 0.165 0.13 0.136 0.115], Final Value = \$1601967.96, Sharpe Ratio = -16.86

Simulation Run = 1794

Weights = [0.068 0.092 0.101 0.068 0.131 0.21 0.133 0.03 0.167], Final Value = \$1498768.97, Sharpe Ratio = -17.15

Simulation Run = 1795

Weights = [0.217 0.124 0.069 0.174 0.149 0.006 0.001 0.126 0.132], Final Value = \$1520978.71, Sharpe Ratio = -26.25

Simulation Run = 1796

Weights = [0.064 0.181 0.091 0.087 0.152 0.107 0.124 0.109 0.086], Final Value = \$1522609.76, Sharpe Ratio = -19.82

Simulation Run = 1797

Weights = [0.026 0.059 0.113 0.155 0.163 0.077 0.13 0.108 0.168], Final Value = \$1474170.23, Sharpe Ratio = -19.80

Simulation Run = 1798

Weights = [0.001 0.243 0.203 0.106 0.023 0.135 0.201 0.039 0.049], Final Value = \$1456930.34, Sharpe Ratio = -14.90

Simulation Run = 1799
Weights = [0.091 0.141 0.091 0.149 0.159 0.114 0.004 0.117 0.135], Final Value =
\$1519980.86, Sharpe Ratio = -25.05

Simulation Run = 1800
Weights = [0.009 0.187 0.187 0.023 0.015 0.225 0.186 0.026 0.142], Final Value =
\$1412761.55, Sharpe Ratio = -14.51

Simulation Run = 1801
Weights = [0.126 0.119 0.096 0.121 0.116 0.101 0.098 0.097 0.126], Final Value =
\$1510001.06, Sharpe Ratio = -20.23

Simulation Run = 1802
Weights = [0.152 0.114 0.068 0.077 0.199 0.033 0.132 0.012 0.214], Final Value =
\$1432874.09, Sharpe Ratio = -21.63

Simulation Run = 1803
Weights = [0.144 0.209 0.016 0.196 0.082 0.126 0.054 0.15 0.023], Final Value =
\$1632988.77, Sharpe Ratio = -21.20

Simulation Run = 1804
Weights = [0.11 0.128 0.083 0.124 0.152 0.14 0.068 0.122 0.072], Final Value =
\$1584707.82, Sharpe Ratio = -20.45

Simulation Run = 1805
Weights = [0.182 0.076 0.087 0.029 0.22 0.013 0.204 0.003 0.187], Final Value =
\$1446699.56, Sharpe Ratio = -17.35

Simulation Run = 1806
Weights = [0.065 0.059 0.165 0.197 0.026 0.088 0.172 0.144 0.084], Final Value =
\$1510473.72, Sharpe Ratio = -15.45

Simulation Run = 1807
Weights = [0.084 0.222 0.027 0.05 0.126 0.233 0.205 0.02 0.033], Final Value =
\$1613165.21, Sharpe Ratio = -14.46

Simulation Run = 1808
Weights = [0.161 0.003 0.128 0.19 0.09 0.146 0.024 0.147 0.111], Final Value =

\$1578112.34, Sharpe Ratio = -19.12

Simulation Run = 1809

Weights = [0.049 0.147 0.057 0.162 0.189 0.014 0.173 0.124 0.087], Final Value = \$1530919.90, Sharpe Ratio = -19.22

Simulation Run = 1810

Weights = [0.069 0.093 0.065 0.113 0.144 0.154 0.053 0.142 0.167], Final Value = \$1513196.74, Sharpe Ratio = -22.08

Simulation Run = 1811

Weights = [0.122 0.121 0.092 0.013 0.01 0.236 0.151 0.216 0.039], Final Value = \$1587231.23, Sharpe Ratio = -14.16

Simulation Run = 1812

Weights = [0.102 0.025 0.088 0.11 0.175 0.042 0.158 0.15 0.149], Final Value = \$1502741.37, Sharpe Ratio = -18.45

Simulation Run = 1813

Weights = [0.145 0.172 0.059 0.011 0.156 0.113 0.087 0.191 0.066], Final Value = \$1560081.29, Sharpe Ratio = -20.49

Simulation Run = 1814

Weights = [0.191 0.059 0.126 0.166 0.011 0.113 0.126 0.193 0.016], Final Value = \$1610799.96, Sharpe Ratio = -15.51

Simulation Run = 1815

Weights = [0.007 0.111 0.215 0.1 0.103 0.087 0.007 0.198 0.173], Final Value = \$1395923.30, Sharpe Ratio = -23.06

Simulation Run = 1816

Weights = [0.011 0.115 0.204 0.032 0.072 0.138 0.112 0.157 0.159], Final Value = \$1402279.47, Sharpe Ratio = -18.06

Simulation Run = 1817

Weights = [0.146 0.069 0.099 0.107 0.059 0.163 0.186 0.03 0.14], Final Value = \$1513179.97, Sharpe Ratio = -15.03

Simulation Run = 1818
Weights = [0.234 0.004 0.113 0.099 0.007 0.24 0.035 0.136 0.132], Final Value =
\$1572606.44, Sharpe Ratio = -16.12

Simulation Run = 1819
Weights = [0.1 0.158 0.103 0.01 0.146 0.263 0.069 0.025 0.126], Final Value =
\$1536018.33, Sharpe Ratio = -18.00

Simulation Run = 1820
Weights = [0.194 0.14 0.156 0.04 0.11 0.214 0.041 0.063 0.041], Final Value =
\$1591580.59, Sharpe Ratio = -17.59

Simulation Run = 1821
Weights = [0.147 0.178 0.102 0.1 0.105 0.071 0.14 0.097 0.06], Final Value =
\$1532092.86, Sharpe Ratio = -18.47

Simulation Run = 1822
Weights = [0.007 0.254 0.193 0.105 0.065 0.054 0.219 0.095 0.008], Final Value =
\$1475268.85, Sharpe Ratio = -15.19

Simulation Run = 1823
Weights = [0.193 0.163 0.073 0.033 0.094 0.145 0.069 0.002 0.228], Final Value =
\$1421302.50, Sharpe Ratio = -21.55

Simulation Run = 1824
Weights = [0.006 0.111 0.216 0.102 0.083 0.094 0.095 0.052 0.241], Final Value =
\$1325394.05, Sharpe Ratio = -20.42

Simulation Run = 1825
Weights = [0.219 0.207 0.023 0.14 0.039 0.211 0.121 0.016 0.023], Final Value =
\$1645891.98, Sharpe Ratio = -16.11

Simulation Run = 1826
Weights = [0.245 0.025 0.032 0.287 0.082 0.106 0.081 0.075 0.067], Final Value =
\$1665169.68, Sharpe Ratio = -18.07

Simulation Run = 1827
Weights = [0.281 0.031 0.131 0.196 0.077 0.058 0.12 0.042 0.065], Final Value =
\$1588115.84, Sharpe Ratio = -16.67

Simulation Run = 1828
Weights = [0.054 0.088 0.104 0.205 0.047 0.181 0.221 0.087 0.014], Final Value =
\$1625107.39, Sharpe Ratio = -13.29

Simulation Run = 1829
Weights = [0.021 0.141 0.093 0.126 0.011 0.112 0.241 0.024 0.231], Final Value =
\$1363829.42, Sharpe Ratio = -15.13

Simulation Run = 1830
Weights = [0.123 0.181 0.07 0.176 0.042 0.056 0.133 0.066 0.153], Final Value =
\$1453500.48, Sharpe Ratio = -20.07

Simulation Run = 1831
Weights = [0.139 0.13 0.112 0.124 0.15 0.002 0.074 0.106 0.164], Final Value =
\$1443748.34, Sharpe Ratio = -24.04

Simulation Run = 1832
Weights = [0.097 0.176 0.049 0.065 0.213 0.117 0.12 0.159 0.005], Final Value =
\$1633886.37, Sharpe Ratio = -19.20

Simulation Run = 1833
Weights = [0.025 0.18 0.147 0.165 0.052 0.098 0.175 0.125 0.033], Final Value =
\$1525252.22, Sharpe Ratio = -16.15

Simulation Run = 1834
Weights = [0.18 0.174 0.058 0.11 0.002 0.194 0.07 0.177 0.034], Final Value =
\$1608788.38, Sharpe Ratio = -17.33

Simulation Run = 1835
Weights = [0.241 0.239 0.028 0.051 0.158 0.087 0.038 0.077 0.081], Final Value =
\$1558066.33, Sharpe Ratio = -23.94

Simulation Run = 1836
Weights = [0.204 0.041 0.028 0.183 0.137 0.095 0.131 0.003 0.177], Final Value =
\$1540373.81, Sharpe Ratio = -18.90

Simulation Run = 1837

Weights = [0.024 0.142 0.004 0.054 0.179 0.164 0.168 0.15 0.116], Final Value = \$1554829.27, Sharpe Ratio = -17.59

Simulation Run = 1838

Weights = [0.069 0.068 0.08 0.059 0.1 0.055 0.198 0.231 0.139], Final Value = \$1471772.22, Sharpe Ratio = -16.55

Simulation Run = 1839

Weights = [0.117 0.171 0.022 0.173 0.189 0.002 0.03 0.223 0.075], Final Value = \$1568645.70, Sharpe Ratio = -27.14

Simulation Run = 1840

Weights = [0.133 0.096 0.098 0.115 0.109 0.149 0.035 0.1 0.164], Final Value = \$1501764.18, Sharpe Ratio = -21.70

Simulation Run = 1841

Weights = [0.122 0.197 0.007 0.185 0.157 0.055 0.168 0.062 0.048], Final Value = \$1595618.99, Sharpe Ratio = -18.74

Simulation Run = 1842

Weights = [0.153 0.112 0.073 0.083 0.165 0.213 0.103 0.054 0.045], Final Value = \$1642149.40, Sharpe Ratio = -17.00

Simulation Run = 1843

Weights = [0.001 0.231 0.081 0.159 0.02 0.23 0.139 0.047 0.092], Final Value = \$1522918.16, Sharpe Ratio = -16.57

Simulation Run = 1844

Weights = [0.146 0.175 0.05 0.1 0.002 0.189 0.11 0.042 0.185], Final Value = \$1464163.34, Sharpe Ratio = -18.12

Simulation Run = 1845

Weights = [0.15 0.077 0.096 0.103 0.033 0.008 0.173 0.178 0.182], Final Value = \$1414403.88, Sharpe Ratio = -17.60

Simulation Run = 1846

Weights = [0.1 0.187 0.03 0.027 0.031 0.134 0.146 0.179 0.165], Final Value = \$1449957.15, Sharpe Ratio = -18.18

Simulation Run = 1847
Weights = [0.129 0.181 0.018 0.038 0.107 0.117 0.209 0.162 0.039], Final Value =
\$1583446.25, Sharpe Ratio = -15.41

Simulation Run = 1848
Weights = [0.147 0.184 0.026 0.11 0.15 0.082 0.175 0.053 0.074], Final Value =
\$1564153.98, Sharpe Ratio = -17.88

Simulation Run = 1849
Weights = [0.022 0.17 0.162 0.104 0.149 0.115 0.143 0.128 0.008], Final Value =
\$1562458.62, Sharpe Ratio = -17.25

Simulation Run = 1850
Weights = [0.007 0.098 0.135 0.081 0.102 0.162 0.152 0.096 0.167], Final Value =
\$1450669.72, Sharpe Ratio = -17.18

Simulation Run = 1851
Weights = [0.053 0.172 0.202 0.111 0.004 0.102 0.032 0.2 0.123], Final Value =
\$1417890.70, Sharpe Ratio = -20.83

Simulation Run = 1852
Weights = [0.044 0.174 0.071 0.029 0.14 0.158 0.169 0.163 0.054], Final Value =
\$1559229.92, Sharpe Ratio = -16.65

Simulation Run = 1853
Weights = [0.093 0.178 0.111 0.214 0.112 0.089 0.001 0.145 0.058], Final Value =
\$1563026.15, Sharpe Ratio = -23.66

Simulation Run = 1854
Weights = [0.046 0.255 0.164 0.035 0.094 0.007 0.131 0.182 0.086], Final Value =
\$1407197.16, Sharpe Ratio = -20.41

Simulation Run = 1855
Weights = [0.126 0.161 0.124 0.023 0.021 0.129 0.157 0.154 0.105], Final Value =
\$1468933.13, Sharpe Ratio = -16.33

Simulation Run = 1856
Weights = [0.153 0.012 0.142 0.045 0.185 0.171 0.042 0.165 0.084], Final Value =

\$1594109.85, Sharpe Ratio = -18.54

Simulation Run = 1857

Weights = [0.131 0.181 0.024 0.031 0.006 0.194 0.135 0.081 0.216], Final Value = \$1429601.99, Sharpe Ratio = -17.43

Simulation Run = 1858

Weights = [0.315 0.012 0.009 0.033 0.236 0.178 0.139 0.011 0.067], Final Value = \$1695176.40, Sharpe Ratio = -15.51

Simulation Run = 1859

Weights = [0.03 0.087 0.137 0.169 0.189 0.005 0.048 0.156 0.179], Final Value = \$1436419.67, Sharpe Ratio = -25.27

Simulation Run = 1860

Weights = [0.081 0.165 0.201 0.125 0.069 0.098 0.035 0.025 0.2], Final Value = \$1372221.23, Sharpe Ratio = -22.70

Simulation Run = 1861

Weights = [0.199 0.03 0.087 0.111 0.17 0.053 0.03 0.102 0.219], Final Value = \$1467810.66, Sharpe Ratio = -24.39

Simulation Run = 1862

Weights = [0.201 0.127 0.223 0.016 0.179 0.021 0.123 0.065 0.046], Final Value = \$1500528.88, Sharpe Ratio = -17.90

Simulation Run = 1863

Weights = [0.056 0.049 0.246 0.091 0.125 0.109 0.153 0.038 0.133], Final Value = \$1443177.36, Sharpe Ratio = -16.15

Simulation Run = 1864

Weights = [0.14 0.122 0.046 0.038 0.09 0.142 0.11 0.185 0.128], Final Value = \$1522457.74, Sharpe Ratio = -18.76

Simulation Run = 1865

Weights = [0.014 0.043 0.125 0.288 0.149 0.101 0.005 0.222 0.053], Final Value = \$1616439.72, Sharpe Ratio = -21.00

Simulation Run = 1866
Weights = [0.033 0.229 0.015 0.154 0.053 0.198 0.273 0.032 0.013], Final Value =
\$1612509.22, Sharpe Ratio = -12.90

Simulation Run = 1867
Weights = [0.084 0.073 0.126 0.17 0.169 0.018 0.048 0.154 0.157], Final Value =
\$1472695.92, Sharpe Ratio = -24.19

Simulation Run = 1868
Weights = [0.182 0.078 0.088 0.118 0.113 0.108 0.031 0.213 0.069], Final Value =
\$1592500.78, Sharpe Ratio = -20.66

Simulation Run = 1869
Weights = [0.147 0.14 0.077 0.082 0.026 0.191 0.062 0.103 0.173], Final Value =
\$1478975.26, Sharpe Ratio = -19.35

Simulation Run = 1870
Weights = [0.164 0.186 0.024 0.042 0.2 0.209 0.083 0.03 0.061], Final Value =
\$1628589.67, Sharpe Ratio = -18.94

Simulation Run = 1871
Weights = [0.003 0.15 0.194 0.181 0.199 0.145 0.06 0.056 0.011], Final Value =
\$1592213.40, Sharpe Ratio = -19.29

Simulation Run = 1872
Weights = [0.04 0.121 0.068 0.149 0.021 0.212 0.153 0.223 0.014], Final Value =
\$1628303.27, Sharpe Ratio = -14.85

Simulation Run = 1873
Weights = [0.218 0.141 0.112 0.019 0.008 0.077 0.01 0.23 0.184], Final Value =
\$1412646.10, Sharpe Ratio = -22.69

Simulation Run = 1874
Weights = [0.099 0.137 0.029 0.169 0.165 0.074 0.185 0.068 0.073], Final Value =
\$1581709.17, Sharpe Ratio = -17.52

Simulation Run = 1875
Weights = [0.145 0.039 0.125 0.024 0.128 0.18 0.097 0.066 0.196], Final Value =
\$1472695.17, Sharpe Ratio = -18.06

Simulation Run = 1876
Weights = [0.026 0.189 0.108 0.157 0.154 0.062 0.175 0.055 0.075], Final Value =
\$1511506.30, Sharpe Ratio = -18.21

Simulation Run = 1877
Weights = [0.101 0.054 0.006 0.137 0.206 0.119 0.17 0.181 0.026], Final Value =
\$1678758.83, Sharpe Ratio = -16.51

Simulation Run = 1878
Weights = [0.141 0.071 0.145 0.14 0.139 0.133 0.091 0.023 0.116], Final Value =
\$1535724.14, Sharpe Ratio = -18.75

Simulation Run = 1879
Weights = [0.126 0.047 0.141 0.157 0.035 0.106 0.174 0.092 0.124], Final Value =
\$1498550.74, Sharpe Ratio = -15.51

Simulation Run = 1880
Weights = [0.045 0.077 0.134 0.067 0.075 0.219 0.149 0.009 0.224], Final Value =
\$1423364.20, Sharpe Ratio = -16.25

Simulation Run = 1881
Weights = [0.275 0.1 0.048 0.121 0. 0.092 0.214 0.098 0.05], Final Value =
\$1589081.71, Sharpe Ratio = -13.91

Simulation Run = 1882
Weights = [0.015 0.054 0.007 0.184 0.019 0.117 0.246 0.293 0.066], Final Value =
\$1588860.54, Sharpe Ratio = -13.73

Simulation Run = 1883
Weights = [0.067 0.155 0.165 0.085 0.047 0.138 0.092 0.14 0.112], Final Value =
\$1463883.15, Sharpe Ratio = -18.75

Simulation Run = 1884
Weights = [0.005 0.081 0.128 0.198 0.038 0.043 0.212 0.117 0.178], Final Value =
\$1409920.59, Sharpe Ratio = -16.10

Simulation Run = 1885

Weights = [0.215 0.041 0.168 0.025 0.16 0.098 0.178 0.103 0.012], Final Value = \$1602176.39, Sharpe Ratio = -14.62

Simulation Run = 1886

Weights = [0.151 0.111 0.179 0.056 0.034 0.139 0.096 0.14 0.093], Final Value = \$1493197.37, Sharpe Ratio = -17.17

Simulation Run = 1887

Weights = [0.193 0.222 0.052 0.135 0.049 0.053 0.169 0.113 0.014], Final Value = \$1575837.34, Sharpe Ratio = -17.06

Simulation Run = 1888

Weights = [0.059 0.159 0.049 0.18 0.077 0.104 0.098 0.145 0.129], Final Value = \$1509547.72, Sharpe Ratio = -21.22

Simulation Run = 1889

Weights = [0.068 0.099 0.172 0.038 0.199 0.01 0.045 0.185 0.184], Final Value = \$1396553.46, Sharpe Ratio = -24.90

Simulation Run = 1890

Weights = [0.171 0.159 0.03 0.027 0.04 0.128 0.25 0.1 0.096], Final Value = \$1522759.00, Sharpe Ratio = -13.76

Simulation Run = 1891

Weights = [0.031 0.062 0.158 0.191 0.103 0.19 0.156 0.066 0.044], Final Value = \$1597475.07, Sharpe Ratio = -14.97

Simulation Run = 1892

Weights = [0.238 0.055 0.113 0.017 0.102 0.073 0.147 0.066 0.189], Final Value = \$1444652.41, Sharpe Ratio = -17.51

Simulation Run = 1893

Weights = [0.005 0.202 0.175 0.031 0.132 0.16 0.093 0.177 0.024], Final Value = \$1531951.40, Sharpe Ratio = -18.44

Simulation Run = 1894

Weights = [0.171 0.143 0.025 0.125 0.023 0.171 0.154 0.07 0.118], Final Value = \$1548053.16, Sharpe Ratio = -16.27

Simulation Run = 1895
Weights = [0.153 0.066 0.078 0.205 0.123 0.176 0.052 0.039 0.107], Final Value =
\$1602996.28, Sharpe Ratio = -19.36

Simulation Run = 1896
Weights = [0.151 0.133 0.178 0.05 0.186 0.137 0.022 0.071 0.072], Final Value =
\$1543802.12, Sharpe Ratio = -20.87

Simulation Run = 1897
Weights = [0.129 0.144 0.157 0.123 0.152 0.113 0.031 0.05 0.102], Final Value =
\$1516871.50, Sharpe Ratio = -22.10

Simulation Run = 1898
Weights = [0.165 0.111 0.146 0.11 0.076 0.149 0.049 0.026 0.169], Final Value =
\$1468084.44, Sharpe Ratio = -20.27

Simulation Run = 1899
Weights = [0.102 0.12 0.15 0.153 0.19 0.14 0.065 0.005 0.074], Final Value =
\$1569730.58, Sharpe Ratio = -20.09

Simulation Run = 1900
Weights = [0.015 0.027 0.105 0.103 0.236 0.066 0.081 0.231 0.135], Final Value =
\$1521483.65, Sharpe Ratio = -22.08

Simulation Run = 1901
Weights = [0.209 0.177 0.091 0.006 0.046 0.165 0.064 0.025 0.217], Final Value =
\$1413318.91, Sharpe Ratio = -20.24

Simulation Run = 1902
Weights = [0.075 0.2 0.101 0.162 0.075 0.2 0.065 0.068 0.055], Final Value =
\$1576752.45, Sharpe Ratio = -18.98

Simulation Run = 1903
Weights = [0.182 0.051 0.189 0.025 0.043 0.228 0.247 0.032 0.004], Final Value =
\$1605010.07, Sharpe Ratio = -11.39

Simulation Run = 1904
Weights = [0.019 0.161 0.217 0.002 0.209 0.022 0.07 0.189 0.112], Final Value =

\$1414654.16, Sharpe Ratio = -22.57

Simulation Run = 1905

Weights = [0.179 0.088 0.105 0.037 0.128 0.03 0.254 0.12 0.058], Final Value = \$1533775.27, Sharpe Ratio = -14.02

Simulation Run = 1906

Weights = [0.18 0.107 0.022 0.186 0.018 0.165 0.087 0.076 0.16], Final Value = \$1537436.94, Sharpe Ratio = -18.77

Simulation Run = 1907

Weights = [0.001 0.122 0.032 0.102 0.186 0.224 0.066 0.182 0.086], Final Value = \$1612141.34, Sharpe Ratio = -19.66

Simulation Run = 1908

Weights = [0.012 0.12 0.123 0.101 0.162 0.011 0.17 0.145 0.156], Final Value = \$1423257.49, Sharpe Ratio = -19.22

Simulation Run = 1909

Weights = [0.088 0.12 0.131 0.21 0.089 0.117 0.111 0.001 0.133], Final Value = \$1498031.41, Sharpe Ratio = -19.03

Simulation Run = 1910

Weights = [0.162 0.17 0.149 0.044 0.163 0.085 0.058 0.098 0.072], Final Value = \$1520103.16, Sharpe Ratio = -21.48

Simulation Run = 1911

Weights = [0.162 0.026 0.167 0.086 0.114 0.178 0.105 0.112 0.049], Final Value = \$1600200.75, Sharpe Ratio = -15.78

Simulation Run = 1912

Weights = [0.004 0.193 0.086 0.133 0.197 0.157 0.105 0.046 0.078], Final Value = \$1557396.33, Sharpe Ratio = -20.31

Simulation Run = 1913

Weights = [0.083 0.089 0.139 0.008 0.155 0.17 0.003 0.193 0.16], Final Value = \$1481555.93, Sharpe Ratio = -21.97

Simulation Run = 1914
Weights = [0.149 0.072 0.058 0.113 0.153 0.158 0.101 0.129 0.068], Final Value =
\$1622809.41, Sharpe Ratio = -18.06

Simulation Run = 1915
Weights = [0.107 0.133 0.227 0.03 0.03 0.077 0.013 0.223 0.16], Final Value =
\$1376902.88, Sharpe Ratio = -21.49

Simulation Run = 1916
Weights = [0.233 0.033 0.078 0.046 0.128 0.104 0.096 0.117 0.165], Final Value =
\$1514095.96, Sharpe Ratio = -18.99

Simulation Run = 1917
Weights = [0.057 0.163 0.168 0.177 0.048 0.18 0.15 0.048 0.009], Final Value =
\$1579497.67, Sharpe Ratio = -15.24

Simulation Run = 1918
Weights = [0.121 0.157 0.191 0.159 0.029 0.008 0.019 0.149 0.166], Final Value =
\$1381793.12, Sharpe Ratio = -23.53

Simulation Run = 1919
Weights = [0.079 0.13 0.155 0.094 0.025 0.167 0.162 0.107 0.082], Final Value =
\$1506243.55, Sharpe Ratio = -15.32

Simulation Run = 1920
Weights = [0.225 0.248 0.103 0.017 0.009 0.148 0.108 0.069 0.073], Final Value =
\$1502797.40, Sharpe Ratio = -17.58

Simulation Run = 1921
Weights = [0.092 0.092 0.188 0.054 0.186 0.098 0.042 0.132 0.116], Final Value =
\$1488857.45, Sharpe Ratio = -21.49

Simulation Run = 1922
Weights = [0.211 0.132 0.181 0.004 0.072 0.147 0.017 0.073 0.163], Final Value =
\$1439339.33, Sharpe Ratio = -20.37

Simulation Run = 1923
Weights = [0.114 0.096 0.055 0.161 0.193 0.083 0.089 0.157 0.051], Final Value =
\$1620077.81, Sharpe Ratio = -20.68

Simulation Run = 1924

Weights = [0.223 0.021 0.194 0.021 0.268 0.06 0.003 0.032 0.178], Final Value = \$1473402.77, Sharpe Ratio = -22.79

Simulation Run = 1925

Weights = [0.011 0.219 0.041 0.071 0.127 0.183 0.212 0.015 0.122], Final Value = \$1502810.30, Sharpe Ratio = -15.84

Simulation Run = 1926

Weights = [0.1 0.053 0.101 0.068 0.174 0.123 0.135 0.23 0.016], Final Value = \$1630658.28, Sharpe Ratio = -16.75

Simulation Run = 1927

Weights = [0.198 0.175 0.011 0.122 0.144 0.025 0.201 0.111 0.013], Final Value = \$1614621.77, Sharpe Ratio = -16.58

Simulation Run = 1928

Weights = [0.196 0.105 0.189 0.009 0.063 0.126 0.176 0.111 0.025], Final Value = \$1543920.74, Sharpe Ratio = -14.31

Simulation Run = 1929

Weights = [0.272 0.03 0.045 0.015 0.051 0.372 0.048 0.098 0.068], Final Value = \$1696766.17, Sharpe Ratio = -13.46

Simulation Run = 1930

Weights = [0.163 0.053 0.215 0.07 0.162 0.177 0.082 0.013 0.066], Final Value = \$1566190.69, Sharpe Ratio = -16.74

Simulation Run = 1931

Weights = [0.19 0.132 0.152 0.221 0.137 0.092 0.016 0.015 0.044], Final Value = \$1593477.58, Sharpe Ratio = -21.06

Simulation Run = 1932

Weights = [0.096 0.039 0.126 0.169 0.113 0.082 0.172 0.046 0.157], Final Value = \$1484105.79, Sharpe Ratio = -16.91

Simulation Run = 1933

Weights = [0.033 0.078 0.143 0.051 0.138 0.195 0.088 0.143 0.131], Final Value = \$1507745.87, Sharpe Ratio = -18.28

Simulation Run = 1934

Weights = [0.046 0.064 0.182 0.176 0.134 0.012 0.192 0.018 0.177], Final Value = \$1406726.04, Sharpe Ratio = -17.03

Simulation Run = 1935

Weights = [0.194 0.021 0.036 0.175 0.187 0.064 0.011 0.172 0.141], Final Value = \$1582892.36, Sharpe Ratio = -23.98

Simulation Run = 1936

Weights = [0.107 0.078 0.18 0.06 0.22 0.159 0.085 0.038 0.073], Final Value = \$1563434.60, Sharpe Ratio = -18.34

Simulation Run = 1937

Weights = [0.066 0.103 0.037 0.082 0.053 0.117 0.282 0.229 0.029], Final Value = \$1587419.06, Sharpe Ratio = -12.73

Simulation Run = 1938

Weights = [0.116 0.009 0.189 0.197 0.054 0.095 0.018 0.116 0.205], Final Value = \$1435053.57, Sharpe Ratio = -20.78

Simulation Run = 1939

Weights = [0.185 0.041 0.174 0.089 0.115 0.059 0.142 0.049 0.146], Final Value = \$1465662.66, Sharpe Ratio = -17.33

Simulation Run = 1940

Weights = [0.155 0.148 0.142 0.188 0.146 0.003 0.126 0.008 0.085], Final Value = \$1506817.58, Sharpe Ratio = -19.76

Simulation Run = 1941

Weights = [0.078 0.219 0.076 0.105 0.165 0.075 0.065 0.167 0.05], Final Value = \$1552261.65, Sharpe Ratio = -23.52

Simulation Run = 1942

Weights = [0.091 0.051 0.167 0.139 0.172 0.086 0.119 0.048 0.128], Final Value = \$1501906.12, Sharpe Ratio = -18.68

Simulation Run = 1943
Weights = [0.154 0.042 0.143 0.185 0.16 0.016 0.1 0.181 0.02], Final Value =
\$1604837.03, Sharpe Ratio = -18.52

Simulation Run = 1944
Weights = [0.149 0.029 0.128 0.198 0.148 0.086 0.061 0.172 0.03], Final Value =
\$1633156.67, Sharpe Ratio = -18.90

Simulation Run = 1945
Weights = [0.146 0.137 0.088 0.117 0.051 0.144 0.064 0.126 0.127], Final Value =
\$1512906.70, Sharpe Ratio = -20.07

Simulation Run = 1946
Weights = [0.243 0.063 0.176 0.261 0.001 0.085 0.017 0.136 0.019], Final Value =
\$1607757.08, Sharpe Ratio = -17.65

Simulation Run = 1947
Weights = [0.058 0.173 0.198 0.12 0.093 0.016 0.185 0.101 0.057], Final Value =
\$1459774.67, Sharpe Ratio = -16.57

Simulation Run = 1948
Weights = [0.137 0.044 0.193 0.071 0.044 0.143 0.132 0.175 0.061], Final Value =
\$1536532.48, Sharpe Ratio = -15.21

Simulation Run = 1949
Weights = [0.053 0.126 0.063 0.044 0.137 0.141 0.169 0.238 0.029], Final Value =
\$1596470.06, Sharpe Ratio = -16.29

Simulation Run = 1950
Weights = [0.177 0.006 0.197 0.05 0.059 0.071 0.084 0.096 0.259], Final Value =
\$1351787.33, Sharpe Ratio = -19.30

Simulation Run = 1951
Weights = [0.083 0.228 0.163 0.028 0.035 0.213 0.086 0.083 0.08], Final Value =
\$1487005.21, Sharpe Ratio = -17.48

Simulation Run = 1952
Weights = [0.147 0.199 0.055 0.046 0.069 0.097 0.111 0.15 0.128], Final Value =

\$1478353.59, Sharpe Ratio = -20.21

Simulation Run = 1953

Weights = [0.11 0. 0.173 0.118 0.206 0.197 0.002 0.114 0.081], Final Value = \$1611251.71, Sharpe Ratio = -18.81

Simulation Run = 1954

Weights = [0.118 0.099 0.128 0.025 0.038 0.166 0.101 0.193 0.132], Final Value = \$1481870.35, Sharpe Ratio = -17.43

Simulation Run = 1955

Weights = [0.04 0.16 0.162 0.075 0.08 0.173 0.149 0.084 0.078], Final Value = \$1503630.36, Sharpe Ratio = -16.27

Simulation Run = 1956

Weights = [0.126 0.339 0.135 0.066 0.085 0.03 0.026 0.052 0.141], Final Value = \$1378238.73, Sharpe Ratio = -27.66

Simulation Run = 1957

Weights = [0.059 0.096 0.131 0.003 0.012 0.028 0.105 0.267 0.298], Final Value = \$1263758.03, Sharpe Ratio = -21.57

Simulation Run = 1958

Weights = [0.245 0.078 0.196 0.121 0.005 0.198 0.061 0.045 0.052], Final Value = \$1575696.36, Sharpe Ratio = -15.61

Simulation Run = 1959

Weights = [0.227 0.094 0. 0.087 0.028 0.035 0.214 0.255 0.06], Final Value = \$1574370.58, Sharpe Ratio = -14.95

Simulation Run = 1960

Weights = [0.121 0.153 0.035 0.153 0.139 0.134 0.082 0.054 0.13], Final Value = \$1547258.28, Sharpe Ratio = -21.57

Simulation Run = 1961

Weights = [0.098 0.111 0.164 0.033 0.038 0.181 0.154 0.003 0.217], Final Value = \$1385728.57, Sharpe Ratio = -16.21

Simulation Run = 1962
Weights = [0.152 0.115 0.135 0.041 0.132 0.043 0.132 0.17 0.08], Final Value =
\$1504553.04, Sharpe Ratio = -18.55

Simulation Run = 1963
Weights = [0.016 0.2 0.206 0.047 0.057 0.075 0.226 0.159 0.013], Final Value =
\$1476269.34, Sharpe Ratio = -14.33

Simulation Run = 1964
Weights = [0.034 0.06 0.083 0.186 0.094 0.138 0.147 0.108 0.151], Final Value =
\$1513988.66, Sharpe Ratio = -17.58

Simulation Run = 1965
Weights = [0.184 0.074 0.033 0.185 0.006 0.156 0.226 0.129 0.007], Final Value =
\$1663218.53, Sharpe Ratio = -12.99

Simulation Run = 1966
Weights = [0.24 0.202 0.001 0.078 0.296 0.072 0.083 0.004 0.025], Final Value =
\$1659360.99, Sharpe Ratio = -22.02

Simulation Run = 1967
Weights = [0.091 0.13 0.185 0.186 0.088 0.119 0.095 0.005 0.102], Final Value =
\$1497421.08, Sharpe Ratio = -18.62

Simulation Run = 1968
Weights = [0.167 0.103 0.173 0.119 0.122 0.052 0.042 0.163 0.06], Final Value =
\$1535105.99, Sharpe Ratio = -20.69

Simulation Run = 1969
Weights = [0.131 0.134 0.097 0.197 0.156 0.077 0.162 0.001 0.047], Final Value =
\$1588238.61, Sharpe Ratio = -17.45

Simulation Run = 1970
Weights = [0.143 0.028 0.093 0.152 0.193 0.15 0.04 0.155 0.047], Final Value =
\$1657009.09, Sharpe Ratio = -19.41

Simulation Run = 1971
Weights = [0.21 0.193 0.194 0.005 0.066 0.073 0.063 0.087 0.11], Final Value =
\$1431819.09, Sharpe Ratio = -20.24

Simulation Run = 1972

Weights = [0.145 0.202 0.109 0.033 0.025 0.085 0.168 0.214 0.018], Final Value = \$1530827.31, Sharpe Ratio = -16.12

Simulation Run = 1973

Weights = [0.15 0.18 0.142 0.059 0.006 0.197 0.052 0.079 0.135], Final Value = \$1468264.34, Sharpe Ratio = -18.63

Simulation Run = 1974

Weights = [0.213 0.046 0.033 0.015 0.146 0.067 0.195 0.126 0.158], Final Value = \$1510205.05, Sharpe Ratio = -16.24

Simulation Run = 1975

Weights = [0.161 0.096 0.149 0.009 0.139 0.177 0.145 0.025 0.099], Final Value = \$1529305.94, Sharpe Ratio = -15.98

Simulation Run = 1976

Weights = [0.16 0.051 0.019 0.124 0.126 0.056 0.096 0.195 0.174], Final Value = \$1512857.43, Sharpe Ratio = -21.50

Simulation Run = 1977

Weights = [0.045 0.098 0.151 0.09 0.127 0.179 0.203 0.053 0.054], Final Value = \$1560462.25, Sharpe Ratio = -14.32

Simulation Run = 1978

Weights = [0.235 0.2 0.005 0.067 0.074 0.014 0.059 0.206 0.141], Final Value = \$1481222.37, Sharpe Ratio = -24.43

Simulation Run = 1979

Weights = [0.066 0.192 0.075 0.009 0.25 0.016 0.168 0.046 0.178], Final Value = \$1415142.93, Sharpe Ratio = -20.80

Simulation Run = 1980

Weights = [0.182 0.071 0.02 0.181 0.177 0.057 0.13 0.023 0.16], Final Value = \$1543483.65, Sharpe Ratio = -20.25

Simulation Run = 1981

Weights = [0.016 0.189 0.153 0.241 0.261 0.036 0.036 0.067 0.002], Final Value = \$1597873.73, Sharpe Ratio = -22.98

Simulation Run = 1982

Weights = [0.11 0.133 0.165 0.165 0.206 0.035 0.083 0.066 0.038], Final Value = \$1560491.02, Sharpe Ratio = -20.67

Simulation Run = 1983

Weights = [0.127 0.153 0.043 0.071 0.068 0.026 0.108 0.179 0.225], Final Value = \$1386875.27, Sharpe Ratio = -22.88

Simulation Run = 1984

Weights = [0.027 0.059 0.111 0.252 0.139 0.061 0.048 0.075 0.228], Final Value = \$1435727.17, Sharpe Ratio = -24.46

Simulation Run = 1985

Weights = [0.177 0.024 0.256 0.082 0.014 0.117 0.081 0.237 0.011], Final Value = \$1556745.79, Sharpe Ratio = -15.15

Simulation Run = 1986

Weights = [0.172 0.062 0.063 0.104 0.161 0.17 0.032 0.188 0.048], Final Value = \$1655017.92, Sharpe Ratio = -19.40

Simulation Run = 1987

Weights = [0.025 0.156 0.071 0.216 0.055 0.121 0.039 0.124 0.193], Final Value = \$1451345.63, Sharpe Ratio = -24.09

Simulation Run = 1988

Weights = [0.047 0.044 0.118 0.287 0.252 0.081 0.035 0.092 0.044], Final Value = \$1645965.98, Sharpe Ratio = -21.29

Simulation Run = 1989

Weights = [0.218 0.08 0.047 0.173 0.184 0.036 0.103 0.022 0.137], Final Value = \$1549647.02, Sharpe Ratio = -21.26

Simulation Run = 1990

Weights = [0.15 0.183 0.152 0.043 0.136 0.026 0.122 0.107 0.081], Final Value = \$1472086.65, Sharpe Ratio = -19.84

Simulation Run = 1991
Weights = [0.113 0.185 0.129 0.134 0.048 0.152 0.019 0.179 0.041], Final Value =
\$1562565.61, Sharpe Ratio = -20.26

Simulation Run = 1992
Weights = [0.07 0.137 0.097 0.147 0.023 0.048 0.169 0.274 0.035], Final Value =
\$1537285.92, Sharpe Ratio = -16.61

Simulation Run = 1993
Weights = [0.103 0.091 0.185 0.094 0.17 0.069 0.123 0.004 0.162], Final Value =
\$1438213.99, Sharpe Ratio = -19.35

Simulation Run = 1994
Weights = [0.143 0.128 0.143 0.049 0.017 0.103 0.163 0.149 0.106], Final Value =
\$1466451.25, Sharpe Ratio = -16.07

Simulation Run = 1995
Weights = [0.181 0.094 0.007 0.031 0.179 0.188 0.08 0.054 0.184], Final Value =
\$1541580.96, Sharpe Ratio = -19.77

Simulation Run = 1996
Weights = [0.098 0.029 0.038 0.215 0.093 0.028 0.032 0.374 0.092], Final Value =
\$1581110.80, Sharpe Ratio = -22.69

Simulation Run = 1997
Weights = [0.102 0.139 0.186 0.076 0.014 0.088 0.171 0.169 0.054], Final Value =
\$1484133.13, Sharpe Ratio = -15.43

Simulation Run = 1998
Weights = [0.065 0.103 0.254 0.091 0.113 0.068 0.018 0.093 0.196], Final Value =
\$1362501.32, Sharpe Ratio = -22.31

Simulation Run = 1999
Weights = [0.23 0.04 0.163 0.022 0.106 0.071 0.165 0.057 0.145], Final Value =
\$1466308.46, Sharpe Ratio = -16.08

Simulation Run = 2000
Weights = [0.007 0.04 0.223 0.011 0.185 0.019 0.123 0.245 0.147], Final Value =

\$1404872.76, Sharpe Ratio = -19.08

Simulation Run = 2001

Weights = [0.03 0.167 0.12 0.081 0.081 0.171 0.1 0.118 0.132], Final Value = \$1474785.99, Sharpe Ratio = -19.09

Simulation Run = 2002

Weights = [0.223 0.106 0.217 0.069 0.061 0.135 0.173 0.006 0.009], Final Value = \$1564964.49, Sharpe Ratio = -13.95

Simulation Run = 2003

Weights = [0.16 0.053 0.075 0.048 0.07 0.192 0.168 0.164 0.071], Final Value = \$1595201.58, Sharpe Ratio = -14.51

Simulation Run = 2004

Weights = [0.148 0.169 0.037 0.041 0.016 0.147 0.077 0.092 0.274], Final Value = \$1370549.65, Sharpe Ratio = -21.38

Simulation Run = 2005

Weights = [0.22 0.017 0.193 0.238 0.052 0.008 0.108 0.143 0.022], Final Value = \$1580584.91, Sharpe Ratio = -16.32

Simulation Run = 2006

Weights = [0.153 0.127 0.11 0.127 0.1 0.031 0.185 0.113 0.054], Final Value = \$1536946.51, Sharpe Ratio = -16.51

Simulation Run = 2007

Weights = [0.13 0.018 0.209 0.016 0.079 0.075 0.15 0.166 0.157], Final Value = \$1421241.87, Sharpe Ratio = -16.29

Simulation Run = 2008

Weights = [0.108 0.083 0.058 0.258 0.007 0.275 0.051 0.068 0.092], Final Value = \$1632111.34, Sharpe Ratio = -16.42

Simulation Run = 2009

Weights = [0.153 0.094 0.082 0.098 0.251 0.088 0.175 0.008 0.05], Final Value = \$1612052.34, Sharpe Ratio = -17.00

Simulation Run = 2010

Weights = [0.094 0.063 0.028 0.192 0.02 0.073 0.276 0.112 0.143], Final Value = \$1504210.99, Sharpe Ratio = -13.59

Simulation Run = 2011

Weights = [0.157 0.167 0.005 0.015 0.164 0.119 0.038 0.152 0.183], Final Value = \$1491121.26, Sharpe Ratio = -24.62

Simulation Run = 2012

Weights = [0.012 0.107 0.006 0.078 0.119 0.225 0.155 0.215 0.083], Final Value = \$1605069.23, Sharpe Ratio = -15.99

Simulation Run = 2013

Weights = [0.06 0.148 0.204 0.154 0.038 0.128 0.068 0.015 0.186], Final Value = \$1391798.46, Sharpe Ratio = -20.04

Simulation Run = 2014

Weights = [0.079 0.018 0.152 0.13 0.143 0.155 0.139 0.105 0.079], Final Value = \$1575142.97, Sharpe Ratio = -16.06

Simulation Run = 2015

Weights = [0.223 0.012 0.201 0.047 0.109 0.128 0.005 0.035 0.24], Final Value = \$1410029.24, Sharpe Ratio = -20.72

Simulation Run = 2016

Weights = [0.077 0.208 0.102 0.052 0.092 0.173 0.12 0.132 0.042], Final Value = \$1553686.05, Sharpe Ratio = -17.62

Simulation Run = 2017

Weights = [0.059 0.144 0.054 0.134 0.056 0.089 0.187 0.046 0.232], Final Value = \$1393466.56, Sharpe Ratio = -17.98

Simulation Run = 2018

Weights = [0.04 0.2 0.196 0.115 0.12 0.04 0.122 0.071 0.097], Final Value = \$1432377.12, Sharpe Ratio = -19.85

Simulation Run = 2019

Weights = [0.058 0.032 0.161 0.181 0.138 0.143 0.011 0.088 0.189], Final Value = \$1479225.82, Sharpe Ratio = -21.84

Simulation Run = 2020

Weights = [0.165 0.168 0.101 0.057 0.098 0.128 0.114 0.146 0.023], Final Value = \$1583729.01, Sharpe Ratio = -17.70

Simulation Run = 2021

Weights = [0.088 0.116 0.093 0.03 0.043 0.101 0.15 0.186 0.192], Final Value = \$1408839.40, Sharpe Ratio = -18.06

Simulation Run = 2022

Weights = [0.052 0.074 0.176 0.046 0.098 0.145 0.161 0.151 0.098], Final Value = \$1494226.93, Sharpe Ratio = -15.76

Simulation Run = 2023

Weights = [0.136 0.062 0.141 0.189 0.031 0.223 0.166 0.008 0.045], Final Value = \$1613390.35, Sharpe Ratio = -13.72

Simulation Run = 2024

Weights = [0.074 0.081 0.132 0.165 0.14 0.163 0.017 0.116 0.11], Final Value = \$1555295.38, Sharpe Ratio = -20.95

Simulation Run = 2025

Weights = [0.142 0.189 0.115 0.158 0.19 0.029 0.154 0.019 0.006], Final Value = \$1586157.56, Sharpe Ratio = -18.41

Simulation Run = 2026

Weights = [0.042 0.063 0.051 0.264 0.077 0.186 0.04 0.221 0.055], Final Value = \$1650772.76, Sharpe Ratio = -18.84

Simulation Run = 2027

Weights = [0.055 0.156 0.085 0.085 0.141 0.033 0.181 0.071 0.193], Final Value = \$1401438.85, Sharpe Ratio = -19.22

Simulation Run = 2028

Weights = [0.068 0.006 0.037 0.203 0.127 0.18 0.192 0.046 0.141], Final Value = \$1585289.89, Sharpe Ratio = -15.23

Simulation Run = 2029

Weights = [0.022 0.122 0.142 0.158 0.07 0.152 0.002 0.161 0.171], Final Value = \$1455210.60, Sharpe Ratio = -22.63

Simulation Run = 2030

Weights = [0.153 0.093 0.085 0.105 0.18 0.073 0.012 0.164 0.135], Final Value = \$1527753.59, Sharpe Ratio = -24.78

Simulation Run = 2031

Weights = [0.054 0.089 0.03 0.008 0.121 0.085 0.317 0.188 0.109], Final Value = \$1507435.13, Sharpe Ratio = -12.70

Simulation Run = 2032

Weights = [0.091 0.128 0.12 0.098 0.058 0.154 0.14 0.04 0.172], Final Value = \$1448347.36, Sharpe Ratio = -17.55

Simulation Run = 2033

Weights = [0.175 0.164 0.034 0.044 0.209 0.1 0.121 0.02 0.132], Final Value = \$1529714.85, Sharpe Ratio = -20.56

Simulation Run = 2034

Weights = [0.07 0.18 0.016 0.111 0.1 0.1 0.018 0.172 0.233], Final Value = \$1422813.30, Sharpe Ratio = -28.19

Simulation Run = 2035

Weights = [0.162 0.044 0.003 0.197 0.159 0.113 0.015 0.138 0.168], Final Value = \$1575727.78, Sharpe Ratio = -23.88

Simulation Run = 2036

Weights = [0.025 0.211 0.05 0.144 0.188 0.111 0.025 0.157 0.088], Final Value = \$1551926.33, Sharpe Ratio = -26.03

Simulation Run = 2037

Weights = [0.195 0.026 0.131 0.063 0.047 0.163 0.19 0.072 0.112], Final Value = \$1532678.43, Sharpe Ratio = -13.97

Simulation Run = 2038

Weights = [0.172 0.021 0.137 0.038 0.152 0.101 0.177 0.128 0.074], Final Value = \$1561313.78, Sharpe Ratio = -15.32

Simulation Run = 2039
Weights = [0.118 0.152 0.097 0.084 0.104 0.116 0.153 0.082 0.095], Final Value =
\$1517504.11, Sharpe Ratio = -17.55

Simulation Run = 2040
Weights = [0.106 0.067 0.14 0.157 0.129 0.139 0.148 0.053 0.06], Final Value =
\$1582088.31, Sharpe Ratio = -16.20

Simulation Run = 2041
Weights = [0.13 0.183 0.125 0.112 0.197 0.192 0.003 0.034 0.025], Final Value =
\$1626712.04, Sharpe Ratio = -20.84

Simulation Run = 2042
Weights = [0.029 0.039 0.193 0.177 0.06 0.084 0.115 0.166 0.138], Final Value =
\$1457201.61, Sharpe Ratio = -17.79

Simulation Run = 2043
Weights = [0.101 0.08 0.117 0.214 0.189 0.004 0.084 0.069 0.142], Final Value =
\$1496146.82, Sharpe Ratio = -22.66

Simulation Run = 2044
Weights = [0.1 0.101 0.13 0.039 0.04 0.116 0.157 0.178 0.139], Final Value =
\$1452451.24, Sharpe Ratio = -16.58

Simulation Run = 2045
Weights = [0.255 0.008 0.012 0.004 0.159 0.126 0.1 0.294 0.044], Final Value =
\$1668947.50, Sharpe Ratio = -16.94

Simulation Run = 2046
Weights = [0.147 0.08 0.183 0.114 0.066 0.015 0.108 0.204 0.083], Final Value =
\$1481486.93, Sharpe Ratio = -18.36

Simulation Run = 2047
Weights = [0.213 0.11 0.051 0.216 0.023 0.181 0.098 0.016 0.092], Final Value =
\$1601712.28, Sharpe Ratio = -17.07

Simulation Run = 2048
Weights = [0.144 0.189 0.047 0.101 0.014 0.041 0.225 0.161 0.079], Final Value =

\$1497986.99, Sharpe Ratio = -15.44

Simulation Run = 2049

Weights = [0.011 0.042 0.141 0.08 0.19 0.181 0.109 0.089 0.156], Final Value = \$1504670.19, Sharpe Ratio = -18.31

Simulation Run = 2050

Weights = [0.128 0.149 0.188 0.019 0.012 0.094 0.174 0.229 0.008], Final Value = \$1515776.71, Sharpe Ratio = -14.78

Simulation Run = 2051

Weights = [0.092 0.303 0.09 0.235 0.097 0. 0.144 0.014 0.025], Final Value = \$1523164.05, Sharpe Ratio = -20.21

Simulation Run = 2052

Weights = [0.039 0.206 0.169 0.134 0.21 0.057 0.055 0.049 0.08], Final Value = \$1493165.25, Sharpe Ratio = -23.63

Simulation Run = 2053

Weights = [0.199 0.062 0.206 0.194 0.082 0.09 0.046 0.038 0.084], Final Value = \$1535269.56, Sharpe Ratio = -18.63

Simulation Run = 2054

Weights = [0.031 0.128 0.067 0.083 0.136 0.245 0.038 0.088 0.185], Final Value = \$1504908.72, Sharpe Ratio = -20.50

Simulation Run = 2055

Weights = [0.048 0.149 0.147 0.136 0.15 0.025 0.154 0.1 0.09], Final Value = \$1479431.52, Sharpe Ratio = -18.85

Simulation Run = 2056

Weights = [0.064 0.167 0.166 0.124 0.094 0.11 0.068 0.153 0.053], Final Value = \$1522732.41, Sharpe Ratio = -19.92

Simulation Run = 2057

Weights = [0.05 0.028 0.238 0.03 0.016 0.201 0.176 0.054 0.207], Final Value = \$1379169.38, Sharpe Ratio = -14.16

Simulation Run = 2058
Weights = [0.162 0.182 0.075 0.107 0.17 0.027 0.044 0.104 0.13], Final Value =
\$1490098.49, Sharpe Ratio = -26.09

Simulation Run = 2059
Weights = [0.229 0.186 0.029 0.125 0.044 0.17 0.036 0.137 0.043], Final Value =
\$1623527.09, Sharpe Ratio = -19.41

Simulation Run = 2060
Weights = [0.233 0.092 0.066 0.015 0.051 0.022 0.163 0.181 0.179], Final Value =
\$1431565.74, Sharpe Ratio = -17.60

Simulation Run = 2061
Weights = [0.022 0.119 0.048 0.187 0.055 0.213 0.143 0.182 0.031], Final Value =
\$1635227.77, Sharpe Ratio = -15.66

Simulation Run = 2062
Weights = [0.013 0.147 0.114 0.041 0.136 0.103 0.149 0.139 0.157], Final Value =
\$1434647.18, Sharpe Ratio = -19.05

Simulation Run = 2063
Weights = [0.14 0.107 0.155 0.125 0.034 0.103 0.127 0.135 0.074], Final Value =
\$1517211.68, Sharpe Ratio = -16.85

Simulation Run = 2064
Weights = [0.13 0.131 0.201 0.088 0.085 0.158 0.021 0.06 0.126], Final Value =
\$1474948.82, Sharpe Ratio = -20.05

Simulation Run = 2065
Weights = [0.17 0.02 0.159 0.119 0.113 0.052 0.071 0.186 0.111], Final Value =
\$1516207.67, Sharpe Ratio = -19.49

Simulation Run = 2066
Weights = [0.047 0.018 0.221 0.206 0.027 0.022 0.227 0.169 0.063], Final Value =
\$1488442.55, Sharpe Ratio = -13.63

Simulation Run = 2067
Weights = [0.231 0.015 0.097 0.016 0.134 0.105 0.053 0.203 0.147], Final Value =
\$1525984.95, Sharpe Ratio = -19.83

Simulation Run = 2068

Weights = [0.132 0.129 0.169 0.248 0.003 0.013 0.141 0.025 0.14], Final Value = \$1429178.94, Sharpe Ratio = -17.92

Simulation Run = 2069

Weights = [0.183 0.059 0.197 0.131 0.033 0.05 0.05 0.19 0.107], Final Value = \$1479178.86, Sharpe Ratio = -19.13

Simulation Run = 2070

Weights = [0.048 0.039 0.097 0.022 0.263 0.139 0.105 0.173 0.115], Final Value = \$1558678.25, Sharpe Ratio = -19.42

Simulation Run = 2071

Weights = [0.097 0.123 0.144 0.152 0.116 0.12 0.066 0.087 0.094], Final Value = \$1528258.99, Sharpe Ratio = -20.24

Simulation Run = 2072

Weights = [0.06 0.062 0.043 0.213 0.164 0.308 0.017 0.002 0.132], Final Value = \$1643270.53, Sharpe Ratio = -18.14

Simulation Run = 2073

Weights = [0.132 0.173 0.167 0.006 0.12 0.123 0.134 0.063 0.083], Final Value = \$1486603.34, Sharpe Ratio = -17.53

Simulation Run = 2074

Weights = [0.237 0.136 0.123 0.193 0.061 0.009 0.066 0.035 0.141], Final Value = \$1469363.04, Sharpe Ratio = -21.82

Simulation Run = 2075

Weights = [0.21 0.214 0.042 0.15 0.19 0.001 0.011 0.045 0.138], Final Value = \$1502227.48, Sharpe Ratio = -28.97

Simulation Run = 2076

Weights = [0.083 0.124 0.141 0.06 0.079 0.06 0.111 0.179 0.163], Final Value = \$1413606.89, Sharpe Ratio = -20.20

Simulation Run = 2077

Weights = [0.097 0.017 0.106 0.147 0.18 0.068 0.094 0.165 0.126], Final Value = \$1539725.57, Sharpe Ratio = -20.26

Simulation Run = 2078

Weights = [0.043 0.057 0.031 0.172 0.15 0.181 0.232 0.056 0.078], Final Value = \$1622664.87, Sharpe Ratio = -14.09

Simulation Run = 2079

Weights = [0.009 0.097 0.102 0.209 0.02 0.036 0.151 0.176 0.2], Final Value = \$1398353.77, Sharpe Ratio = -19.02

Simulation Run = 2080

Weights = [0.01 0.134 0.206 0.023 0.121 0.136 0.177 0.082 0.111], Final Value = \$1442803.44, Sharpe Ratio = -15.94

Simulation Run = 2081

Weights = [0.14 0.116 0.096 0.1 0.099 0.163 0.107 0.159 0.02], Final Value = \$1621236.91, Sharpe Ratio = -17.02

Simulation Run = 2082

Weights = [0.114 0.055 0.082 0.021 0.19 0.065 0.155 0.217 0.099], Final Value = \$1537499.05, Sharpe Ratio = -17.93

Simulation Run = 2083

Weights = [0.001 0.186 0.123 0.055 0.101 0.09 0.166 0.145 0.134], Final Value = \$1426814.75, Sharpe Ratio = -18.30

Simulation Run = 2084

Weights = [0.088 0.001 0.06 0.171 0.172 0.168 0.009 0.126 0.204], Final Value = \$1537947.24, Sharpe Ratio = -22.51

Simulation Run = 2085

Weights = [0.155 0.098 0.047 0.089 0.181 0.052 0.113 0.1 0.164], Final Value = \$1497774.31, Sharpe Ratio = -21.54

Simulation Run = 2086

Weights = [0.088 0.011 0.096 0.119 0.079 0.143 0.185 0.127 0.151], Final Value = \$1513237.15, Sharpe Ratio = -15.33

Simulation Run = 2087
Weights = [0.138 0.117 0.202 0.071 0.112 0.169 0.049 0.005 0.137], Final Value =
\$1473842.47, Sharpe Ratio = -19.23

Simulation Run = 2088
Weights = [0.033 0.044 0.166 0.148 0.071 0.178 0.109 0.072 0.178], Final Value =
\$1462722.43, Sharpe Ratio = -17.39

Simulation Run = 2089
Weights = [0.088 0.105 0.099 0.111 0.132 0.149 0.078 0.128 0.11], Final Value =
\$1541573.83, Sharpe Ratio = -19.93

Simulation Run = 2090
Weights = [0.201 0.158 0.13 0.026 0.058 0.153 0.113 0.01 0.151], Final Value =
\$1458247.49, Sharpe Ratio = -17.81

Simulation Run = 2091
Weights = [0.173 0.133 0.143 0.038 0.043 0.204 0.141 0.055 0.069], Final Value =
\$1544087.63, Sharpe Ratio = -15.07

Simulation Run = 2092
Weights = [0.167 0.134 0.141 0.12 0.181 0.114 0.079 0.039 0.024], Final Value =
\$1604863.41, Sharpe Ratio = -19.20

Simulation Run = 2093
Weights = [0.087 0.19 0.142 0.019 0.167 0.104 0.053 0.081 0.158], Final Value =
\$1431337.75, Sharpe Ratio = -23.70

Simulation Run = 2094
Weights = [0.102 0.138 0.021 0.049 0.069 0.217 0.257 0.03 0.116], Final Value =
\$1544961.25, Sharpe Ratio = -13.05

Simulation Run = 2095
Weights = [0.141 0.03 0.114 0.043 0.179 0.096 0.128 0.093 0.175], Final Value =
\$1481440.56, Sharpe Ratio = -18.77

Simulation Run = 2096
Weights = [0.066 0.326 0.008 0.075 0.058 0.027 0.177 0.196 0.068], Final Value =

\$1476578.46, Sharpe Ratio = -19.36

Simulation Run = 2097

Weights = [0.085 0.152 0.191 0.126 0.081 0.066 0.047 0.192 0.059], Final Value = \$1497800.79, Sharpe Ratio = -20.67

Simulation Run = 2098

Weights = [0.154 0.123 0.179 0.107 0.082 0.044 0.105 0.03 0.176], Final Value = \$1401969.95, Sharpe Ratio = -20.03

Simulation Run = 2099

Weights = [0.064 0.229 0.115 0.183 0.07 0.032 0.071 0.195 0.04], Final Value = \$1517430.21, Sharpe Ratio = -22.27

Simulation Run = 2100

Weights = [0.158 0.145 0.02 0.118 0.173 0.032 0.053 0.13 0.169], Final Value = \$1493283.70, Sharpe Ratio = -26.44

Simulation Run = 2101

Weights = [0.12 0.137 0.113 0.071 0.083 0.121 0.078 0.171 0.107], Final Value = \$1505284.38, Sharpe Ratio = -19.98

Simulation Run = 2102

Weights = [0.051 0.066 0.103 0.062 0.187 0.118 0.061 0.172 0.181], Final Value = \$1475908.83, Sharpe Ratio = -22.57

Simulation Run = 2103

Weights = [0.036 0.034 0.172 0.093 0.201 0.156 0.01 0.092 0.205], Final Value = \$1457363.22, Sharpe Ratio = -22.41

Simulation Run = 2104

Weights = [0.09 0.087 0.147 0.092 0.096 0.157 0.084 0.105 0.143], Final Value = \$1487693.65, Sharpe Ratio = -18.85

Simulation Run = 2105

Weights = [0.094 0.173 0.085 0.169 0.096 0.084 0.115 0.084 0.099], Final Value = \$1516404.12, Sharpe Ratio = -20.16

Simulation Run = 2106
Weights = [0.097 0.094 0.014 0.043 0.098 0.147 0.239 0.146 0.123], Final Value =
\$1536913.16, Sharpe Ratio = -14.27

Simulation Run = 2107
Weights = [0.138 0.059 0.108 0.079 0.093 0.167 0.113 0.202 0.04], Final Value =
\$1610114.00, Sharpe Ratio = -16.29

Simulation Run = 2108
Weights = [0.091 0.172 0.167 0.025 0.097 0.05 0.121 0.129 0.149], Final Value =
\$1395170.07, Sharpe Ratio = -20.04

Simulation Run = 2109
Weights = [0.192 0.096 0.081 0.148 0.094 0.053 0.084 0.209 0.044], Final Value =
\$1591962.73, Sharpe Ratio = -19.56

Simulation Run = 2110
Weights = [0.139 0.161 0.065 0.145 0.133 0.065 0.115 0.017 0.16], Final Value =
\$1476865.38, Sharpe Ratio = -21.58

Simulation Run = 2111
Weights = [0.027 0.145 0.02 0.017 0.11 0.263 0.187 0.033 0.198], Final Value =
\$1483911.40, Sharpe Ratio = -15.22

Simulation Run = 2112
Weights = [0.044 0.077 0.175 0.165 0.051 0.103 0.171 0.016 0.198], Final Value =
\$1399757.63, Sharpe Ratio = -16.65

Simulation Run = 2113
Weights = [0.043 0.08 0.154 0.115 0.172 0.172 0.021 0.063 0.182], Final Value =
\$1476676.86, Sharpe Ratio = -22.02

Simulation Run = 2114
Weights = [0.045 0.161 0.081 0.098 0.184 0.136 0.17 0.062 0.063], Final Value =
\$1565838.65, Sharpe Ratio = -17.31

Simulation Run = 2115
Weights = [0.066 0.094 0.124 0.132 0.11 0.155 0.072 0.211 0.035], Final Value =
\$1599462.67, Sharpe Ratio = -18.39

Simulation Run = 2116
Weights = [0.112 0.099 0.102 0.202 0.117 0.059 0.152 0.151 0.005], Final Value =
\$1617687.34, Sharpe Ratio = -16.94

Simulation Run = 2117
Weights = [0.098 0.271 0.004 0.176 0.133 0.063 0.064 0.077 0.114], Final Value =
\$1516180.40, Sharpe Ratio = -26.44

Simulation Run = 2118
Weights = [0.201 0.289 0.004 0.064 0.094 0.046 0.035 0.237 0.031], Final Value =
\$1566961.58, Sharpe Ratio = -24.83

Simulation Run = 2119
Weights = [0.06 0.135 0.059 0.162 0.068 0.088 0.134 0.152 0.142], Final Value =
\$1486487.08, Sharpe Ratio = -19.51

Simulation Run = 2120
Weights = [0.021 0.194 0.064 0.156 0.007 0.165 0.061 0.153 0.18], Final Value =
\$1445084.17, Sharpe Ratio = -21.54

Simulation Run = 2121
Weights = [0.117 0.082 0.135 0.072 0.09 0.139 0.149 0.163 0.053], Final Value =
\$1562494.41, Sharpe Ratio = -15.89

Simulation Run = 2122
Weights = [0.02 0.076 0.125 0.121 0.102 0.153 0.089 0.141 0.174], Final Value =
\$1466454.43, Sharpe Ratio = -19.67

Simulation Run = 2123
Weights = [0.07 0.12 0.213 0.023 0.181 0.165 0.007 0.12 0.099], Final Value =
\$1500985.50, Sharpe Ratio = -20.67

Simulation Run = 2124
Weights = [0.035 0.143 0.102 0.088 0.137 0.074 0.185 0.177 0.059], Final Value =
\$1529288.17, Sharpe Ratio = -16.97

Simulation Run = 2125

Weights = [0.283 0.242 0.136 0.089 0.034 0.001 0.161 0.038 0.015], Final Value = \$1515170.20, Sharpe Ratio = -16.82

Simulation Run = 2126

Weights = [0.128 0.158 0.098 0.103 0.16 0.137 0.031 0.083 0.103], Final Value = \$1543736.01, Sharpe Ratio = -22.69

Simulation Run = 2127

Weights = [0.14 0.134 0.096 0.133 0.053 0.216 0.008 0.204 0.016], Final Value = \$1642638.90, Sharpe Ratio = -18.19

Simulation Run = 2128

Weights = [0.196 0.075 0.106 0.058 0.13 0.172 0.182 0.002 0.077], Final Value = \$1582396.92, Sharpe Ratio = -14.74

Simulation Run = 2129

Weights = [0.151 0.048 0.062 0.037 0.02 0.25 0.108 0.095 0.229], Final Value = \$1470920.25, Sharpe Ratio = -16.13

Simulation Run = 2130

Weights = [0.11 0.194 0.058 0.151 0.042 0.118 0.097 0.126 0.104], Final Value = \$1517150.52, Sharpe Ratio = -20.17

Simulation Run = 2131

Weights = [0.108 0.059 0.061 0.152 0.021 0.168 0.137 0.109 0.186], Final Value = \$1491645.74, Sharpe Ratio = -16.92

Simulation Run = 2132

Weights = [0.113 0.095 0.157 0.095 0.041 0.146 0.056 0.133 0.165], Final Value = \$1451386.30, Sharpe Ratio = -19.59

Simulation Run = 2133

Weights = [0.05 0.068 0.118 0.009 0.167 0.22 0.056 0.145 0.167], Final Value = \$1502551.92, Sharpe Ratio = -19.30

Simulation Run = 2134

Weights = [0.041 0.097 0.192 0.029 0.125 0.098 0.066 0.205 0.146], Final Value = \$1430166.73, Sharpe Ratio = -20.73

Simulation Run = 2135
Weights = [0.103 0.027 0.131 0.065 0.214 0.008 0.042 0.238 0.172], Final Value =
\$1460633.40, Sharpe Ratio = -24.37

Simulation Run = 2136
Weights = [0.202 0.204 0.062 0.208 0.035 0.073 0.078 0.011 0.127], Final Value =
\$1501139.42, Sharpe Ratio = -21.73

Simulation Run = 2137
Weights = [0.028 0.187 0.055 0.078 0.015 0.221 0.064 0.301 0.051], Final Value =
\$1574615.47, Sharpe Ratio = -18.06

Simulation Run = 2138
Weights = [0.129 0.085 0.119 0.091 0.149 0.157 0.09 0.044 0.136], Final Value =
\$1523435.18, Sharpe Ratio = -19.09

Simulation Run = 2139
Weights = [0.071 0.081 0.002 0.194 0.044 0.208 0.224 0.095 0.08], Final Value =
\$1620369.06, Sharpe Ratio = -13.62

Simulation Run = 2140
Weights = [0.107 0.141 0.101 0.166 0.128 0.03 0.082 0.138 0.106], Final Value =
\$1504219.71, Sharpe Ratio = -22.46

Simulation Run = 2141
Weights = [0.16 0.099 0.102 0.108 0.148 0.113 0.198 0.038 0.033], Final Value =
\$1603573.94, Sharpe Ratio = -15.12

Simulation Run = 2142
Weights = [0.065 0.193 0.163 0.162 0.004 0.021 0.113 0.062 0.216], Final Value =
\$1322310.87, Sharpe Ratio = -21.08

Simulation Run = 2143
Weights = [0.104 0.021 0.179 0.031 0.057 0.172 0.157 0.153 0.125], Final Value =
\$1489778.75, Sharpe Ratio = -14.84

Simulation Run = 2144
Weights = [0.004 0.135 0.119 0.165 0.111 0.217 0.052 0.062 0.135], Final Value =

\$1521334.16, Sharpe Ratio = -19.79

Simulation Run = 2145

Weights = [0.073 0.21 0.086 0.108 0.19 0.1 0.04 0.11 0.083], Final Value = \$1536972.78, Sharpe Ratio = -24.77

Simulation Run = 2146

Weights = [0.148 0.014 0.196 0.161 0.136 0.148 0.035 0.042 0.121], Final Value = \$1540154.42, Sharpe Ratio = -18.83

Simulation Run = 2147

Weights = [0.023 0.034 0.071 0.137 0.194 0.151 0.063 0.165 0.162], Final Value = \$1539362.22, Sharpe Ratio = -21.49

Simulation Run = 2148

Weights = [0.086 0.12 0.073 0.137 0.132 0.113 0.073 0.139 0.127], Final Value = \$1526471.62, Sharpe Ratio = -21.76

Simulation Run = 2149

Weights = [0.057 0.231 0.147 0.056 0.103 0.144 0.051 0.047 0.165], Final Value = \$1413579.75, Sharpe Ratio = -22.77

Simulation Run = 2150

Weights = [0.075 0.127 0.078 0.081 0.208 0.131 0.2 0.091 0.01], Final Value = \$1628233.63, Sharpe Ratio = -15.54

Simulation Run = 2151

Weights = [0.196 0.037 0.006 0.171 0.196 0.102 0.108 0.059 0.124], Final Value = \$1613361.17, Sharpe Ratio = -19.66

Simulation Run = 2152

Weights = [0.221 0.049 0.21 0.036 0.001 0.092 0.136 0.05 0.205], Final Value = \$1375882.96, Sharpe Ratio = -16.23

Simulation Run = 2153

Weights = [0.129 0.174 0.067 0.016 0.046 0.042 0.23 0.258 0.039], Final Value = \$1517865.70, Sharpe Ratio = -14.89

Simulation Run = 2154
Weights = [0.028 0.036 0.023 0.274 0.089 0.281 0.014 0.092 0.164], Final Value =
\$1610804.13, Sharpe Ratio = -18.59

Simulation Run = 2155
Weights = [0.169 0.156 0.15 0.069 0.047 0.109 0.064 0.056 0.181], Final Value =
\$1412962.02, Sharpe Ratio = -20.88

Simulation Run = 2156
Weights = [0.083 0.178 0.101 0.18 0.128 0.033 0.166 0.028 0.105], Final Value =
\$1487935.33, Sharpe Ratio = -18.89

Simulation Run = 2157
Weights = [0.176 0.192 0.016 0.071 0.173 0.046 0.139 0.149 0.037], Final Value =
\$1591453.82, Sharpe Ratio = -19.59

Simulation Run = 2158
Weights = [0.075 0.157 0.002 0.079 0.036 0.198 0.171 0.175 0.108], Final Value =
\$1550445.06, Sharpe Ratio = -15.77

Simulation Run = 2159
Weights = [0.108 0.046 0.001 0.144 0.169 0.03 0.188 0.137 0.178], Final Value =
\$1508380.35, Sharpe Ratio = -18.23

Simulation Run = 2160
Weights = [0.159 0.064 0.064 0.227 0.04 0.091 0.093 0.035 0.226], Final Value =
\$1455219.73, Sharpe Ratio = -20.58

Simulation Run = 2161
Weights = [0.001 0.067 0.196 0.036 0.133 0.154 0.227 0.045 0.143], Final Value =
\$1443491.95, Sharpe Ratio = -14.22

Simulation Run = 2162
Weights = [0.128 0.148 0.083 0.203 0.085 0.053 0.184 0.075 0.042], Final Value =
\$1568941.21, Sharpe Ratio = -16.59

Simulation Run = 2163
Weights = [0.06 0.189 0.128 0.041 0.179 0.179 0.007 0.172 0.045], Final Value =
\$1571669.25, Sharpe Ratio = -21.67

Simulation Run = 2164
Weights = [0.071 0.221 0.013 0.001 0.028 0.142 0.179 0.207 0.138], Final Value =
\$1461400.34, Sharpe Ratio = -16.82

Simulation Run = 2165
Weights = [0.192 0.072 0.024 0.114 0.039 0.185 0.179 0.094 0.103], Final Value =
\$1590669.88, Sharpe Ratio = -14.65

Simulation Run = 2166
Weights = [0.22 0.043 0.091 0.031 0.028 0.237 0.118 0.111 0.121], Final Value =
\$1562476.23, Sharpe Ratio = -14.80

Simulation Run = 2167
Weights = [0.131 0.19 0.131 0.032 0.009 0.119 0.132 0.076 0.181], Final Value =
\$1387513.89, Sharpe Ratio = -18.25

Simulation Run = 2168
Weights = [0.197 0.138 0.124 0.109 0.114 0.043 0.107 0.038 0.129], Final Value =
\$1476881.52, Sharpe Ratio = -20.30

Simulation Run = 2169
Weights = [0.046 0.134 0.183 0.019 0.254 0.006 0.118 0.016 0.224], Final Value =
\$1344331.99, Sharpe Ratio = -22.42

Simulation Run = 2170
Weights = [0.038 0.177 0.078 0.152 0.132 0.066 0.02 0.18 0.156], Final Value =
\$1464139.65, Sharpe Ratio = -27.41

Simulation Run = 2171
Weights = [0.174 0.193 0.043 0.167 0.017 0.101 0.04 0.117 0.148], Final Value =
\$1489640.34, Sharpe Ratio = -23.07

Simulation Run = 2172
Weights = [0.06 0.115 0.008 0.188 0.085 0.148 0.205 0.06 0.131], Final Value =
\$1548851.52, Sharpe Ratio = -15.82

Simulation Run = 2173

Weights = [0.004 0.104 0.065 0.201 0.058 0.191 0.127 0.118 0.133], Final Value = \$1534552.55, Sharpe Ratio = -17.48

Simulation Run = 2174

Weights = [0.061 0.22 0.204 0.033 0.246 0.083 0.007 0.02 0.125], Final Value = \$1438131.39, Sharpe Ratio = -25.38

Simulation Run = 2175

Weights = [0.181 0. 0.171 0.011 0.169 0.056 0.064 0.198 0.149], Final Value = \$1477953.48, Sharpe Ratio = -20.09

Simulation Run = 2176

Weights = [0.143 0.132 0.106 0.137 0.066 0.037 0.08 0.168 0.132], Final Value = \$1470340.11, Sharpe Ratio = -21.70

Simulation Run = 2177

Weights = [0.191 0.042 0.185 0.12 0.037 0.181 0.004 0.144 0.096], Final Value = \$1548280.45, Sharpe Ratio = -17.79

Simulation Run = 2178

Weights = [0.074 0.195 0.055 0.202 0.097 0.047 0.195 0.018 0.118], Final Value = \$1489335.61, Sharpe Ratio = -17.88

Simulation Run = 2179

Weights = [0.095 0.075 0.194 0.133 0.02 0.113 0.127 0.217 0.027], Final Value = \$1547293.78, Sharpe Ratio = -15.63

Simulation Run = 2180

Weights = [0.012 0.083 0.17 0.223 0.049 0.257 0.118 0.036 0.052], Final Value = \$1595672.33, Sharpe Ratio = -14.80

Simulation Run = 2181

Weights = [0.07 0.123 0.138 0.091 0.18 0.112 0.133 0.054 0.098], Final Value = \$1517794.14, Sharpe Ratio = -18.59

Simulation Run = 2182

Weights = [0.09 0.034 0.075 0.237 0.065 0.038 0.144 0.112 0.204], Final Value = \$1454627.79, Sharpe Ratio = -19.04

Simulation Run = 2183
Weights = [0.045 0.12 0.159 0.096 0.085 0.057 0.078 0.167 0.193], Final Value =
\$1384507.76, Sharpe Ratio = -22.25

Simulation Run = 2184
Weights = [0.038 0.11 0.326 0.319 0.078 0.009 0.057 0.008 0.053], Final Value =
\$1466331.47, Sharpe Ratio = -17.31

Simulation Run = 2185
Weights = [0.225 0.154 0.015 0.016 0.078 0.093 0.06 0.199 0.16], Final Value =
\$1490282.79, Sharpe Ratio = -21.96

Simulation Run = 2186
Weights = [0.125 0.149 0.03 0.126 0.109 0.165 0.072 0.069 0.154], Final Value =
\$1528841.13, Sharpe Ratio = -21.05

Simulation Run = 2187
Weights = [0.193 0.011 0.151 0.244 0.036 0.136 0.171 0.034 0.024], Final Value =
\$1632742.60, Sharpe Ratio = -13.85

Simulation Run = 2188
Weights = [0.164 0.174 0.168 0.038 0.011 0.08 0.14 0.123 0.102], Final Value =
\$1439115.18, Sharpe Ratio = -17.13

Simulation Run = 2189
Weights = [0.135 0.007 0.222 0.104 0.126 0.051 0.268 0.045 0.041], Final Value =
\$1534224.74, Sharpe Ratio = -12.56

Simulation Run = 2190
Weights = [0.063 0.173 0.026 0.013 0.066 0.274 0.051 0.069 0.266], Final Value =
\$1421387.73, Sharpe Ratio = -19.53

Simulation Run = 2191
Weights = [0.089 0.147 0.21 0.099 0.035 0.021 0.183 0.012 0.204], Final Value =
\$1319186.24, Sharpe Ratio = -17.10

Simulation Run = 2192
Weights = [0.052 0.165 0.2 0.146 0.172 0.054 0.007 0.167 0.038], Final Value =

\$1528115.36, Sharpe Ratio = -22.70

Simulation Run = 2193

Weights = [0.031 0.24 0.119 0.217 0.004 0.219 0.079 0.069 0.022], Final Value = \$1579509.45, Sharpe Ratio = -17.39

Simulation Run = 2194

Weights = [0.088 0.204 0.21 0.071 0.087 0.133 0.007 0.012 0.187], Final Value = \$1377571.82, Sharpe Ratio = -23.08

Simulation Run = 2195

Weights = [0.201 0.011 0.017 0.158 0.26 0.204 0.052 0.023 0.074], Final Value = \$1715251.66, Sharpe Ratio = -18.62

Simulation Run = 2196

Weights = [0.043 0.194 0.124 0.009 0.001 0.11 0.11 0.156 0.253], Final Value = \$1302806.72, Sharpe Ratio = -20.49

Simulation Run = 2197

Weights = [0.161 0.069 0.165 0.127 0.07 0.162 0.107 0.065 0.074], Final Value = \$1558653.36, Sharpe Ratio = -16.36

Simulation Run = 2198

Weights = [0.186 0.073 0.057 0.124 0.167 0.066 0.17 0.058 0.099], Final Value = \$1568142.74, Sharpe Ratio = -17.34

Simulation Run = 2199

Weights = [0.11 0.213 0.037 0.004 0.134 0.198 0.051 0.011 0.243], Final Value = \$1419922.45, Sharpe Ratio = -22.61

Simulation Run = 2200

Weights = [0.176 0.227 0.048 0.056 0.04 0.179 0.195 0.041 0.039], Final Value = \$1575148.91, Sharpe Ratio = -14.71

Simulation Run = 2201

Weights = [0.105 0.094 0.053 0.159 0.085 0.144 0.156 0.069 0.136], Final Value = \$1535351.45, Sharpe Ratio = -17.15

Simulation Run = 2202
Weights = [0.183 0.201 0.05 0.03 0.065 0.073 0.146 0.094 0.157], Final Value =
\$1443315.60, Sharpe Ratio = -19.07

Simulation Run = 2203
Weights = [0.193 0.155 0.162 0.173 0.003 0.195 0.042 0.014 0.062], Final Value =
\$1561086.40, Sharpe Ratio = -17.47

Simulation Run = 2204
Weights = [0.172 0.038 0.159 0.023 0.17 0.081 0.179 0.078 0.101], Final Value =
\$1516169.08, Sharpe Ratio = -15.83

Simulation Run = 2205
Weights = [0.086 0.012 0.147 0.033 0.068 0.222 0.167 0.132 0.133], Final Value =
\$1515918.21, Sharpe Ratio = -14.24

Simulation Run = 2206
Weights = [0.007 0.086 0.134 0.108 0.132 0.141 0.127 0.161 0.104], Final Value =
\$1518495.26, Sharpe Ratio = -17.92

Simulation Run = 2207
Weights = [0.009 0.088 0.083 0.111 0.092 0.176 0.014 0.197 0.231], Final Value =
\$1438657.58, Sharpe Ratio = -23.23

Simulation Run = 2208
Weights = [0.125 0.107 0.051 0.184 0.147 0.046 0.173 0.091 0.075], Final Value =
\$1573433.58, Sharpe Ratio = -17.73

Simulation Run = 2209
Weights = [0.227 0.143 0.022 0.047 0.108 0.04 0.057 0.193 0.163], Final Value =
\$1483163.59, Sharpe Ratio = -23.77

Simulation Run = 2210
Weights = [0.056 0.177 0.049 0.034 0.008 0.178 0.1 0.164 0.234], Final Value =
\$1391171.99, Sharpe Ratio = -19.64

Simulation Run = 2211
Weights = [0.115 0.197 0.189 0.158 0.006 0.192 0.003 0.079 0.062], Final Value =
\$1524121.53, Sharpe Ratio = -18.94

Simulation Run = 2212
Weights = [0.089 0.11 0.132 0.134 0.068 0.107 0.099 0.145 0.116], Final Value =
\$1494239.67, Sharpe Ratio = -19.09

Simulation Run = 2213
Weights = [0.22 0.135 0.095 0.194 0.066 0.205 0.032 0.024 0.029], Final Value =
\$1652444.91, Sharpe Ratio = -17.87

Simulation Run = 2214
Weights = [0.155 0.04 0.069 0.189 0.067 0.087 0.152 0.024 0.218], Final Value =
\$1460381.18, Sharpe Ratio = -18.04

Simulation Run = 2215
Weights = [0.049 0.118 0.058 0.08 0.174 0.057 0.136 0.206 0.12], Final Value =
\$1507084.82, Sharpe Ratio = -20.43

Simulation Run = 2216
Weights = [0.131 0.082 0.132 0.15 0.083 0.187 0.114 0.099 0.023], Final Value =
\$1626416.16, Sharpe Ratio = -15.84

Simulation Run = 2217
Weights = [0.018 0.219 0.132 0.14 0.06 0.063 0.199 0.099 0.07], Final Value =
\$1468861.21, Sharpe Ratio = -16.54

Simulation Run = 2218
Weights = [0.149 0.127 0.153 0.08 0.021 0.129 0.133 0.069 0.138], Final Value =
\$1453340.59, Sharpe Ratio = -16.98

Simulation Run = 2219
Weights = [0.144 0.091 0.175 0.133 0.031 0.069 0.118 0.063 0.176], Final Value =
\$1411867.31, Sharpe Ratio = -18.43

Simulation Run = 2220
Weights = [0.101 0.163 0.025 0.009 0.076 0.072 0.11 0.196 0.247], Final Value =
\$1373035.96, Sharpe Ratio = -22.29

Simulation Run = 2221

Weights = [0.135 0.188 0.04 0.101 0.104 0.166 0.137 0.076 0.053], Final Value = \$1594951.16, Sharpe Ratio = -17.40

Simulation Run = 2222

Weights = [0.118 0.191 0.205 0.184 0.021 0.049 0.044 0.093 0.096], Final Value = \$1444776.31, Sharpe Ratio = -20.97

Simulation Run = 2223

Weights = [0.114 0.152 0.042 0.149 0.072 0.129 0.073 0.097 0.172], Final Value = \$1488240.72, Sharpe Ratio = -21.93

Simulation Run = 2224

Weights = [0.184 0.085 0.027 0.052 0.177 0.176 0.175 0.008 0.116], Final Value = \$1589396.90, Sharpe Ratio = -15.87

Simulation Run = 2225

Weights = [0.201 0.107 0.029 0.188 0.007 0.075 0.157 0.209 0.026], Final Value = \$1618894.97, Sharpe Ratio = -16.08

Simulation Run = 2226

Weights = [0.16 0.14 0.067 0.144 0.001 0.167 0.125 0.016 0.181], Final Value = \$1471632.86, Sharpe Ratio = -17.59

Simulation Run = 2227

Weights = [0.069 0.214 0.127 0.15 0.062 0.007 0.068 0.023 0.279], Final Value = \$1285106.01, Sharpe Ratio = -26.52

Simulation Run = 2228

Weights = [0.245 0.011 0.169 0.063 0.091 0.207 0.043 0.102 0.07], Final Value = \$1603480.79, Sharpe Ratio = -16.21

Simulation Run = 2229

Weights = [0.073 0.119 0.064 0.192 0.137 0.174 0.143 0.084 0.013], Final Value = \$1658472.66, Sharpe Ratio = -16.46

Simulation Run = 2230

Weights = [0.134 0.133 0.191 0.115 0.023 0.227 0.081 0.066 0.029], Final Value = \$1576628.61, Sharpe Ratio = -15.56

Simulation Run = 2231
Weights = [0.099 0.088 0.076 0.171 0.001 0.197 0.218 0.02 0.131], Final Value =
\$1527461.25, Sharpe Ratio = -13.74

Simulation Run = 2232
Weights = [0.128 0.003 0.221 0.085 0.151 0.122 0.104 0.043 0.143], Final Value =
\$1483049.18, Sharpe Ratio = -17.36

Simulation Run = 2233
Weights = [0.122 0.099 0.05 0.127 0.137 0.123 0.119 0.137 0.085], Final Value =
\$1584348.48, Sharpe Ratio = -18.72

Simulation Run = 2234
Weights = [0.022 0.129 0.19 0.172 0.169 0.075 0.028 0.09 0.126], Final Value =
\$1469459.77, Sharpe Ratio = -23.16

Simulation Run = 2235
Weights = [0.088 0.198 0.074 0.038 0.213 0.136 0.079 0.01 0.165], Final Value =
\$1475956.47, Sharpe Ratio = -23.09

Simulation Run = 2236
Weights = [0.129 0.033 0.274 0.125 0.027 0.279 0.013 0.049 0.071], Final Value =
\$1558559.41, Sharpe Ratio = -14.88

Simulation Run = 2237
Weights = [0.064 0.085 0.18 0.143 0.155 0.018 0.141 0.112 0.101], Final Value =
\$1477010.73, Sharpe Ratio = -18.50

Simulation Run = 2238
Weights = [0.127 0.108 0.115 0.105 0.152 0.041 0.18 0.139 0.034], Final Value =
\$1566106.96, Sharpe Ratio = -16.62

Simulation Run = 2239
Weights = [0.075 0.016 0.05 0.215 0.019 0.061 0.213 0.218 0.133], Final Value =
\$1520104.08, Sharpe Ratio = -15.16

Simulation Run = 2240
Weights = [0.12 0.084 0.111 0.139 0.092 0.085 0.144 0.129 0.096], Final Value =

\$1528887.41, Sharpe Ratio = -17.51

Simulation Run = 2241

Weights = [0.072 0.101 0.124 0.051 0.219 0.078 0.196 0.145 0.014], Final Value = \$1590408.82, Sharpe Ratio = -15.90

Simulation Run = 2242

Weights = [0.08 0.08 0.201 0.062 0.033 0.271 0.046 0.161 0.066], Final Value = \$1556687.21, Sharpe Ratio = -15.59

Simulation Run = 2243

Weights = [0.139 0.181 0.188 0.072 0.149 0.147 0.04 0.001 0.084], Final Value = \$1511251.49, Sharpe Ratio = -20.58

Simulation Run = 2244

Weights = [0.096 0.075 0.041 0.108 0.002 0.128 0.179 0.17 0.201], Final Value = \$1448674.38, Sharpe Ratio = -16.33

Simulation Run = 2245

Weights = [0.078 0.099 0.037 0.103 0.026 0.189 0.207 0.217 0.044], Final Value = \$1606627.60, Sharpe Ratio = -13.83

Simulation Run = 2246

Weights = [0.129 0.135 0.183 0.127 0.006 0.168 0.006 0.08 0.165], Final Value = \$1440201.38, Sharpe Ratio = -20.17

Simulation Run = 2247

Weights = [0.211 0.044 0.131 0.028 0.046 0.137 0.043 0.14 0.219], Final Value = \$1429342.10, Sharpe Ratio = -19.77

Simulation Run = 2248

Weights = [0.184 0.005 0.172 0.109 0.121 0.02 0.031 0.207 0.15], Final Value = \$1473756.86, Sharpe Ratio = -21.42

Simulation Run = 2249

Weights = [0.14 0.096 0.146 0.055 0.076 0.097 0.136 0.077 0.176], Final Value = \$1425926.37, Sharpe Ratio = -18.01

Simulation Run = 2250
Weights = [0.084 0.134 0.124 0.086 0.185 0.013 0.19 0.129 0.055], Final Value =
\$1521876.86, Sharpe Ratio = -17.26

Simulation Run = 2251
Weights = [0.11 0.22 0.013 0.144 0.012 0.03 0.068 0.199 0.205], Final Value =
\$1401200.32, Sharpe Ratio = -25.75

Simulation Run = 2252
Weights = [0.216 0.176 0.198 0.02 0.08 0.01 0.125 0.059 0.115], Final Value =
\$1410325.43, Sharpe Ratio = -18.69

Simulation Run = 2253
Weights = [0.08 0.188 0.151 0.015 0.166 0.06 0.085 0.194 0.061], Final Value =
\$1494622.64, Sharpe Ratio = -21.38

Simulation Run = 2254
Weights = [0.166 0.135 0.145 0.074 0.141 0.086 0.149 0.046 0.057], Final Value =
\$1539417.41, Sharpe Ratio = -17.19

Simulation Run = 2255
Weights = [0.095 0.022 0.144 0.057 0.158 0.12 0.08 0.141 0.184], Final Value =
\$1466877.11, Sharpe Ratio = -20.04

Simulation Run = 2256
Weights = [0.124 0.134 0.091 0.117 0.023 0.126 0.134 0.164 0.088], Final Value =
\$1525506.95, Sharpe Ratio = -17.18

Simulation Run = 2257
Weights = [0.138 0.219 0.005 0.101 0.163 0.16 0.037 0.077 0.1], Final Value =
\$1578067.10, Sharpe Ratio = -23.32

Simulation Run = 2258
Weights = [0.09 0.135 0.154 0.03 0.139 0.147 0.154 0.008 0.142], Final Value =
\$1459096.16, Sharpe Ratio = -17.19

Simulation Run = 2259
Weights = [0.099 0.052 0.171 0.145 0.05 0.027 0.193 0.136 0.128], Final Value =
\$1447816.50, Sharpe Ratio = -15.75

Simulation Run = 2260
Weights = [0.262 0.106 0.074 0.047 0.136 0.09 0.095 0.136 0.054], Final Value =
\$1595720.94, Sharpe Ratio = -18.58

Simulation Run = 2261
Weights = [0.141 0.066 0.122 0.005 0.104 0.139 0.178 0.166 0.08], Final Value =
\$1539892.11, Sharpe Ratio = -15.09

Simulation Run = 2262
Weights = [0.097 0.117 0.175 0.183 0.126 0.06 0.076 0.102 0.064], Final Value =
\$1529399.58, Sharpe Ratio = -20.01

Simulation Run = 2263
Weights = [0.065 0.232 0.002 0.215 0.003 0.064 0.223 0.143 0.052], Final Value =
\$1545455.27, Sharpe Ratio = -15.81

Simulation Run = 2264
Weights = [0.006 0.204 0.005 0.091 0.208 0.116 0.037 0.201 0.131], Final Value =
\$1527151.74, Sharpe Ratio = -26.91

Simulation Run = 2265
Weights = [0.233 0.011 0.15 0.055 0.237 0.048 0.084 0.174 0.008], Final Value =
\$1639006.16, Sharpe Ratio = -18.11

Simulation Run = 2266
Weights = [0.079 0.238 0.172 0.015 0.121 0.021 0.074 0.039 0.241], Final Value =
\$1286235.27, Sharpe Ratio = -25.18

Simulation Run = 2267
Weights = [0.189 0.074 0.058 0.02 0.13 0.088 0.242 0.017 0.181], Final Value =
\$1467545.57, Sharpe Ratio = -14.74

Simulation Run = 2268
Weights = [0.147 0.125 0.079 0.049 0.19 0.122 0.193 0.051 0.045], Final Value =
\$1594043.22, Sharpe Ratio = -15.77

Simulation Run = 2269

Weights = [0.112 0.168 0.013 0.135 0.004 0.204 0.161 0.094 0.108], Final Value = \$1553866.74, Sharpe Ratio = -15.74

Simulation Run = 2270

Weights = [0.095 0.117 0.078 0.01 0.168 0.172 0.145 0.035 0.181], Final Value = \$1476375.41, Sharpe Ratio = -17.91

Simulation Run = 2271

Weights = [0.07 0.152 0.16 0.04 0.177 0.159 0.159 0.07 0.013], Final Value = \$1579414.44, Sharpe Ratio = -15.98

Simulation Run = 2272

Weights = [0.088 0.166 0.115 0.16 0.08 0.162 0.056 0.169 0.004], Final Value = \$1616103.00, Sharpe Ratio = -18.84

Simulation Run = 2273

Weights = [0.231 0.045 0.119 0.042 0.194 0.205 0.033 0.096 0.034], Final Value = \$1665522.06, Sharpe Ratio = -17.53

Simulation Run = 2274

Weights = [0.061 0.141 0.186 0.033 0.062 0.133 0.14 0.153 0.089], Final Value = \$1466216.68, Sharpe Ratio = -16.67

Simulation Run = 2275

Weights = [0.089 0.169 0.176 0.1 0.085 0.171 0.057 0.061 0.093], Final Value = \$1501400.83, Sharpe Ratio = -19.29

Simulation Run = 2276

Weights = [0.055 0.112 0.161 0.057 0.147 0.026 0.17 0.202 0.069], Final Value = \$1486743.19, Sharpe Ratio = -17.36

Simulation Run = 2277

Weights = [0.102 0.034 0.111 0.198 0.093 0.217 0.038 0.191 0.017], Final Value = \$1679134.47, Sharpe Ratio = -16.89

Simulation Run = 2278

Weights = [0.119 0.102 0.145 0.16 0.037 0.028 0.174 0.114 0.122], Final Value = \$1454341.55, Sharpe Ratio = -16.82

Simulation Run = 2279
Weights = [0.203 0.108 0.146 0.149 0.024 0.127 0.057 0.162 0.025], Final Value =
\$1591948.98, Sharpe Ratio = -17.63

Simulation Run = 2280
Weights = [0.137 0.121 0.129 0.135 0.027 0.145 0.101 0.065 0.139], Final Value =
\$1482456.89, Sharpe Ratio = -18.15

Simulation Run = 2281
Weights = [0.13 0.088 0.224 0.066 0.082 0.065 0.189 0.097 0.059], Final Value =
\$1485792.43, Sharpe Ratio = -14.87

Simulation Run = 2282
Weights = [0.119 0.211 0.004 0.095 0.101 0.096 0.169 0.041 0.165], Final Value =
\$1471013.06, Sharpe Ratio = -18.94

Simulation Run = 2283
Weights = [0.225 0.015 0.177 0.182 0.025 0.105 0.063 0.096 0.111], Final Value =
\$1529968.50, Sharpe Ratio = -17.45

Simulation Run = 2284
Weights = [0.177 0.042 0.133 0.125 0.152 0.162 0.013 0.049 0.147], Final Value =
\$1543268.46, Sharpe Ratio = -20.64

Simulation Run = 2285
Weights = [0.199 0.155 0.081 0.046 0.069 0.187 0.059 0.146 0.058], Final Value =
\$1586874.91, Sharpe Ratio = -18.23

Simulation Run = 2286
Weights = [0.187 0.136 0.016 0.183 0.078 0.171 0.105 0.033 0.09], Final Value =
\$1609130.91, Sharpe Ratio = -18.06

Simulation Run = 2287
Weights = [0.156 0.109 0.016 0.087 0.145 0.032 0.267 0.033 0.155], Final Value =
\$1488572.57, Sharpe Ratio = -14.90

Simulation Run = 2288
Weights = [0.016 0.171 0.096 0.082 0.061 0.197 0.137 0.121 0.119], Final Value =

\$1494744.90, Sharpe Ratio = -17.15

Simulation Run = 2289

Weights = [0.188 0.03 0.065 0.101 0.006 0.156 0.196 0.161 0.098], Final Value = \$1567155.99, Sharpe Ratio = -13.91

Simulation Run = 2290

Weights = [0.194 0.129 0.16 0.021 0.131 0.028 0.192 0.034 0.111], Final Value = \$1453961.54, Sharpe Ratio = -16.37

Simulation Run = 2291

Weights = [0.146 0.172 0.039 0.183 0.136 0.109 0.005 0.031 0.178], Final Value = \$1502701.16, Sharpe Ratio = -26.66

Simulation Run = 2292

Weights = [0.081 0.26 0.031 0.021 0.091 0.008 0.146 0.207 0.156], Final Value = \$1401478.26, Sharpe Ratio = -21.76

Simulation Run = 2293

Weights = [0.131 0.075 0.193 0.177 0.067 0.187 0.048 0.059 0.065], Final Value = \$1571188.98, Sharpe Ratio = -17.24

Simulation Run = 2294

Weights = [0.057 0.181 0.067 0.134 0.059 0.156 0.203 0.09 0.054], Final Value = \$1559712.62, Sharpe Ratio = -15.17

Simulation Run = 2295

Weights = [0.13 0.023 0.094 0.144 0.128 0.112 0.085 0.135 0.149], Final Value = \$1531237.17, Sharpe Ratio = -19.70

Simulation Run = 2296

Weights = [0.1 0.159 0.111 0.094 0.29 0.103 0.01 0.074 0.059], Final Value = \$1591173.81, Sharpe Ratio = -24.53

Simulation Run = 2297

Weights = [0.067 0.075 0.033 0.173 0.045 0.218 0.189 0.008 0.192], Final Value = \$1510264.22, Sharpe Ratio = -15.12

Simulation Run = 2298
Weights = [0.193 0.114 0.192 0.035 0.124 0.138 0.042 0.079 0.082], Final Value =
\$1522486.05, Sharpe Ratio = -19.13

Simulation Run = 2299
Weights = [0.148 0.123 0.144 0.065 0.007 0.039 0.167 0.149 0.158], Final Value =
\$1400503.11, Sharpe Ratio = -17.05

Simulation Run = 2300
Weights = [0.017 0.032 0.171 0.134 0.123 0.068 0.151 0.147 0.158], Final Value =
\$1446364.11, Sharpe Ratio = -17.71

Simulation Run = 2301
Weights = [0.131 0.151 0.05 0.14 0.002 0.081 0.065 0.191 0.189], Final Value =
\$1438028.72, Sharpe Ratio = -22.54

Simulation Run = 2302
Weights = [0.083 0.218 0.023 0.078 0.137 0.092 0.234 0.05 0.084], Final Value =
\$1526574.17, Sharpe Ratio = -15.87

Simulation Run = 2303
Weights = [0.003 0.084 0.104 0.12 0.121 0.032 0.136 0.184 0.216], Final Value =
\$1391126.25, Sharpe Ratio = -20.93

Simulation Run = 2304
Weights = [0.119 0.023 0.106 0.155 0.204 0.196 0.003 0.107 0.087], Final Value =
\$1635660.88, Sharpe Ratio = -19.89

Simulation Run = 2305
Weights = [0.018 0.169 0.157 0.01 0.159 0.132 0.106 0.154 0.094], Final Value =
\$1479579.23, Sharpe Ratio = -19.46

Simulation Run = 2306
Weights = [0.11 0.15 0.138 0.011 0.082 0.096 0.164 0.14 0.109], Final Value =
\$1460148.69, Sharpe Ratio = -16.95

Simulation Run = 2307
Weights = [0.108 0.16 0.095 0.006 0.094 0.064 0.141 0.175 0.158], Final Value =
\$1423472.51, Sharpe Ratio = -19.45

Simulation Run = 2308
Weights = [0.133 0.129 0.073 0.036 0.179 0.048 0.056 0.161 0.185], Final Value =
\$1447865.07, Sharpe Ratio = -25.31

Simulation Run = 2309
Weights = [0.191 0.113 0.087 0.111 0.193 0.064 0.103 0.019 0.119], Final Value =
\$1534723.38, Sharpe Ratio = -20.83

Simulation Run = 2310
Weights = [0.172 0.198 0.052 0.101 0.181 0.035 0.143 0.017 0.101], Final Value =
\$1519988.85, Sharpe Ratio = -20.43

Simulation Run = 2311
Weights = [0.187 0.189 0.053 0.224 0.066 0.098 0.028 0.052 0.102], Final Value =
\$1552171.58, Sharpe Ratio = -23.17

Simulation Run = 2312
Weights = [0.081 0.047 0.245 0.096 0.034 0.105 0.079 0.036 0.277], Final Value =
\$1304032.66, Sharpe Ratio = -19.22

Simulation Run = 2313
Weights = [0.02 0.119 0.184 0.161 0.181 0.021 0.203 0.044 0.067], Final Value =
\$1495579.60, Sharpe Ratio = -16.29

Simulation Run = 2314
Weights = [0.196 0.025 0.063 0.211 0.058 0.023 0.076 0.166 0.182], Final Value =
\$1491774.18, Sharpe Ratio = -21.21

Simulation Run = 2315
Weights = [0.13 0.159 0.181 0.078 0.081 0.027 0.217 0.077 0.051], Final Value =
\$1478053.74, Sharpe Ratio = -15.09

Simulation Run = 2316
Weights = [0.019 0.142 0.026 0.04 0.135 0.166 0.127 0.134 0.21], Final Value =
\$1450749.25, Sharpe Ratio = -19.80

Simulation Run = 2317

Weights = [0.021 0.192 0.057 0.013 0.116 0.177 0.167 0.121 0.134], Final Value = \$1482315.84, Sharpe Ratio = -17.21

Simulation Run = 2318

Weights = [0.089 0.072 0.043 0.053 0.055 0.212 0.199 0.179 0.098], Final Value = \$1570471.22, Sharpe Ratio = -14.02

Simulation Run = 2319

Weights = [0.159 0.118 0.117 0.152 0.033 0.022 0.139 0.111 0.15], Final Value = \$1440975.76, Sharpe Ratio = -18.74

Simulation Run = 2320

Weights = [0.164 0.147 0.114 0.126 0.178 0.084 0.079 0.057 0.051], Final Value = \$1578048.69, Sharpe Ratio = -20.68

Simulation Run = 2321

Weights = [0.119 0.003 0.098 0.139 0.086 0.168 0.141 0.126 0.12], Final Value = \$1564875.57, Sharpe Ratio = -15.92

Simulation Run = 2322

Weights = [0.027 0.09 0.168 0.21 0.195 0.008 0.015 0.234 0.053], Final Value = \$1547572.52, Sharpe Ratio = -22.86

Simulation Run = 2323

Weights = [0.15 0.04 0.175 0.033 0.116 0.146 0.171 0.123 0.045], Final Value = \$1568566.20, Sharpe Ratio = -14.52

Simulation Run = 2324

Weights = [0.101 0.064 0.022 0.133 0.267 0.186 0.062 0.041 0.124], Final Value = \$1626657.74, Sharpe Ratio = -20.88

Simulation Run = 2325

Weights = [0.226 0.003 0.099 0.097 0.216 0.169 0.052 0.073 0.065], Final Value = \$1659382.12, Sharpe Ratio = -18.19

Simulation Run = 2326

Weights = [0.008 0.058 0.159 0.13 0.133 0.084 0.15 0.177 0.101], Final Value = \$1500507.39, Sharpe Ratio = -17.39

Simulation Run = 2327
Weights = [0.031 0.176 0.054 0.103 0.105 0.22 0.21 0.077 0.023], Final Value =
\$1616837.22, Sharpe Ratio = -14.20

Simulation Run = 2328
Weights = [0.147 0.076 0.101 0.137 0.034 0.185 0.123 0.183 0.015], Final Value =
\$1636129.47, Sharpe Ratio = -15.24

Simulation Run = 2329
Weights = [0.071 0.057 0.038 0.142 0.187 0.193 0.004 0.164 0.144], Final Value =
\$1589168.32, Sharpe Ratio = -22.19

Simulation Run = 2330
Weights = [0.038 0.036 0.215 0.016 0.237 0.033 0.097 0.245 0.084], Final Value =
\$1490987.98, Sharpe Ratio = -19.43

Simulation Run = 2331
Weights = [0.06 0.11 0.132 0.057 0.056 0.069 0.179 0.137 0.2], Final Value =
\$1375969.40, Sharpe Ratio = -17.37

Simulation Run = 2332
Weights = [0.135 0.171 0.139 0.125 0.006 0.072 0.073 0.107 0.171], Final Value =
\$1404517.81, Sharpe Ratio = -21.30

Simulation Run = 2333
Weights = [0.153 0.112 0.161 0.179 0.037 0.126 0.096 0.136 0.], Final Value =
\$1603728.63, Sharpe Ratio = -16.56

Simulation Run = 2334
Weights = [0.019 0.056 0.116 0.141 0.145 0.094 0.243 0.137 0.05], Final Value =
\$1569087.09, Sharpe Ratio = -14.13

Simulation Run = 2335
Weights = [0.157 0.009 0.21 0.158 0.056 0.131 0.21 0.05 0.019], Final Value =
\$1589511.99, Sharpe Ratio = -12.88

Simulation Run = 2336
Weights = [0.08 0.182 0.027 0.068 0.093 0.123 0.116 0.112 0.2], Final Value =

\$1439185.83, Sharpe Ratio = -21.11

Simulation Run = 2337

Weights = [0.089 0.122 0.17 0.155 0.065 0.133 0.039 0.178 0.049], Final Value = \$1551645.98, Sharpe Ratio = -19.25

Simulation Run = 2338

Weights = [0.072 0.124 0.162 0.114 0.053 0.152 0.152 0.04 0.131], Final Value = \$1465223.52, Sharpe Ratio = -16.44

Simulation Run = 2339

Weights = [0.045 0.183 0.036 0.198 0.174 0.008 0.202 0.146 0.009], Final Value = \$1597658.35, Sharpe Ratio = -17.44

Simulation Run = 2340

Weights = [0.226 0.179 0.091 0.108 0.198 0.012 0.115 0.045 0.026], Final Value = \$1583230.54, Sharpe Ratio = -20.22

Simulation Run = 2341

Weights = [0.132 0.183 0.178 0.142 0.015 0.143 0.024 0.175 0.009], Final Value = \$1564522.96, Sharpe Ratio = -18.69

Simulation Run = 2342

Weights = [0.024 0.233 0.162 0.111 0.035 0.046 0.067 0.208 0.114], Final Value = \$1406413.72, Sharpe Ratio = -22.58

Simulation Run = 2343

Weights = [0.132 0.019 0.172 0.185 0.118 0.064 0.184 0.047 0.08], Final Value = \$1542209.42, Sharpe Ratio = -15.33

Simulation Run = 2344

Weights = [0.247 0.073 0.152 0.223 0.031 0.099 0.05 0.02 0.105], Final Value = \$1540586.82, Sharpe Ratio = -18.69

Simulation Run = 2345

Weights = [0.08 0.238 0.072 0.051 0.117 0.12 0.025 0.226 0.071], Final Value = \$1526740.23, Sharpe Ratio = -24.10

Simulation Run = 2346
Weights = [0.02 0.119 0.14 0.162 0.087 0.151 0.138 0.145 0.039], Final Value =
\$1568806.48, Sharpe Ratio = -16.53

Simulation Run = 2347
Weights = [0.065 0.064 0.076 0.019 0.176 0.158 0.142 0.156 0.145], Final Value =
\$1519230.35, Sharpe Ratio = -17.70

Simulation Run = 2348
Weights = [0.149 0.134 0.245 0.113 0.002 0.015 0.136 0.158 0.047], Final Value =
\$1454490.20, Sharpe Ratio = -16.28

Simulation Run = 2349
Weights = [0.038 0.046 0.095 0.019 0.194 0.158 0.201 0.146 0.102], Final Value =
\$1550440.47, Sharpe Ratio = -15.21

Simulation Run = 2350
Weights = [0.123 0.151 0.084 0.118 0.103 0.181 0.002 0.238 0.001], Final Value =
\$1651235.85, Sharpe Ratio = -19.84

Simulation Run = 2351
Weights = [0.163 0.016 0.062 0.062 0.157 0.174 0.167 0.08 0.12], Final Value =
\$1584669.38, Sharpe Ratio = -15.52

Simulation Run = 2352
Weights = [0.131 0.132 0.044 0.148 0.112 0.208 0.058 0.049 0.118], Final Value =
\$1582721.96, Sharpe Ratio = -19.59

Simulation Run = 2353
Weights = [0.141 0.014 0.056 0.178 0.148 0.129 0.133 0.162 0.04], Final Value =
\$1663933.73, Sharpe Ratio = -16.64

Simulation Run = 2354
Weights = [0.145 0.05 0.033 0.136 0.168 0.164 0.127 0.077 0.1], Final Value =
\$1618592.39, Sharpe Ratio = -17.53

Simulation Run = 2355
Weights = [0.185 0.037 0.044 0.198 0.135 0.304 0.083 0. 0.014], Final Value =
\$1758549.65, Sharpe Ratio = -14.74

Simulation Run = 2356
Weights = [0.028 0.03 0.281 0.034 0.216 0.132 0.096 0.071 0.113], Final Value =
\$1469958.81, Sharpe Ratio = -17.37

Simulation Run = 2357
Weights = [0.143 0.064 0.118 0.218 0.079 0.001 0.069 0.12 0.189], Final Value =
\$1441291.48, Sharpe Ratio = -22.50

Simulation Run = 2358
Weights = [0.159 0.166 0.117 0.01 0.162 0.162 0.063 0.158 0.002], Final Value =
\$1617182.64, Sharpe Ratio = -18.75

Simulation Run = 2359
Weights = [0.17 0.226 0.073 0.105 0.008 0.041 0.122 0.035 0.22], Final Value =
\$1359973.73, Sharpe Ratio = -21.30

Simulation Run = 2360
Weights = [0.158 0.005 0.075 0.035 0.078 0.035 0.212 0.19 0.212], Final Value =
\$1422950.65, Sharpe Ratio = -15.80

Simulation Run = 2361
Weights = [0.183 0.143 0.192 0.076 0.1 0.129 0.039 0.101 0.037], Final Value =
\$1553000.52, Sharpe Ratio = -18.98

Simulation Run = 2362
Weights = [0.09 0.196 0.167 0.13 0.043 0.01 0.06 0.203 0.101], Final Value =
\$1429638.92, Sharpe Ratio = -22.40

Simulation Run = 2363
Weights = [0.03 0.126 0.079 0.122 0.174 0.156 0.163 0.125 0.024], Final Value =
\$1620539.77, Sharpe Ratio = -16.53

Simulation Run = 2364
Weights = [0.071 0.15 0.056 0.121 0.139 0.18 0.106 0.029 0.148], Final Value =
\$1522436.56, Sharpe Ratio = -19.63

Simulation Run = 2365

Weights = [0.103 0.162 0.078 0.195 0.079 0.003 0.087 0.147 0.147], Final Value = \$1455350.73, Sharpe Ratio = -23.41

Simulation Run = 2366

Weights = [0.06 0.187 0.02 0.198 0.066 0.108 0.11 0.116 0.135], Final Value = \$1510801.16, Sharpe Ratio = -21.06

Simulation Run = 2367

Weights = [0.009 0.287 0.19 0.073 0.048 0.096 0.102 0.046 0.149], Final Value = \$1355127.81, Sharpe Ratio = -20.88

Simulation Run = 2368

Weights = [0.058 0.155 0.127 0.079 0.132 0.069 0.128 0.193 0.058], Final Value = \$1519227.22, Sharpe Ratio = -19.10

Simulation Run = 2369

Weights = [0.193 0.208 0.072 0.002 0.001 0.111 0.318 0.041 0.055], Final Value = \$1505494.51, Sharpe Ratio = -11.83

Simulation Run = 2370

Weights = [0.211 0.053 0.142 0.123 0.003 0.063 0.147 0.145 0.112], Final Value = \$1493365.44, Sharpe Ratio = -16.13

Simulation Run = 2371

Weights = [0.107 0.072 0.081 0.007 0.13 0.113 0.174 0.182 0.133], Final Value = \$1500325.53, Sharpe Ratio = -16.61

Simulation Run = 2372

Weights = [0.14 0.133 0.147 0.123 0.118 0.041 0.166 0.086 0.045], Final Value = \$1533190.40, Sharpe Ratio = -16.96

Simulation Run = 2373

Weights = [0.033 0.042 0.226 0.026 0.199 0.112 0.244 0.05 0.068], Final Value = \$1507676.13, Sharpe Ratio = -13.53

Simulation Run = 2374

Weights = [0.057 0.209 0.078 0.09 0.044 0.051 0.208 0.182 0.082], Final Value = \$1472264.84, Sharpe Ratio = -16.50

Simulation Run = 2375
Weights = [0.018 0.006 0.052 0.202 0.144 0.206 0.168 0.178 0.026], Final Value =
\$1690339.23, Sharpe Ratio = -14.69

Simulation Run = 2376
Weights = [0.012 0.219 0.009 0.198 0.054 0.018 0.183 0.183 0.127], Final Value =
\$1465320.31, Sharpe Ratio = -19.24

Simulation Run = 2377
Weights = [0.198 0.147 0.198 0.101 0.078 0.187 0.057 0.007 0.028], Final Value =
\$1577628.10, Sharpe Ratio = -17.06

Simulation Run = 2378
Weights = [0.115 0.056 0.055 0.187 0.16 0.014 0.065 0.18 0.167], Final Value =
\$1502594.37, Sharpe Ratio = -24.22

Simulation Run = 2379
Weights = [0.229 0.069 0.001 0.182 0.272 0.049 0.048 0.084 0.068], Final Value =
\$1668114.67, Sharpe Ratio = -22.94

Simulation Run = 2380
Weights = [0.012 0.034 0.159 0.157 0.089 0.107 0.202 0.007 0.233], Final Value =
\$1388575.22, Sharpe Ratio = -15.96

Simulation Run = 2381
Weights = [0.052 0.088 0.165 0.164 0.121 0.046 0.147 0.098 0.118], Final Value =
\$1471793.00, Sharpe Ratio = -18.16

Simulation Run = 2382
Weights = [0.027 0.018 0.079 0.185 0.134 0.224 0.022 0.087 0.224], Final Value =
\$1510107.64, Sharpe Ratio = -20.73

Simulation Run = 2383
Weights = [0.076 0.151 0.192 0.115 0.1 0.047 0.02 0.127 0.172], Final Value =
\$1392599.89, Sharpe Ratio = -24.26

Simulation Run = 2384
Weights = [0.033 0.027 0.082 0.172 0.157 0.148 0.138 0.138 0.104], Final Value =

\$1581855.84, Sharpe Ratio = -17.35

Simulation Run = 2385

Weights = [0.03 0.185 0.154 0.061 0.158 0.028 0.155 0.086 0.143], Final Value = \$1403565.49, Sharpe Ratio = -19.79

Simulation Run = 2386

Weights = [0.124 0.06 0.162 0.148 0.103 0.036 0.177 0.028 0.162], Final Value = \$1439591.96, Sharpe Ratio = -16.97

Simulation Run = 2387

Weights = [0.107 0.045 0.118 0.15 0.121 0.16 0.11 0.087 0.101], Final Value = \$1568607.87, Sharpe Ratio = -17.43

Simulation Run = 2388

Weights = [0.041 0.027 0.166 0.094 0.178 0.065 0.171 0.076 0.182], Final Value = \$1433441.86, Sharpe Ratio = -17.54

Simulation Run = 2389

Weights = [0.192 0.015 0.165 0.068 0.08 0.217 0.209 0.009 0.046], Final Value = \$1606097.04, Sharpe Ratio = -12.53

Simulation Run = 2390

Weights = [0.067 0.172 0.132 0.034 0.174 0.02 0.148 0.176 0.076], Final Value = \$1478624.34, Sharpe Ratio = -19.46

Simulation Run = 2391

Weights = [0.137 0.072 0.074 0.069 0.114 0.151 0.108 0.126 0.149], Final Value = \$1521079.61, Sharpe Ratio = -18.51

Simulation Run = 2392

Weights = [0.108 0.113 0.04 0.143 0.14 0.173 0.117 0.136 0.03], Final Value = \$1653970.61, Sharpe Ratio = -17.44

Simulation Run = 2393

Weights = [0.058 0.191 0.024 0.095 0.025 0.087 0.216 0.048 0.256], Final Value = \$1352984.98, Sharpe Ratio = -17.06

Simulation Run = 2394
Weights = [0.036 0.193 0.038 0.212 0.229 0.242 0.008 0.005 0.037], Final Value =
\$1680334.61, Sharpe Ratio = -21.03

Simulation Run = 2395
Weights = [0.207 0.061 0.124 0.019 0.085 0.001 0.158 0.163 0.181], Final Value =
\$1410818.20, Sharpe Ratio = -17.86

Simulation Run = 2396
Weights = [0.043 0.194 0.18 0.018 0.145 0.057 0.176 0.068 0.117], Final Value =
\$1411631.34, Sharpe Ratio = -17.78

Simulation Run = 2397
Weights = [0.084 0.251 0.126 0.116 0.078 0.169 0.044 0.056 0.077], Final Value =
\$1514400.25, Sharpe Ratio = -21.13

Simulation Run = 2398
Weights = [0.069 0.063 0.125 0.135 0.081 0.1 0.171 0.147 0.109], Final Value =
\$1509881.90, Sharpe Ratio = -16.31

Simulation Run = 2399
Weights = [0.017 0.187 0.109 0.245 0.068 0.097 0.032 0.244 0.002], Final Value =
\$1597190.71, Sharpe Ratio = -21.19

Simulation Run = 2400
Weights = [0.082 0.025 0.123 0.182 0.198 0.078 0.066 0.191 0.055], Final Value =
\$1608472.15, Sharpe Ratio = -20.09

Simulation Run = 2401
Weights = [0.07 0.05 0.054 0.078 0.094 0.125 0.257 0. 0.272], Final Value =
\$1391035.33, Sharpe Ratio = -14.63

Simulation Run = 2402
Weights = [0.154 0.138 0.101 0.023 0.179 0.027 0.12 0.144 0.115], Final Value =
\$1484468.36, Sharpe Ratio = -20.72

Simulation Run = 2403
Weights = [0.149 0.085 0.081 0.113 0.252 0.014 0.127 0.074 0.105], Final Value =
\$1545633.54, Sharpe Ratio = -20.68

Simulation Run = 2404
Weights = [0.131 0.017 0.011 0.23 0.105 0.011 0.148 0.162 0.186], Final Value =
\$1507182.01, Sharpe Ratio = -19.48

Simulation Run = 2405
Weights = [0.05 0.001 0.197 0.175 0.092 0.064 0.15 0.135 0.136], Final Value =
\$1468356.06, Sharpe Ratio = -16.63

Simulation Run = 2406
Weights = [0.218 0.001 0.041 0.182 0.146 0.205 0.062 0.059 0.086], Final Value =
\$1677132.76, Sharpe Ratio = -17.40

Simulation Run = 2407
Weights = [0.039 0.045 0.024 0.096 0.004 0.216 0.229 0.074 0.272], Final Value =
\$1417240.40, Sharpe Ratio = -14.04

Simulation Run = 2408
Weights = [0.084 0.168 0.131 0.164 0.05 0.149 0.074 0.053 0.128], Final Value =
\$1485283.61, Sharpe Ratio = -19.95

Simulation Run = 2409
Weights = [0.027 0.191 0.149 0.167 0.028 0.065 0.187 0.151 0.035], Final Value =
\$1501703.23, Sharpe Ratio = -16.02

Simulation Run = 2410
Weights = [0.103 0.148 0.133 0.001 0.154 0.056 0.134 0.125 0.147], Final Value =
\$1429941.17, Sharpe Ratio = -19.83

Simulation Run = 2411
Weights = [0.127 0.008 0.093 0.098 0.135 0.052 0.057 0.222 0.208], Final Value =
\$1456609.04, Sharpe Ratio = -22.84

Simulation Run = 2412
Weights = [0.058 0.051 0.118 0.176 0.135 0.19 0.027 0.192 0.053], Final Value =
\$1628415.80, Sharpe Ratio = -18.88

Simulation Run = 2413

Weights = [0.113 0.125 0.165 0.083 0.156 0.131 0.093 0.066 0.068], Final Value = \$1541686.76, Sharpe Ratio = -18.72

Simulation Run = 2414

Weights = [0.123 0.083 0.168 0.037 0.005 0.191 0.203 0.132 0.059], Final Value = \$1531000.77, Sharpe Ratio = -13.11

Simulation Run = 2415

Weights = [0.042 0.135 0.171 0.129 0.02 0.176 0.114 0.086 0.127], Final Value = \$1463969.18, Sharpe Ratio = -17.06

Simulation Run = 2416

Weights = [0.117 0.172 0.165 0.131 0.044 0.046 0.172 0.017 0.136], Final Value = \$1414645.22, Sharpe Ratio = -17.32

Simulation Run = 2417

Weights = [0.095 0.105 0.086 0.003 0.13 0.184 0.18 0.024 0.193], Final Value = \$1456155.39, Sharpe Ratio = -16.12

Simulation Run = 2418

Weights = [0.147 0.079 0.142 0.1 0.058 0.06 0.209 0.099 0.104], Final Value = \$1484233.62, Sharpe Ratio = -15.01

Simulation Run = 2419

Weights = [0.228 0.17 0.011 0.017 0.045 0.16 0.149 0.164 0.056], Final Value = \$1590802.02, Sharpe Ratio = -15.89

Simulation Run = 2420

Weights = [0.016 0.055 0.248 0.035 0.115 0.315 0.182 0.003 0.032], Final Value = \$1582342.88, Sharpe Ratio = -12.30

Simulation Run = 2421

Weights = [0.154 0.117 0.266 0.059 0.079 0.034 0.165 0.124 0.], Final Value = \$1504883.67, Sharpe Ratio = -15.01

Simulation Run = 2422

Weights = [0.097 0.2 0.044 0.229 0.037 0.178 0.098 0.037 0.08], Final Value = \$1576441.73, Sharpe Ratio = -18.65

Simulation Run = 2423
Weights = [0.191 0.034 0.06 0.201 0.012 0.06 0.108 0.207 0.126], Final Value =
\$1537867.94, Sharpe Ratio = -18.28

Simulation Run = 2424
Weights = [0.119 0.072 0.19 0.198 0.103 0.057 0.146 0.028 0.087], Final Value =
\$1509640.02, Sharpe Ratio = -16.91

Simulation Run = 2425
Weights = [0.229 0.157 0.018 0.316 0.082 0.053 0.088 0.025 0.032], Final Value =
\$1647804.20, Sharpe Ratio = -19.98

Simulation Run = 2426
Weights = [0.089 0.107 0.156 0.121 0.01 0.172 0.146 0.165 0.035], Final Value =
\$1561482.44, Sharpe Ratio = -14.96

Simulation Run = 2427
Weights = [0.047 0.065 0.163 0.202 0.067 0.252 0.078 0.11 0.017], Final Value =
\$1643211.75, Sharpe Ratio = -15.34

Simulation Run = 2428
Weights = [0.183 0.111 0.127 0.153 0.024 0.198 0.016 0.043 0.146], Final Value =
\$1516342.09, Sharpe Ratio = -19.24

Simulation Run = 2429
Weights = [0.097 0.1 0.047 0.213 0.129 0.033 0.042 0.097 0.241], Final Value =
\$1430664.69, Sharpe Ratio = -27.30

Simulation Run = 2430
Weights = [0.203 0.159 0.219 0.111 0.048 0.051 0.04 0.093 0.076], Final Value =
\$1471100.33, Sharpe Ratio = -19.98

Simulation Run = 2431
Weights = [0.066 0.17 0.291 0.005 0.258 0.017 0.098 0.07 0.028], Final Value =
\$1470056.84, Sharpe Ratio = -19.00

Simulation Run = 2432
Weights = [0.209 0.094 0.036 0.005 0.167 0.089 0.244 0.06 0.096], Final Value =

\$1556390.54, Sharpe Ratio = -14.37

Simulation Run = 2433

Weights = [0.028 0.188 0.147 0.049 0.154 0.216 0.012 0.006 0.199], Final Value = \$1429328.43, Sharpe Ratio = -22.50

Simulation Run = 2434

Weights = [0.169 0.151 0.028 0.17 0. 0.027 0.164 0.144 0.146], Final Value = \$1471129.73, Sharpe Ratio = -18.23

Simulation Run = 2435

Weights = [0.168 0.004 0.118 0.16 0.131 0.048 0.153 0.163 0.055], Final Value = \$1593243.36, Sharpe Ratio = -16.44

Simulation Run = 2436

Weights = [0.118 0.044 0.186 0.051 0.073 0.067 0.177 0.174 0.109], Final Value = \$1465541.13, Sharpe Ratio = -15.56

Simulation Run = 2437

Weights = [0.138 0.088 0.176 0.014 0.031 0.107 0.195 0.134 0.116], Final Value = \$1450030.32, Sharpe Ratio = -14.67

Simulation Run = 2438

Weights = [0.09 0.15 0.085 0.143 0.06 0.112 0.069 0.142 0.149], Final Value = \$1478081.37, Sharpe Ratio = -21.71

Simulation Run = 2439

Weights = [0.112 0.202 0.191 0.028 0.061 0.13 0.177 0.05 0.049], Final Value = \$1485155.70, Sharpe Ratio = -15.41

Simulation Run = 2440

Weights = [0.159 0.016 0.217 0.079 0.169 0.034 0.219 0.031 0.076], Final Value = \$1509399.23, Sharpe Ratio = -14.34

Simulation Run = 2441

Weights = [0.124 0.063 0.134 0.092 0.204 0.018 0.166 0.178 0.021], Final Value = \$1584135.96, Sharpe Ratio = -16.98

Simulation Run = 2442
Weights = [0.068 0.037 0.133 0.015 0.143 0.213 0.104 0.278 0.009], Final Value =
\$1639236.17, Sharpe Ratio = -15.61

Simulation Run = 2443
Weights = [0.027 0.251 0.121 0.186 0.012 0.031 0.285 0.082 0.005], Final Value =
\$1504131.89, Sharpe Ratio = -13.47

Simulation Run = 2444
Weights = [0.175 0.198 0.079 0.064 0.14 0.128 0.061 0.011 0.145], Final Value =
\$1490954.09, Sharpe Ratio = -22.50

Simulation Run = 2445
Weights = [0.162 0.027 0.035 0.204 0.166 0.117 0.013 0.079 0.196], Final Value =
\$1546763.15, Sharpe Ratio = -23.85

Simulation Run = 2446
Weights = [0.105 0.023 0.166 0.115 0.034 0.177 0.181 0.015 0.184], Final Value =
\$1453078.21, Sharpe Ratio = -14.62

Simulation Run = 2447
Weights = [0.085 0.066 0.161 0.111 0.072 0.183 0.081 0.142 0.099], Final Value =
\$1533820.31, Sharpe Ratio = -17.35

Simulation Run = 2448
Weights = [0.105 0.045 0.055 0.108 0.139 0.168 0.103 0.151 0.126], Final Value =
\$1571983.71, Sharpe Ratio = -18.36

Simulation Run = 2449
Weights = [0.064 0.127 0.034 0.035 0.231 0.031 0.135 0.173 0.17], Final Value =
\$1467549.98, Sharpe Ratio = -22.11

Simulation Run = 2450
Weights = [0.068 0.082 0.145 0.297 0.001 0.013 0.059 0.139 0.197], Final Value =
\$1407378.41, Sharpe Ratio = -21.68

Simulation Run = 2451
Weights = [0.173 0.098 0.127 0.163 0.056 0.01 0.162 0.138 0.074], Final Value =
\$1514860.04, Sharpe Ratio = -16.94

Simulation Run = 2452
Weights = [0.061 0.05 0.125 0.264 0.313 0.004 0.073 0.023 0.086], Final Value =
\$1584628.29, Sharpe Ratio = -22.10

Simulation Run = 2453
Weights = [0.258 0.266 0.04 0.078 0.102 0.006 0.016 0.192 0.042], Final Value =
\$1548820.56, Sharpe Ratio = -25.40

Simulation Run = 2454
Weights = [0.024 0.073 0.059 0.176 0.061 0.075 0.123 0.216 0.193], Final Value =
\$1451460.31, Sharpe Ratio = -20.22

Simulation Run = 2455
Weights = [0.061 0.111 0.063 0.076 0.179 0.171 0.038 0.099 0.202], Final Value =
\$1482976.11, Sharpe Ratio = -23.33

Simulation Run = 2456
Weights = [0.101 0.036 0.132 0.241 0.029 0.172 0.032 0.23 0.028], Final Value =
\$1637413.18, Sharpe Ratio = -17.22

Simulation Run = 2457
Weights = [0.017 0.056 0.219 0.104 0.116 0.189 0.109 0.042 0.147], Final Value =
\$1466073.20, Sharpe Ratio = -16.88

Simulation Run = 2458
Weights = [0.156 0.107 0.191 0.093 0.04 0.022 0.121 0.079 0.19], Final Value =
\$1366928.92, Sharpe Ratio = -19.01

Simulation Run = 2459
Weights = [0.123 0.135 0.019 0.179 0.206 0.052 0.027 0.222 0.038], Final Value =
\$1638208.60, Sharpe Ratio = -24.66

Simulation Run = 2460
Weights = [0.085 0.213 0.011 0.079 0.031 0.056 0.112 0.217 0.196], Final Value =
\$1406062.92, Sharpe Ratio = -22.55

Simulation Run = 2461

Weights = [0.019 0.076 0.173 0.186 0.145 0.123 0.099 0.068 0.111], Final Value = \$1513407.41, Sharpe Ratio = -18.85

Simulation Run = 2462

Weights = [0.115 0.152 0.025 0.204 0.152 0.214 0.06 0.011 0.067], Final Value = \$1649646.06, Sharpe Ratio = -19.54

Simulation Run = 2463

Weights = [0. 0.017 0.176 0.025 0.239 0.074 0.198 0.069 0.203], Final Value = \$1409080.53, Sharpe Ratio = -16.77

Simulation Run = 2464

Weights = [0.203 0.189 0.185 0.19 0.006 0.098 0.012 0.085 0.034], Final Value = \$1540035.83, Sharpe Ratio = -19.65

Simulation Run = 2465

Weights = [0.063 0.11 0.155 0.175 0.171 0.054 0.064 0.083 0.125], Final Value = \$1488566.44, Sharpe Ratio = -22.48

Simulation Run = 2466

Weights = [0.049 0.207 0.054 0.091 0.129 0.057 0.064 0.109 0.241], Final Value = \$1371774.51, Sharpe Ratio = -27.64

Simulation Run = 2467

Weights = [0.075 0.205 0.043 0.177 0.069 0.114 0.067 0.088 0.161], Final Value = \$1475902.16, Sharpe Ratio = -23.52

Simulation Run = 2468

Weights = [0.147 0.1 0.089 0.068 0.145 0.127 0.113 0.102 0.11], Final Value = \$1541064.89, Sharpe Ratio = -18.75

Simulation Run = 2469

Weights = [0.098 0.08 0.05 0.025 0.183 0.231 0.179 0.029 0.125], Final Value = \$1573903.35, Sharpe Ratio = -15.18

Simulation Run = 2470

Weights = [0.153 0.163 0.024 0.005 0.037 0.186 0.143 0.109 0.179], Final Value = \$1470493.37, Sharpe Ratio = -16.93

Simulation Run = 2471
Weights = [0.121 0.115 0.182 0.025 0.155 0.067 0.165 0.157 0.014], Final Value =
\$1547030.31, Sharpe Ratio = -16.16

Simulation Run = 2472
Weights = [0.055 0.118 0.165 0.093 0.036 0.038 0.19 0.214 0.091], Final Value =
\$1447860.34, Sharpe Ratio = -15.99

Simulation Run = 2473
Weights = [0.222 0.026 0.248 0.031 0.103 0.158 0.1 0.059 0.054], Final Value =
\$1551127.89, Sharpe Ratio = -15.20

Simulation Run = 2474
Weights = [0.186 0.166 0.066 0.117 0.012 0.003 0.156 0.211 0.082], Final Value =
\$1494117.49, Sharpe Ratio = -17.98

Simulation Run = 2475
Weights = [0.176 0.057 0.224 0.008 0.116 0.144 0.08 0.168 0.026], Final Value =
\$1564774.78, Sharpe Ratio = -16.32

Simulation Run = 2476
Weights = [0.013 0.029 0.125 0.148 0.011 0.256 0.042 0.084 0.292], Final Value =
\$1397899.83, Sharpe Ratio = -18.52

Simulation Run = 2477
Weights = [0.067 0.245 0.088 0.104 0.069 0.088 0.214 0.055 0.07], Final Value =
\$1490303.85, Sharpe Ratio = -16.09

Simulation Run = 2478
Weights = [0.017 0.109 0.12 0.117 0.156 0.011 0.258 0.191 0.021], Final Value =
\$1544770.92, Sharpe Ratio = -14.46

Simulation Run = 2479
Weights = [0.222 0.179 0.025 0.01 0.075 0.142 0.218 0.009 0.121], Final Value =
\$1516124.12, Sharpe Ratio = -14.77

Simulation Run = 2480
Weights = [0.066 0.01 0.224 0.045 0.119 0.234 0.143 0.124 0.035], Final Value =

\$1588613.54, Sharpe Ratio = -13.79

Simulation Run = 2481

Weights = [0.132 0.086 0.033 0.108 0.18 0.161 0.013 0.122 0.165], Final Value = \$1553639.14, Sharpe Ratio = -23.31

Simulation Run = 2482

Weights = [0.038 0.152 0.173 0.13 0.019 0.023 0.123 0.155 0.188], Final Value = \$1347862.47, Sharpe Ratio = -19.95

Simulation Run = 2483

Weights = [0.152 0.18 0.036 0.193 0.037 0.168 0.04 0.103 0.09], Final Value = \$1579068.16, Sharpe Ratio = -20.56

Simulation Run = 2484

Weights = [0.081 0.036 0.041 0.106 0.069 0.213 0.198 0.052 0.205], Final Value = \$1498555.32, Sharpe Ratio = -14.75

Simulation Run = 2485

Weights = [0.154 0.179 0.107 0.158 0.115 0.023 0.076 0.108 0.079], Final Value = \$1515909.57, Sharpe Ratio = -22.37

Simulation Run = 2486

Weights = [0.036 0.153 0.181 0.124 0.053 0.056 0.177 0.051 0.17], Final Value = \$1373734.56, Sharpe Ratio = -17.35

Simulation Run = 2487

Weights = [0.023 0.051 0.236 0.27 0.041 0.121 0.032 0.015 0.209], Final Value = \$1403227.75, Sharpe Ratio = -19.66

Simulation Run = 2488

Weights = [0.053 0.046 0.056 0.025 0.247 0.045 0.096 0.178 0.256], Final Value = \$1413204.30, Sharpe Ratio = -24.24

Simulation Run = 2489

Weights = [0.211 0.057 0.27 0.097 0.009 0.123 0.058 0.091 0.083], Final Value = \$1486369.21, Sharpe Ratio = -16.34

Simulation Run = 2490
Weights = [0.025 0.158 0.019 0.173 0.069 0.129 0.04 0.252 0.136], Final Value =
\$1521908.31, Sharpe Ratio = -23.62

Simulation Run = 2491
Weights = [0.036 0.141 0.158 0.088 0.031 0.184 0.118 0.124 0.12], Final Value =
\$1470655.92, Sharpe Ratio = -16.97

Simulation Run = 2492
Weights = [0.136 0.166 0.042 0.26 0.128 0.013 0.043 0.053 0.158], Final Value =
\$1496121.20, Sharpe Ratio = -26.68

Simulation Run = 2493
Weights = [0.157 0.195 0.192 0.183 0.021 0.049 0.008 0.046 0.15], Final Value =
\$1408712.86, Sharpe Ratio = -23.13

Simulation Run = 2494
Weights = [0.06 0.138 0.089 0.182 0.142 0.159 0.063 0.053 0.114], Final Value =
\$1549576.14, Sharpe Ratio = -21.13

Simulation Run = 2495
Weights = [0.183 0.079 0.03 0.111 0.055 0.166 0.073 0.186 0.116], Final Value =
\$1577060.35, Sharpe Ratio = -18.53

Simulation Run = 2496
Weights = [0.09 0.143 0.003 0.124 0.138 0.156 0.108 0.088 0.15], Final Value =
\$1540207.90, Sharpe Ratio = -20.28

Simulation Run = 2497
Weights = [0.117 0.044 0.07 0.225 0.135 0.135 0.115 0.028 0.13], Final Value =
\$1573470.93, Sharpe Ratio = -18.52

Simulation Run = 2498
Weights = [0.044 0.169 0.03 0.121 0.107 0.157 0.117 0.14 0.115], Final Value =
\$1538024.00, Sharpe Ratio = -19.51

Simulation Run = 2499
Weights = [0.131 0.234 0.086 0.07 0.186 0.056 0.036 0.186 0.014], Final Value =
\$1577155.30, Sharpe Ratio = -24.32

Simulation Run = 2500
Weights = [0.08 0.112 0.003 0.111 0.106 0.06 0.213 0.144 0.17], Final Value =
\$1478021.48, Sharpe Ratio = -16.97

Simulation Run = 2501
Weights = [0.053 0.012 0.054 0.109 0.203 0.253 0.146 0.112 0.059], Final Value =
\$1676357.70, Sharpe Ratio = -15.11

Simulation Run = 2502
Weights = [0.197 0.003 0.143 0.08 0.07 0.179 0.151 0.16 0.017], Final Value =
\$1637557.22, Sharpe Ratio = -13.89

Simulation Run = 2503
Weights = [0.02 0.172 0.103 0.17 0.118 0.184 0.013 0.168 0.051], Final Value =
\$1588967.06, Sharpe Ratio = -21.16

Simulation Run = 2504
Weights = [0.149 0.158 0.122 0.12 0.022 0.109 0.108 0.006 0.205], Final Value =
\$1399981.34, Sharpe Ratio = -19.68

Simulation Run = 2505
Weights = [0.042 0.2 0.056 0.121 0.199 0.146 0.125 0.045 0.066], Final Value =
\$1577164.98, Sharpe Ratio = -19.71

Simulation Run = 2506
Weights = [0.107 0.052 0.074 0.196 0.059 0.047 0.138 0.17 0.156], Final Value =
\$1489562.76, Sharpe Ratio = -18.73

Simulation Run = 2507
Weights = [0.081 0.004 0.034 0.119 0.109 0.131 0.151 0.19 0.181], Final Value =
\$1518842.53, Sharpe Ratio = -17.44

Simulation Run = 2508
Weights = [0.234 0.246 0.002 0.01 0.212 0.019 0.04 0.22 0.016], Final Value =
\$1605430.78, Sharpe Ratio = -24.72

Simulation Run = 2509

Weights = [0.208 0.11 0.023 0.148 0.113 0.074 0.092 0.111 0.121], Final Value = \$1557394.64, Sharpe Ratio = -20.83

Simulation Run = 2510

Weights = [0.215 0.085 0.031 0.071 0.066 0.225 0.156 0.061 0.09], Final Value = \$1612510.57, Sharpe Ratio = -14.67

Simulation Run = 2511

Weights = [0.245 0.113 0.076 0.04 0.017 0.051 0.249 0.129 0.079], Final Value = \$1513414.80, Sharpe Ratio = -13.61

Simulation Run = 2512

Weights = [0.093 0.234 0.134 0.022 0.256 0.155 0.015 0.036 0.055], Final Value = \$1557194.01, Sharpe Ratio = -23.27

Simulation Run = 2513

Weights = [0.02 0.161 0.097 0.165 0.128 0.158 0.047 0.15 0.074], Final Value = \$1563503.22, Sharpe Ratio = -21.33

Simulation Run = 2514

Weights = [0.018 0.142 0.174 0.164 0.165 0.007 0.041 0.214 0.075], Final Value = \$1490460.86, Sharpe Ratio = -23.32

Simulation Run = 2515

Weights = [0.216 0.213 0.056 0.04 0.024 0.05 0.113 0.111 0.178], Final Value = \$1411044.95, Sharpe Ratio = -20.71

Simulation Run = 2516

Weights = [0.215 0.022 0.15 0.075 0.179 0.122 0.084 0.042 0.111], Final Value = \$1556607.44, Sharpe Ratio = -18.30

Simulation Run = 2517

Weights = [0.013 0.213 0.04 0.143 0.21 0.103 0.016 0.075 0.187], Final Value = \$1467791.98, Sharpe Ratio = -29.47

Simulation Run = 2518

Weights = [0.086 0.057 0.121 0.111 0.155 0.089 0.16 0.05 0.173], Final Value = \$1467265.27, Sharpe Ratio = -17.99

Simulation Run = 2519
Weights = [0.03 0.062 0.115 0.196 0.202 0.134 0.042 0.139 0.08], Final Value =
\$1596424.07, Sharpe Ratio = -21.13

Simulation Run = 2520
Weights = [0.012 0.166 0.147 0.172 0.083 0.067 0.162 0.103 0.088], Final Value =
\$1476493.68, Sharpe Ratio = -17.75

Simulation Run = 2521
Weights = [0.089 0.131 0.153 0.093 0.135 0.127 0.122 0.095 0.055], Final Value =
\$1545963.72, Sharpe Ratio = -17.74

Simulation Run = 2522
Weights = [0.095 0.195 0.047 0.121 0.122 0.135 0.097 0.144 0.045], Final Value =
\$1590572.10, Sharpe Ratio = -19.94

Simulation Run = 2523
Weights = [0.14 0.069 0.097 0.208 0.147 0.163 0.092 0.013 0.07], Final Value =
\$1622907.80, Sharpe Ratio = -18.05

Simulation Run = 2524
Weights = [0.154 0.108 0.11 0.032 0.141 0.091 0.136 0.133 0.095], Final Value =
\$1521948.77, Sharpe Ratio = -18.04

Simulation Run = 2525
Weights = [0.187 0.175 0.061 0.019 0.093 0.086 0.103 0.018 0.258], Final Value =
\$1369061.47, Sharpe Ratio = -21.91

Simulation Run = 2526
Weights = [0.021 0.082 0.059 0.201 0.098 0.26 0.05 0.175 0.054], Final Value =
\$1657189.92, Sharpe Ratio = -17.39

Simulation Run = 2527
Weights = [0.19 0.15 0.088 0.108 0.125 0.015 0.145 0.044 0.135], Final Value =
\$1471742.70, Sharpe Ratio = -19.67

Simulation Run = 2528
Weights = [0.111 0.023 0.175 0.075 0.11 0.108 0.211 0.063 0.124], Final Value =

\$1487011.35, Sharpe Ratio = -14.46

Simulation Run = 2529

Weights = [0.096 0.036 0.021 0.22 0.231 0.267 0.096 0.014 0.02], Final Value = \$1762550.99, Sharpe Ratio = -16.13

Simulation Run = 2530

Weights = [0.14 0.096 0.08 0.169 0.152 0.002 0.171 0.118 0.072], Final Value = \$1551837.99, Sharpe Ratio = -17.89

Simulation Run = 2531

Weights = [0.266 0.066 0.081 0.033 0.207 0.177 0.023 0.044 0.103], Final Value = \$1611349.35, Sharpe Ratio = -19.67

Simulation Run = 2532

Weights = [0.075 0.192 0.15 0.205 0.022 0.176 0.052 0.078 0.051], Final Value = \$1550129.38, Sharpe Ratio = -18.68

Simulation Run = 2533

Weights = [0.187 0.018 0.123 0.042 0.221 0. 0.205 0.088 0.116], Final Value = \$1510960.78, Sharpe Ratio = -16.13

Simulation Run = 2534

Weights = [0.157 0.112 0.072 0.057 0.118 0.194 0.183 0.104 0.002], Final Value = \$1652892.60, Sharpe Ratio = -14.27

Simulation Run = 2535

Weights = [0.203 0.088 0.167 0.186 0.096 0.037 0.107 0.046 0.071], Final Value = \$1534780.96, Sharpe Ratio = -18.24

Simulation Run = 2536

Weights = [0.071 0.092 0.108 0.079 0.144 0.151 0.107 0.176 0.072], Final Value = \$1568105.97, Sharpe Ratio = -18.20

Simulation Run = 2537

Weights = [0.172 0.092 0.02 0.147 0.15 0.064 0.157 0.145 0.052], Final Value = \$1619459.63, Sharpe Ratio = -17.69

Simulation Run = 2538
Weights = [0.076 0.169 0.098 0.048 0.18 0.09 0.232 0.016 0.091], Final Value =
\$1504917.22, Sharpe Ratio = -15.57

Simulation Run = 2539
Weights = [0.018 0.095 0.005 0.054 0.178 0.127 0.242 0.175 0.105], Final Value =
\$1557838.32, Sharpe Ratio = -14.98

Simulation Run = 2540
Weights = [0.075 0.124 0.154 0.191 0.08 0.022 0.033 0.136 0.185], Final Value =
\$1405797.42, Sharpe Ratio = -24.48

Simulation Run = 2541
Weights = [0.191 0.003 0.028 0.17 0.069 0.039 0.17 0.083 0.246], Final Value =
\$1447259.61, Sharpe Ratio = -17.86

Simulation Run = 2542
Weights = [0.114 0.055 0.045 0.141 0.218 0.021 0.182 0.198 0.025], Final Value =
\$1632676.45, Sharpe Ratio = -17.12

Simulation Run = 2543
Weights = [0.197 0.004 0.232 0.04 0.079 0.137 0.113 0.044 0.155], Final Value =
\$1457096.06, Sharpe Ratio = -16.01

Simulation Run = 2544
Weights = [0.057 0.111 0.077 0.079 0.064 0.145 0.176 0.181 0.11], Final Value =
\$1513903.54, Sharpe Ratio = -16.09

Simulation Run = 2545
Weights = [0.209 0.194 0.024 0.185 0.129 0.023 0.042 0.139 0.056], Final Value =
\$1587508.68, Sharpe Ratio = -24.39

Simulation Run = 2546
Weights = [0.088 0.165 0.078 0.02 0.091 0.191 0.131 0.03 0.206], Final Value =
\$1430520.07, Sharpe Ratio = -18.18

Simulation Run = 2547
Weights = [0.112 0.056 0.044 0.097 0.129 0.129 0.104 0.232 0.095], Final Value =
\$1584227.87, Sharpe Ratio = -18.76

Simulation Run = 2548
Weights = [0.062 0.118 0.045 0.111 0.189 0. 0.089 0.25 0.136], Final Value =
\$1494210.47, Sharpe Ratio = -24.51

Simulation Run = 2549
Weights = [0.17 0.199 0.002 0.094 0.107 0.001 0.136 0.105 0.186], Final Value =
\$1435272.14, Sharpe Ratio = -22.09

Simulation Run = 2550
Weights = [0.163 0.145 0.228 0.072 0.035 0.217 0.055 0.074 0.01], Final Value =
\$1571557.86, Sharpe Ratio = -15.83

Simulation Run = 2551
Weights = [0.008 0.123 0.084 0.188 0.161 0.021 0.032 0.195 0.19], Final Value =
\$1439333.03, Sharpe Ratio = -27.84

Simulation Run = 2552
Weights = [0.012 0.087 0.227 0.07 0.033 0.116 0.222 0.097 0.135], Final Value =
\$1403417.66, Sharpe Ratio = -14.02

Simulation Run = 2553
Weights = [0.11 0.148 0.131 0.089 0.135 0.039 0.082 0.071 0.193], Final Value =
\$1401032.78, Sharpe Ratio = -23.48

Simulation Run = 2554
Weights = [0.062 0.11 0.158 0.079 0.071 0.195 0.132 0.044 0.15], Final Value =
\$1466838.56, Sharpe Ratio = -16.63

Simulation Run = 2555
Weights = [0.193 0.063 0.07 0.139 0.295 0.012 0.021 0.198 0.009], Final Value =
\$1672819.66, Sharpe Ratio = -22.92

Simulation Run = 2556
Weights = [0.06 0.179 0.16 0.162 0.002 0.118 0.231 0.052 0.036], Final Value =
\$1513225.90, Sharpe Ratio = -13.82

Simulation Run = 2557

Weights = [0.145 0.134 0.001 0.214 0.051 0.1 0.099 0.067 0.19], Final Value = \$1495329.46, Sharpe Ratio = -21.29

Simulation Run = 2558

Weights = [0.153 0.177 0.131 0.192 0.036 0.014 0.031 0.074 0.192], Final Value = \$1393357.43, Sharpe Ratio = -25.07

Simulation Run = 2559

Weights = [0.165 0.05 0.112 0.107 0.014 0.195 0.126 0.076 0.154], Final Value = \$1509202.57, Sharpe Ratio = -15.80

Simulation Run = 2560

Weights = [0.203 0.011 0.037 0.12 0.204 0.006 0.007 0.173 0.237], Final Value = \$1472670.53, Sharpe Ratio = -27.17

Simulation Run = 2561

Weights = [0.107 0.033 0.095 0.072 0.056 0.09 0.127 0.159 0.26], Final Value = \$1383128.86, Sharpe Ratio = -19.16

Simulation Run = 2562

Weights = [0.031 0.132 0.126 0.033 0.225 0.023 0.144 0.13 0.156], Final Value = \$1428032.38, Sharpe Ratio = -20.83

Simulation Run = 2563

Weights = [0.207 0.025 0.047 0.192 0.201 0.098 0.086 0.093 0.051], Final Value = \$1673051.93, Sharpe Ratio = -19.02

Simulation Run = 2564

Weights = [0.071 0.075 0.158 0.135 0.151 0.14 0.188 0.072 0.009], Final Value = \$1610140.51, Sharpe Ratio = -14.69

Simulation Run = 2565

Weights = [0.094 0.173 0.007 0.079 0.175 0.028 0.078 0.161 0.204], Final Value = \$1439448.41, Sharpe Ratio = -26.80

Simulation Run = 2566

Weights = [0.131 0.082 0.073 0.079 0.068 0.133 0.045 0.188 0.2], Final Value = \$1461846.44, Sharpe Ratio = -21.72

Simulation Run = 2567
Weights = [0.209 0.093 0.12 0.142 0.068 0.035 0.008 0.184 0.141], Final Value =
\$1484030.10, Sharpe Ratio = -23.24

Simulation Run = 2568
Weights = [0.183 0.059 0.207 0.168 0.02 0.027 0.193 0.14 0.003], Final Value =
\$1553136.64, Sharpe Ratio = -13.99

Simulation Run = 2569
Weights = [0.239 0.062 0.081 0.007 0.015 0.194 0.208 0.119 0.075], Final Value =
\$1575301.79, Sharpe Ratio = -12.93

Simulation Run = 2570
Weights = [0.164 0.074 0.075 0.144 0.116 0.127 0.084 0.192 0.025], Final Value =
\$1644020.42, Sharpe Ratio = -18.17

Simulation Run = 2571
Weights = [0.053 0.198 0.121 0.18 0.12 0.058 0.018 0.078 0.174], Final Value =
\$1425691.12, Sharpe Ratio = -27.16

Simulation Run = 2572
Weights = [0.169 0.008 0.233 0.086 0.015 0.029 0.21 0.191 0.06], Final Value =
\$1485579.35, Sharpe Ratio = -13.51

Simulation Run = 2573
Weights = [0.027 0.103 0.208 0.127 0.075 0.217 0.018 0.22 0.006], Final Value =
\$1598610.28, Sharpe Ratio = -17.10

Simulation Run = 2574
Weights = [0.157 0.144 0.162 0.116 0.078 0.109 0.058 0.08 0.096], Final Value =
\$1502480.12, Sharpe Ratio = -20.06

Simulation Run = 2575
Weights = [0.081 0.12 0.198 0.118 0.038 0.207 0.027 0.165 0.045], Final Value =
\$1556441.95, Sharpe Ratio = -17.40

Simulation Run = 2576
Weights = [0.166 0.015 0.091 0.186 0.078 0.157 0.05 0.183 0.073], Final Value =

\$1624741.18, Sharpe Ratio = -18.03

Simulation Run = 2577

Weights = [0.08 0.146 0.159 0.038 0.069 0.077 0.135 0.135 0.162], Final Value = \$1397805.89, Sharpe Ratio = -18.78

Simulation Run = 2578

Weights = [0.044 0.048 0.029 0.174 0.2 0.013 0.154 0.184 0.153], Final Value = \$1517704.45, Sharpe Ratio = -20.24

Simulation Run = 2579

Weights = [0.259 0.009 0.149 0.129 0.031 0.09 0.18 0.097 0.055], Final Value = \$1575735.89, Sharpe Ratio = -14.06

Simulation Run = 2580

Weights = [0.124 0.116 0.191 0.101 0.136 0.017 0.092 0.09 0.134], Final Value = \$1434227.67, Sharpe Ratio = -20.82

Simulation Run = 2581

Weights = [0.11 0.082 0.191 0.02 0.193 0.083 0.009 0.147 0.165], Final Value = \$1441684.32, Sharpe Ratio = -23.47

Simulation Run = 2582

Weights = [0.047 0.08 0.058 0.135 0.218 0.026 0.146 0.174 0.116], Final Value = \$1530788.04, Sharpe Ratio = -20.28

Simulation Run = 2583

Weights = [0.186 0.082 0.085 0.043 0.185 0.075 0.194 0.022 0.127], Final Value = \$1518147.02, Sharpe Ratio = -16.45

Simulation Run = 2584

Weights = [0.007 0.147 0.188 0.002 0.146 0.199 0.198 0.106 0.008], Final Value = \$1560113.01, Sharpe Ratio = -14.05

Simulation Run = 2585

Weights = [0.107 0.14 0.116 0.149 0.182 0.013 0.169 0.004 0.121], Final Value = \$1481279.09, Sharpe Ratio = -18.92

Simulation Run = 2586
Weights = [0.163 0.236 0.125 0.007 0.068 0.209 0.016 0.077 0.1], Final Value =
\$1504144.65, Sharpe Ratio = -20.09

Simulation Run = 2587
Weights = [0.154 0.058 0.131 0.076 0.039 0.124 0.211 0.16 0.047], Final Value =
\$1560918.05, Sharpe Ratio = -13.69

Simulation Run = 2588
Weights = [0.103 0.081 0.081 0.196 0.042 0.027 0.077 0.22 0.172], Final Value =
\$1457060.63, Sharpe Ratio = -22.13

Simulation Run = 2589
Weights = [0.04 0.058 0.127 0.219 0.236 0.003 0.21 0.099 0.007], Final Value =
\$1612046.68, Sharpe Ratio = -15.80

Simulation Run = 2590
Weights = [0.156 0.131 0.201 0.015 0.162 0.006 0.049 0.067 0.213], Final Value =
\$1347868.58, Sharpe Ratio = -23.99

Simulation Run = 2591
Weights = [0.117 0.092 0.025 0.175 0.142 0.181 0.137 0.127 0.005], Final Value =
\$1698151.53, Sharpe Ratio = -16.25

Simulation Run = 2592
Weights = [0.132 0.015 0.171 0.147 0.127 0.151 0.164 0.068 0.026], Final Value =
\$1618806.91, Sharpe Ratio = -14.53

Simulation Run = 2593
Weights = [0.039 0.142 0.017 0.045 0.207 0.183 0.1 0.101 0.166], Final Value =
\$1522962.32, Sharpe Ratio = -20.67

Simulation Run = 2594
Weights = [0.12 0.163 0.029 0.063 0.153 0.086 0.134 0.123 0.129], Final Value =
\$1511550.59, Sharpe Ratio = -20.20

Simulation Run = 2595
Weights = [0.159 0.114 0.201 0.118 0.085 0.074 0.008 0.183 0.059], Final Value =
\$1521493.04, Sharpe Ratio = -20.57

Simulation Run = 2596
Weights = [0.086 0.147 0.085 0.148 0.133 0.079 0.157 0.066 0.098], Final Value =
\$1522177.66, Sharpe Ratio = -18.49

Simulation Run = 2597
Weights = [0.168 0.218 0.004 0.031 0.014 0.202 0.136 0.132 0.096], Final Value =
\$1546393.48, Sharpe Ratio = -16.45

Simulation Run = 2598
Weights = [0.18 0.096 0.158 0.111 0.058 0.173 0.003 0.066 0.157], Final Value =
\$1488845.09, Sharpe Ratio = -20.14

Simulation Run = 2599
Weights = [0.04 0.044 0.016 0.046 0.06 0.25 0.243 0.192 0.11], Final Value =
\$1581866.63, Sharpe Ratio = -12.64

Simulation Run = 2600
Weights = [0.054 0.166 0.078 0.013 0.167 0.147 0.145 0.064 0.166], Final Value =
\$1459920.86, Sharpe Ratio = -18.93

Simulation Run = 2601
Weights = [0.118 0.093 0.123 0.119 0.046 0.143 0.086 0.141 0.131], Final Value =
\$1500419.77, Sharpe Ratio = -18.61

Simulation Run = 2602
Weights = [0.105 0.244 0.058 0.076 0.189 0.117 0.094 0.048 0.067], Final Value =
\$1553669.29, Sharpe Ratio = -21.84

Simulation Run = 2603
Weights = [0.08 0.174 0.24 0.228 0.066 0.063 0.035 0.107 0.007], Final Value =
\$1532909.87, Sharpe Ratio = -19.18

Simulation Run = 2604
Weights = [0.037 0.154 0.087 0.142 0.172 0.012 0.169 0.072 0.154], Final Value =
\$1444587.40, Sharpe Ratio = -19.95

Simulation Run = 2605

Weights = [0.18 0.054 0.103 0.125 0.018 0.15 0.197 0.138 0.035], Final Value = \$1604735.54, Sharpe Ratio = -13.62

Simulation Run = 2606

Weights = [0.081 0.082 0.334 0.083 0.103 0.178 0.064 0.052 0.023], Final Value = \$1523379.07, Sharpe Ratio = -15.49

Simulation Run = 2607

Weights = [0.007 0.079 0.038 0.119 0.149 0.063 0.213 0.137 0.195], Final Value = \$1451481.41, Sharpe Ratio = -17.26

Simulation Run = 2608

Weights = [0.1 0.002 0.179 0.097 0.119 0.031 0.111 0.176 0.184], Final Value = \$1422791.87, Sharpe Ratio = -19.24

Simulation Run = 2609

Weights = [0.117 0.251 0.173 0.24 0.026 0.046 0.103 0.022 0.022], Final Value = \$1513619.00, Sharpe Ratio = -18.93

Simulation Run = 2610

Weights = [0.125 0.151 0.151 0.074 0.061 0.158 0.085 0.162 0.033], Final Value = \$1559745.54, Sharpe Ratio = -17.54

Simulation Run = 2611

Weights = [0.088 0.183 0.138 0.061 0.003 0.051 0.304 0.123 0.049], Final Value = \$1465243.23, Sharpe Ratio = -12.54

Simulation Run = 2612

Weights = [0.077 0.156 0.098 0.05 0.174 0.032 0.154 0.135 0.124], Final Value = \$1463121.58, Sharpe Ratio = -19.82

Simulation Run = 2613

Weights = [0.158 0.059 0.008 0.188 0.223 0.179 0.117 0.037 0.032], Final Value = \$1718711.40, Sharpe Ratio = -17.34

Simulation Run = 2614

Weights = [0.215 0.088 0.08 0.023 0.054 0.108 0.1 0.18 0.154], Final Value = \$1483796.46, Sharpe Ratio = -18.60

Simulation Run = 2615
Weights = [0.236 0.066 0.017 0.127 0.111 0.188 0.071 0.014 0.17], Final Value =
\$1570814.38, Sharpe Ratio = -18.86

Simulation Run = 2616
Weights = [0.072 0.157 0.062 0.114 0.075 0.039 0.119 0.166 0.195], Final Value =
\$1409821.46, Sharpe Ratio = -22.09

Simulation Run = 2617
Weights = [0.068 0.044 0.208 0.125 0.029 0.133 0.097 0.117 0.179], Final Value =
\$1419042.32, Sharpe Ratio = -17.57

Simulation Run = 2618
Weights = [0.116 0.034 0.228 0.153 0.059 0.078 0.154 0.131 0.047], Final Value =
\$1528862.80, Sharpe Ratio = -15.06

Simulation Run = 2619
Weights = [0.233 0.063 0.12 0.032 0.027 0.066 0.223 0.043 0.191], Final Value =
\$1414434.92, Sharpe Ratio = -14.56

Simulation Run = 2620
Weights = [0.053 0.092 0.165 0.148 0.158 0.162 0.106 0.046 0.07], Final Value =
\$1563553.12, Sharpe Ratio = -17.68

Simulation Run = 2621
Weights = [0.075 0.169 0.2 0.039 0.147 0.023 0.152 0.12 0.075], Final Value =
\$1447565.85, Sharpe Ratio = -18.20

Simulation Run = 2622
Weights = [0.185 0.033 0.02 0.024 0.136 0.22 0.216 0.162 0.005], Final Value =
\$1704212.00, Sharpe Ratio = -12.79

Simulation Run = 2623
Weights = [0.083 0.071 0.006 0.135 0.061 0.164 0.134 0.127 0.219], Final Value =
\$1482735.85, Sharpe Ratio = -18.26

Simulation Run = 2624
Weights = [0.148 0.114 0.169 0.106 0.059 0.009 0.099 0.148 0.149], Final Value =

\$1415295.80, Sharpe Ratio = -20.21

Simulation Run = 2625

Weights = [0.074 0.129 0.163 0.064 0.028 0.167 0.103 0.173 0.099], Final Value = \$1485852.75, Sharpe Ratio = -17.19

Simulation Run = 2626

Weights = [0.024 0.23 0.096 0.064 0.119 0.081 0.17 0.207 0.011], Final Value = \$1542423.26, Sharpe Ratio = -17.62

Simulation Run = 2627

Weights = [0.086 0.163 0.108 0.091 0.088 0.149 0.074 0.073 0.169], Final Value = \$1453611.87, Sharpe Ratio = -21.09

Simulation Run = 2628

Weights = [0.141 0.167 0.122 0.147 0.068 0.088 0.139 0.107 0.021], Final Value = \$1568038.36, Sharpe Ratio = -17.20

Simulation Run = 2629

Weights = [0.117 0.075 0.23 0.012 0.065 0.089 0.194 0.011 0.207], Final Value = \$1345915.97, Sharpe Ratio = -15.38

Simulation Run = 2630

Weights = [0.097 0.03 0.153 0.135 0.08 0.072 0.177 0.132 0.122], Final Value = \$1488734.09, Sharpe Ratio = -15.97

Simulation Run = 2631

Weights = [0.037 0.237 0.171 0.193 0.03 0.053 0.06 0.171 0.049], Final Value = \$1479458.11, Sharpe Ratio = -21.23

Simulation Run = 2632

Weights = [0.189 0.177 0.17 0.182 0.061 0.114 0.047 0.022 0.039], Final Value = \$1557364.09, Sharpe Ratio = -19.35

Simulation Run = 2633

Weights = [0.146 0.06 0.19 0.151 0.106 0.172 0.099 0.06 0.016], Final Value = \$1617509.96, Sharpe Ratio = -15.81

Simulation Run = 2634
Weights = [0.062 0.159 0.01 0.041 0.187 0.149 0.181 0.145 0.066], Final Value =
\$1591237.51, Sharpe Ratio = -16.82

Simulation Run = 2635
Weights = [0.141 0.159 0.099 0.065 0.047 0.17 0.001 0.141 0.178], Final Value =
\$1458562.45, Sharpe Ratio = -22.24

Simulation Run = 2636
Weights = [0.231 0.07 0.082 0.102 0.029 0.13 0.193 0.016 0.147], Final Value =
\$1507165.00, Sharpe Ratio = -14.85

Simulation Run = 2637
Weights = [0.033 0.09 0.152 0.147 0.168 0.018 0.121 0.148 0.122], Final Value =
\$1469720.51, Sharpe Ratio = -20.28

Simulation Run = 2638
Weights = [0.011 0.072 0.161 0.182 0.227 0.097 0.159 0.052 0.038], Final Value =
\$1588494.94, Sharpe Ratio = -16.85

Simulation Run = 2639
Weights = [0.007 0.017 0.247 0.202 0.027 0.019 0.23 0.008 0.243], Final Value =
\$1308117.86, Sharpe Ratio = -14.64

Simulation Run = 2640
Weights = [0.113 0.181 0.094 0.019 0.131 0.004 0.193 0.123 0.143], Final Value =
\$1417586.01, Sharpe Ratio = -18.13

Simulation Run = 2641
Weights = [0.046 0.061 0.042 0.177 0.082 0.062 0.229 0.089 0.212], Final Value =
\$1439775.54, Sharpe Ratio = -16.11

Simulation Run = 2642
Weights = [0.066 0.066 0.133 0.131 0.105 0.064 0.083 0.145 0.207], Final Value =
\$1415930.89, Sharpe Ratio = -21.83

Simulation Run = 2643
Weights = [0.216 0.04 0.055 0.167 0.201 0.111 0.072 0.091 0.047], Final Value =
\$1670429.03, Sharpe Ratio = -19.28

Simulation Run = 2644
Weights = [0.119 0.126 0.178 0.036 0.134 0.13 0.055 0.043 0.18], Final Value =
\$1423500.90, Sharpe Ratio = -21.29

Simulation Run = 2645
Weights = [0.108 0.03 0.204 0.17 0.236 0.011 0.111 0.009 0.121], Final Value =
\$1496171.65, Sharpe Ratio = -19.35

Simulation Run = 2646
Weights = [0.096 0.183 0.067 0.162 0.165 0.18 0.005 0.098 0.044], Final Value =
\$1627666.77, Sharpe Ratio = -22.07

Simulation Run = 2647
Weights = [0.017 0.128 0.016 0.192 0.217 0.145 0.052 0.126 0.106], Final Value =
\$1599608.29, Sharpe Ratio = -23.35

Simulation Run = 2648
Weights = [0.135 0.058 0.098 0.186 0.152 0.04 0.132 0.116 0.083], Final Value =
\$1564614.25, Sharpe Ratio = -18.66

Simulation Run = 2649
Weights = [0.156 0.175 0.066 0.201 0.016 0.082 0.036 0.133 0.135], Final Value =
\$1494143.91, Sharpe Ratio = -23.06

Simulation Run = 2650
Weights = [0.211 0.04 0.02 0.054 0.111 0.211 0.103 0.007 0.241], Final Value =
\$1500060.30, Sharpe Ratio = -17.72

Simulation Run = 2651
Weights = [0.058 0.077 0.164 0.078 0.092 0.103 0.125 0.184 0.119], Final Value =
\$1473901.46, Sharpe Ratio = -17.88

Simulation Run = 2652
Weights = [0.142 0.074 0.034 0.234 0.09 0.018 0.136 0.069 0.204], Final Value =
\$1466375.94, Sharpe Ratio = -20.56

Simulation Run = 2653

Weights = [0.112 0.188 0.197 0.012 0.131 0.008 0.156 0.09 0.104], Final Value = \$1408869.46, Sharpe Ratio = -18.38

Simulation Run = 2654

Weights = [0.068 0.045 0.144 0.026 0.1 0.206 0.127 0.18 0.103], Final Value = \$1535056.28, Sharpe Ratio = -15.79

Simulation Run = 2655

Weights = [0.23 0.087 0.063 0.159 0.042 0.186 0.001 0.094 0.137], Final Value = \$1568224.98, Sharpe Ratio = -19.84

Simulation Run = 2656

Weights = [0.025 0.146 0.141 0.023 0.126 0.131 0.069 0.159 0.178], Final Value = \$1416719.71, Sharpe Ratio = -21.84

Simulation Run = 2657

Weights = [0.071 0.051 0.132 0.091 0.056 0.226 0.018 0.17 0.184], Final Value = \$1485111.42, Sharpe Ratio = -19.06

Simulation Run = 2658

Weights = [0.119 0.144 0.103 0.011 0.145 0.094 0.066 0.156 0.162], Final Value = \$1451740.76, Sharpe Ratio = -22.74

Simulation Run = 2659

Weights = [0.074 0.008 0.199 0.131 0.108 0.208 0.094 0.175 0.004], Final Value = \$1638133.03, Sharpe Ratio = -15.00

Simulation Run = 2660

Weights = [0.072 0.158 0.065 0.123 0.173 0.082 0.106 0.045 0.176], Final Value = \$1464888.62, Sharpe Ratio = -22.80

Simulation Run = 2661

Weights = [0.073 0.051 0.222 0.045 0.139 0.036 0.246 0.157 0.031], Final Value = \$1508431.87, Sharpe Ratio = -13.53

Simulation Run = 2662

Weights = [0.082 0.038 0.041 0.224 0.143 0.22 0.043 0.029 0.178], Final Value = \$1576788.65, Sharpe Ratio = -20.02

Simulation Run = 2663
Weights = [0.119 0.022 0.209 0.083 0.031 0.062 0.148 0.139 0.186], Final Value =
\$1390988.85, Sharpe Ratio = -16.57

Simulation Run = 2664
Weights = [0.068 0.264 0.01 0.294 0.033 0.053 0.015 0.11 0.153], Final Value =
\$1476638.60, Sharpe Ratio = -28.12

Simulation Run = 2665
Weights = [0.081 0.176 0.076 0.157 0.113 0.067 0.169 0.011 0.15], Final Value =
\$1462045.07, Sharpe Ratio = -18.91

Simulation Run = 2666
Weights = [0.049 0.068 0.068 0.151 0.069 0.187 0.087 0.162 0.157], Final Value =
\$1524440.70, Sharpe Ratio = -18.71

Simulation Run = 2667
Weights = [0.093 0.138 0.075 0.172 0.096 0.139 0.065 0.162 0.06], Final Value =
\$1589787.50, Sharpe Ratio = -20.12

Simulation Run = 2668
Weights = [0.076 0.002 0.22 0.068 0.161 0.044 0.137 0.126 0.166], Final Value =
\$1424631.73, Sharpe Ratio = -17.79

Simulation Run = 2669
Weights = [0.004 0.236 0.065 0.17 0.001 0.162 0.148 0.183 0.03], Final Value =
\$1558350.25, Sharpe Ratio = -16.81

Simulation Run = 2670
Weights = [0.028 0.192 0.131 0.021 0.152 0.182 0.096 0.172 0.026], Final Value =
\$1566282.53, Sharpe Ratio = -18.34

Simulation Run = 2671
Weights = [0.116 0.177 0.059 0.099 0.17 0.013 0.079 0.123 0.163], Final Value =
\$1452978.36, Sharpe Ratio = -25.61

Simulation Run = 2672
Weights = [0.007 0.083 0.151 0.223 0.031 0.17 0.181 0.146 0.008], Final Value =

\$1603374.56, Sharpe Ratio = -14.06

Simulation Run = 2673

Weights = [0.167 0.161 0.079 0.151 0.169 0.037 0.086 0.14 0.01], Final Value = \$1612179.69, Sharpe Ratio = -20.98

Simulation Run = 2674

Weights = [0.069 0.177 0.087 0.094 0.181 0.046 0.04 0.183 0.122], Final Value = \$1486241.46, Sharpe Ratio = -26.43

Simulation Run = 2675

Weights = [0.115 0.014 0.076 0.18 0.198 0.1 0.077 0.039 0.201], Final Value = \$1512709.38, Sharpe Ratio = -21.92

Simulation Run = 2676

Weights = [0.136 0.068 0.154 0.237 0.003 0.22 0.107 0.057 0.016], Final Value = \$1638778.53, Sharpe Ratio = -14.57

Simulation Run = 2677

Weights = [0.046 0.017 0.158 0.194 0.155 0.175 0.149 0.023 0.083], Final Value = \$1584915.50, Sharpe Ratio = -15.66

Simulation Run = 2678

Weights = [0.065 0.101 0.191 0.225 0.053 0.132 0.041 0.156 0.037], Final Value = \$1566806.42, Sharpe Ratio = -18.32

Simulation Run = 2679

Weights = [0.003 0.016 0.032 0.095 0.171 0.275 0.2 0.068 0.141], Final Value = \$1596568.64, Sharpe Ratio = -14.04

Simulation Run = 2680

Weights = [0.11 0.082 0.263 0.16 0.165 0.014 0.113 0.011 0.081], Final Value = \$1474234.52, Sharpe Ratio = -17.94

Simulation Run = 2681

Weights = [0.042 0.104 0.067 0.147 0.181 0.083 0.08 0.145 0.152], Final Value = \$1506060.99, Sharpe Ratio = -23.22

Simulation Run = 2682
Weights = [0.066 0.178 0.171 0.152 0.11 0.065 0.001 0.119 0.138], Final Value =
\$1440386.94, Sharpe Ratio = -24.99

Simulation Run = 2683
Weights = [0.132 0.176 0.157 0.096 0.171 0.113 0.102 0.02 0.034], Final Value =
\$1562064.74, Sharpe Ratio = -18.99

Simulation Run = 2684
Weights = [0.133 0.226 0.085 0.023 0.111 0.253 0.03 0.07 0.068], Final Value =
\$1574933.89, Sharpe Ratio = -18.95

Simulation Run = 2685
Weights = [0.121 0.117 0.058 0.159 0.103 0.133 0.141 0.007 0.16], Final Value =
\$1507976.74, Sharpe Ratio = -18.42

Simulation Run = 2686
Weights = [0.157 0.028 0.01 0.224 0.066 0.153 0.091 0.082 0.188], Final Value =
\$1551252.37, Sharpe Ratio = -19.04

Simulation Run = 2687
Weights = [0.141 0.108 0.163 0.16 0.032 0.12 0.111 0.105 0.06], Final Value =
\$1540128.88, Sharpe Ratio = -16.89

Simulation Run = 2688
Weights = [0.122 0.111 0.164 0.136 0.019 0.149 0.107 0.057 0.135], Final Value =
\$1471763.73, Sharpe Ratio = -17.36

Simulation Run = 2689
Weights = [0.112 0.163 0.04 0.022 0.183 0.163 0.075 0.177 0.065], Final Value =
\$1593747.73, Sharpe Ratio = -20.31

Simulation Run = 2690
Weights = [0.066 0.061 0.132 0.083 0.215 0.036 0.111 0.092 0.204], Final Value =
\$1423538.75, Sharpe Ratio = -21.86

Simulation Run = 2691
Weights = [0.16 0.092 0.195 0.075 0.125 0.172 0.096 0.05 0.035], Final Value =
\$1580458.87, Sharpe Ratio = -16.42

Simulation Run = 2692
Weights = [0.085 0.043 0.177 0.145 0.084 0.058 0.141 0.096 0.171], Final Value =
\$1429945.66, Sharpe Ratio = -17.82

Simulation Run = 2693
Weights = [0.054 0.089 0.175 0.067 0.052 0.127 0.059 0.175 0.203], Final Value =
\$1391466.25, Sharpe Ratio = -20.49

Simulation Run = 2694
Weights = [0.167 0.177 0.086 0.084 0.06 0.118 0.102 0.052 0.155], Final Value =
\$1463142.44, Sharpe Ratio = -19.93

Simulation Run = 2695
Weights = [0.19 0.218 0.102 0.069 0.202 0.044 0.112 0.058 0.005], Final Value =
\$1586030.60, Sharpe Ratio = -20.17

Simulation Run = 2696
Weights = [0.144 0.013 0.164 0.007 0.14 0.076 0.151 0.144 0.16], Final Value =
\$1454311.35, Sharpe Ratio = -17.01

Simulation Run = 2697
Weights = [0.013 0.171 0.19 0.078 0.137 0.18 0.097 0.06 0.074], Final Value =
\$1508352.72, Sharpe Ratio = -18.17

Simulation Run = 2698
Weights = [0.022 0.133 0.059 0.166 0.077 0.167 0.034 0.162 0.179], Final Value =
\$1486665.35, Sharpe Ratio = -22.72

Simulation Run = 2699
Weights = [0.027 0.074 0.087 0.085 0.173 0.17 0.137 0.068 0.179], Final Value =
\$1492057.00, Sharpe Ratio = -18.34

Simulation Run = 2700
Weights = [0.156 0.016 0.165 0.089 0.015 0.094 0.061 0.258 0.145], Final Value =
\$1469455.68, Sharpe Ratio = -18.49

Simulation Run = 2701

Weights = [0.095 0.149 0.044 0.148 0.015 0.167 0.122 0.104 0.155], Final Value = \$1496523.93, Sharpe Ratio = -18.15

Simulation Run = 2702

Weights = [0.025 0.14 0.128 0.039 0.16 0.128 0.136 0.113 0.132], Final Value = \$1470168.17, Sharpe Ratio = -18.81

Simulation Run = 2703

Weights = [0.015 0.157 0.107 0.092 0.137 0.046 0.157 0.17 0.117], Final Value = \$1460396.82, Sharpe Ratio = -19.34

Simulation Run = 2704

Weights = [0.243 0.001 0.021 0.07 0.082 0.106 0.099 0.184 0.194], Final Value = \$1518908.75, Sharpe Ratio = -18.63

Simulation Run = 2705

Weights = [0.003 0.083 0.032 0.176 0.203 0.042 0.273 0.177 0.011], Final Value = \$1629093.86, Sharpe Ratio = -14.18

Simulation Run = 2706

Weights = [0.056 0.007 0.105 0.175 0.145 0.184 0.141 0.154 0.034], Final Value = \$1653891.30, Sharpe Ratio = -15.45

Simulation Run = 2707

Weights = [0.007 0.04 0.059 0.087 0.178 0.161 0.125 0.142 0.201], Final Value = \$1489796.30, Sharpe Ratio = -19.23

Simulation Run = 2708

Weights = [0.103 0.186 0.138 0.162 0.155 0.088 0.136 0.002 0.03], Final Value = \$1564067.45, Sharpe Ratio = -18.35

Simulation Run = 2709

Weights = [0.156 0.133 0.077 0.198 0.06 0.089 0.068 0.079 0.139], Final Value = \$1507836.63, Sharpe Ratio = -21.53

Simulation Run = 2710

Weights = [0.133 0.105 0.116 0.132 0.133 0.114 0.133 0.058 0.077], Final Value = \$1559196.14, Sharpe Ratio = -17.71

Simulation Run = 2711
Weights = [0.001 0.126 0.02 0.059 0.126 0.173 0.245 0.216 0.034], Final Value =
\$1608457.49, Sharpe Ratio = -13.81

Simulation Run = 2712
Weights = [0.054 0.067 0.123 0.136 0.189 0.121 0.154 0.113 0.044], Final Value =
\$1599007.87, Sharpe Ratio = -16.78

Simulation Run = 2713
Weights = [0.018 0.143 0.132 0.017 0.141 0.09 0.17 0.143 0.146], Final Value =
\$1428401.22, Sharpe Ratio = -17.96

Simulation Run = 2714
Weights = [0.21 0.014 0.056 0.077 0.25 0.251 0.014 0.035 0.093], Final Value =
\$1682012.79, Sharpe Ratio = -18.26

Simulation Run = 2715
Weights = [0.127 0.175 0.015 0.148 0.182 0.008 0.197 0.085 0.065], Final Value =
\$1563945.05, Sharpe Ratio = -18.03

Simulation Run = 2716
Weights = [0.071 0.166 0.114 0.1 0.085 0.155 0.072 0.104 0.133], Final Value =
\$1484057.50, Sharpe Ratio = -20.53

Simulation Run = 2717
Weights = [0.049 0.017 0.172 0.235 0.137 0.085 0.189 0.057 0.06], Final Value =
\$1569392.88, Sharpe Ratio = -15.08

Simulation Run = 2718
Weights = [0.164 0.086 0.232 0.027 0.076 0.062 0.054 0.036 0.263], Final Value =
\$1305803.69, Sharpe Ratio = -21.31

Simulation Run = 2719
Weights = [0.054 0.105 0.146 0.025 0.168 0.093 0.03 0.133 0.245], Final Value =
\$1370411.96, Sharpe Ratio = -25.36

Simulation Run = 2720
Weights = [0.04 0.005 0.205 0.223 0.02 0.224 0.073 0.011 0.198], Final Value =

\$1462282.33, Sharpe Ratio = -16.50

Simulation Run = 2721

Weights = [0.074 0.172 0.041 0.094 0.148 0.125 0.168 0.081 0.097], Final Value = \$1541578.05, Sharpe Ratio = -17.89

Simulation Run = 2722

Weights = [0.086 0.142 0.111 0.066 0.03 0.225 0.04 0.141 0.159], Final Value = \$1478914.75, Sharpe Ratio = -19.05

Simulation Run = 2723

Weights = [0.096 0.121 0.164 0.093 0.092 0.061 0.096 0.157 0.12], Final Value = \$1455855.05, Sharpe Ratio = -20.00

Simulation Run = 2724

Weights = [0.091 0.123 0.051 0.066 0.187 0.101 0.04 0.227 0.114], Final Value = \$1544653.84, Sharpe Ratio = -24.05

Simulation Run = 2725

Weights = [0.113 0.154 0.065 0.076 0.107 0.167 0.053 0.117 0.148], Final Value = \$1507660.18, Sharpe Ratio = -21.42

Simulation Run = 2726

Weights = [0.274 0.158 0.036 0.066 0.025 0.303 0.031 0.019 0.089], Final Value = \$1625829.54, Sharpe Ratio = -16.05

Simulation Run = 2727

Weights = [0.143 0.199 0.029 0.193 0.038 0.081 0.079 0.018 0.221], Final Value = \$1424040.09, Sharpe Ratio = -23.81

Simulation Run = 2728

Weights = [0.215 0.071 0.215 0.023 0.114 0.065 0.064 0.175 0.057], Final Value = \$1518437.31, Sharpe Ratio = -18.31

Simulation Run = 2729

Weights = [0.33 0.136 0.043 0.019 0.105 0.053 0.139 0.138 0.035], Final Value = \$1598860.36, Sharpe Ratio = -16.95

Simulation Run = 2730
Weights = [0.114 0.092 0.004 0.176 0.259 0.234 0.071 0.044 0.005], Final Value =
\$1757412.21, Sharpe Ratio = -17.96

Simulation Run = 2731
Weights = [0.132 0.026 0.208 0.069 0.204 0.111 0.042 0.064 0.143], Final Value =
\$1492495.07, Sharpe Ratio = -20.30

Simulation Run = 2732
Weights = [0.023 0.192 0.213 0.06 0.192 0.086 0.123 0.015 0.096], Final Value =
\$1447282.23, Sharpe Ratio = -19.39

Simulation Run = 2733
Weights = [0.081 0.063 0.087 0.185 0.162 0.072 0.054 0.214 0.082], Final Value =
\$1579242.86, Sharpe Ratio = -21.88

Simulation Run = 2734
Weights = [0.051 0.072 0.143 0.051 0.024 0.251 0.154 0.151 0.103], Final Value =
\$1526593.79, Sharpe Ratio = -14.19

Simulation Run = 2735
Weights = [0.115 0.143 0.044 0.124 0.061 0.111 0.035 0.153 0.213], Final Value =
\$1442180.74, Sharpe Ratio = -24.51

Simulation Run = 2736
Weights = [0.143 0.161 0.069 0.014 0.044 0.105 0.257 0.043 0.165], Final Value =
\$1428622.51, Sharpe Ratio = -14.17

Simulation Run = 2737
Weights = [0.184 0.105 0.061 0.007 0.209 0.082 0.121 0.1 0.132], Final Value =
\$1523121.46, Sharpe Ratio = -19.88

Simulation Run = 2738
Weights = [0.221 0.034 0.097 0.164 0.094 0.16 0.019 0.193 0.017], Final Value =
\$1678247.95, Sharpe Ratio = -17.89

Simulation Run = 2739
Weights = [0.189 0.103 0.193 0.094 0.087 0.063 0.066 0.189 0.016], Final Value =
\$1558759.65, Sharpe Ratio = -18.32

Simulation Run = 2740
Weights = [0.074 0.149 0.001 0.167 0.131 0.176 0.073 0.128 0.101], Final Value =
\$1598366.81, Sharpe Ratio = -20.70

Simulation Run = 2741
Weights = [0.211 0.155 0.169 0.14 0.037 0.158 0.058 0.071 0.001], Final Value =
\$1602325.67, Sharpe Ratio = -17.15

Simulation Run = 2742
Weights = [0.062 0.075 0.235 0.034 0.081 0.019 0.195 0.196 0.103], Final Value =
\$1412492.72, Sharpe Ratio = -15.43

Simulation Run = 2743
Weights = [0.129 0.079 0.061 0.177 0.205 0.124 0.057 0.116 0.051], Final Value =
\$1648459.55, Sharpe Ratio = -20.73

Simulation Run = 2744
Weights = [0.089 0.157 0.181 0.042 0.02 0.173 0.055 0.114 0.17], Final Value =
\$1408865.17, Sharpe Ratio = -19.32

Simulation Run = 2745
Weights = [0.103 0.166 0.138 0.065 0.157 0.033 0.133 0.033 0.173], Final Value =
\$1404310.37, Sharpe Ratio = -20.90

Simulation Run = 2746
Weights = [0.132 0.129 0.009 0.112 0.133 0.079 0.136 0.098 0.173], Final Value =
\$1495471.86, Sharpe Ratio = -20.38

Simulation Run = 2747
Weights = [0.171 0.171 0.021 0.031 0.14 0.036 0.082 0.178 0.171], Final Value =
\$1460283.54, Sharpe Ratio = -24.11

Simulation Run = 2748
Weights = [0.066 0.134 0.214 0.162 0.069 0.079 0.034 0.165 0.077], Final Value =
\$1484667.65, Sharpe Ratio = -20.37

Simulation Run = 2749

Weights = [0.003 0.058 0.198 0.052 0.153 0.019 0.194 0.117 0.204], Final Value = \$1353237.80, Sharpe Ratio = -17.13

Simulation Run = 2750

Weights = [0.185 0.044 0.066 0.246 0.024 0.001 0.122 0.104 0.208], Final Value = \$1446801.26, Sharpe Ratio = -19.79

Simulation Run = 2751

Weights = [0.104 0.134 0.18 0.153 0.152 0.039 0.176 0.006 0.057], Final Value = \$1515177.37, Sharpe Ratio = -16.80

Simulation Run = 2752

Weights = [0.09 0.149 0.009 0.094 0.091 0.038 0.237 0.109 0.182], Final Value = \$1439324.66, Sharpe Ratio = -16.36

Simulation Run = 2753

Weights = [0.089 0.006 0.09 0.091 0.214 0.083 0.18 0.127 0.12], Final Value = \$1549618.32, Sharpe Ratio = -16.80

Simulation Run = 2754

Weights = [0.095 0.053 0.009 0.116 0.201 0.142 0.007 0.213 0.163], Final Value = \$1569794.11, Sharpe Ratio = -24.24

Simulation Run = 2755

Weights = [0.207 0.2 0.199 0.04 0.027 0.114 0.044 0.134 0.035], Final Value = \$1508957.54, Sharpe Ratio = -18.69

Simulation Run = 2756

Weights = [0.111 0.154 0.074 0.137 0.121 0.185 0.007 0.047 0.164], Final Value = \$1513979.66, Sharpe Ratio = -22.95

Simulation Run = 2757

Weights = [0.135 0.054 0.184 0.187 0.027 0.034 0.077 0.117 0.185], Final Value = \$1409990.62, Sharpe Ratio = -19.89

Simulation Run = 2758

Weights = [0.011 0.196 0.019 0.012 0.129 0.201 0.169 0.182 0.083], Final Value = \$1553627.00, Sharpe Ratio = -16.53

Simulation Run = 2759
Weights = [0.221 0.067 0.066 0.058 0.039 0.204 0.21 0.072 0.061], Final Value =
\$1608923.88, Sharpe Ratio = -13.03

Simulation Run = 2760
Weights = [0.112 0.051 0.036 0.079 0.162 0.105 0.154 0.125 0.175], Final Value =
\$1509549.88, Sharpe Ratio = -18.38

Simulation Run = 2761
Weights = [0.026 0.098 0.027 0.221 0.153 0.178 0.075 0.198 0.023], Final Value =
\$1680721.75, Sharpe Ratio = -18.98

Simulation Run = 2762
Weights = [0.21 0.114 0.006 0.075 0.169 0.227 0.092 0.031 0.077], Final Value =
\$1656099.41, Sharpe Ratio = -17.34

Simulation Run = 2763
Weights = [0.143 0.068 0.042 0.141 0.157 0.094 0. 0.106 0.249], Final Value =
\$1459298.69, Sharpe Ratio = -26.95

Simulation Run = 2764
Weights = [0.184 0.165 0.124 0.02 0.131 0.069 0.117 0.162 0.028], Final Value =
\$1552368.93, Sharpe Ratio = -18.51

Simulation Run = 2765
Weights = [0.159 0.285 0.073 0.194 0.071 0.105 0.029 0.067 0.017], Final Value =
\$1584815.50, Sharpe Ratio = -22.83

Simulation Run = 2766
Weights = [0.015 0.143 0.168 0.158 0.09 0.032 0.173 0.035 0.186], Final Value =
\$1371953.34, Sharpe Ratio = -18.31

Simulation Run = 2767
Weights = [0.11 0.146 0.056 0.181 0.018 0.094 0.169 0.07 0.156], Final Value =
\$1471366.80, Sharpe Ratio = -17.49

Simulation Run = 2768
Weights = [0.133 0.09 0.158 0.108 0.154 0.059 0.134 0.029 0.136], Final Value =

\$1472153.13, Sharpe Ratio = -18.82

Simulation Run = 2769

Weights = [0.164 0.084 0.057 0.189 0.206 0.205 0.019 0.022 0.054], Final Value = \$1685271.50, Sharpe Ratio = -19.78

Simulation Run = 2770

Weights = [0.055 0.159 0.126 0.01 0.08 0.159 0.156 0.135 0.12], Final Value = \$1466285.89, Sharpe Ratio = -16.76

Simulation Run = 2771

Weights = [0.027 0.074 0.057 0.166 0.041 0.144 0.212 0.172 0.107], Final Value = \$1539502.21, Sharpe Ratio = -14.78

Simulation Run = 2772

Weights = [0.049 0.113 0.159 0.008 0.203 0.196 0.205 0.059 0.007], Final Value = \$1602582.93, Sharpe Ratio = -14.02

Simulation Run = 2773

Weights = [0.045 0.157 0.075 0.059 0.07 0.09 0.165 0.172 0.165], Final Value = \$1428574.92, Sharpe Ratio = -18.34

Simulation Run = 2774

Weights = [0.104 0.102 0.133 0.146 0.144 0.029 0.009 0.171 0.162], Final Value = \$1456705.03, Sharpe Ratio = -25.72

Simulation Run = 2775

Weights = [0.118 0.044 0.152 0.193 0.061 0.134 0.159 0.015 0.123], Final Value = \$1518349.28, Sharpe Ratio = -15.73

Simulation Run = 2776

Weights = [0.16 0.151 0.173 0.052 0.163 0.086 0.072 0.068 0.075], Final Value = \$1512436.76, Sharpe Ratio = -20.39

Simulation Run = 2777

Weights = [0.045 0.155 0.048 0.084 0.16 0.06 0.138 0.151 0.157], Final Value = \$1465403.13, Sharpe Ratio = -21.21

Simulation Run = 2778
Weights = [0.124 0.096 0.072 0.181 0.1 0.064 0.085 0.106 0.173], Final Value =
\$1481562.41, Sharpe Ratio = -22.12

Simulation Run = 2779
Weights = [0.151 0.001 0.182 0.044 0.022 0.022 0.096 0.232 0.25], Final Value =
\$1336356.09, Sharpe Ratio = -19.31

Simulation Run = 2780
Weights = [0.072 0.007 0.161 0.157 0.204 0.054 0.023 0.197 0.125], Final Value =
\$1524388.46, Sharpe Ratio = -22.38

Simulation Run = 2781
Weights = [0.026 0.152 0.068 0.09 0.177 0.03 0.148 0.146 0.164], Final Value =
\$1442254.35, Sharpe Ratio = -21.24

Simulation Run = 2782
Weights = [0.031 0.138 0.116 0.123 0.124 0.142 0.132 0.016 0.178], Final Value =
\$1449116.20, Sharpe Ratio = -19.16

Simulation Run = 2783
Weights = [0.046 0.053 0.115 0.235 0.088 0.201 0.174 0.014 0.074], Final Value =
\$1601514.91, Sharpe Ratio = -14.68

Simulation Run = 2784
Weights = [0.222 0.01 0.157 0.03 0.094 0.022 0.197 0.191 0.077], Final Value =
\$1515948.12, Sharpe Ratio = -14.75

Simulation Run = 2785
Weights = [0.044 0.003 0.042 0.042 0.294 0.053 0.195 0.089 0.238], Final Value =
\$1455511.73, Sharpe Ratio = -18.39

Simulation Run = 2786
Weights = [0.076 0.192 0.159 0.227 0.092 0.085 0.112 0.024 0.032], Final Value =
\$1547613.07, Sharpe Ratio = -18.61

Simulation Run = 2787
Weights = [0.031 0.107 0.047 0.051 0.104 0.171 0.186 0.126 0.178], Final Value =
\$1474405.47, Sharpe Ratio = -16.34

Simulation Run = 2788
Weights = [0.147 0.033 0.132 0.068 0.101 0.168 0.117 0.118 0.116], Final Value =
\$1540466.85, Sharpe Ratio = -16.57

Simulation Run = 2789
Weights = [0.003 0.202 0.019 0.064 0.214 0.111 0.132 0.141 0.115], Final Value =
\$1522808.33, Sharpe Ratio = -21.28

Simulation Run = 2790
Weights = [0.068 0.081 0.175 0.139 0.117 0.057 0.134 0.151 0.078], Final Value =
\$1506415.96, Sharpe Ratio = -17.78

Simulation Run = 2791
Weights = [0.211 0.111 0.149 0.038 0.097 0.14 0.026 0.192 0.035], Final Value =
\$1583344.61, Sharpe Ratio = -18.87

Simulation Run = 2792
Weights = [0.085 0.036 0.144 0.092 0.123 0.155 0.193 0.074 0.097], Final Value =
\$1540809.70, Sharpe Ratio = -14.70

Simulation Run = 2793
Weights = [0.112 0.012 0.005 0.194 0.204 0.103 0.16 0.177 0.033], Final Value =
\$1692598.36, Sharpe Ratio = -16.73

Simulation Run = 2794
Weights = [0.179 0.221 0.115 0.081 0.072 0.041 0.177 0.008 0.106], Final Value =
\$1452968.99, Sharpe Ratio = -17.61

Simulation Run = 2795
Weights = [0.077 0.111 0.037 0.088 0.07 0.176 0.013 0.225 0.201], Final Value =
\$1478928.89, Sharpe Ratio = -22.77

Simulation Run = 2796
Weights = [0.086 0.029 0.186 0.236 0.013 0.04 0.063 0.163 0.185], Final Value =
\$1419514.41, Sharpe Ratio = -19.87

Simulation Run = 2797

Weights = [0.069 0.041 0.134 0.043 0.089 0.179 0.221 0.15 0.074], Final Value = \$1551247.35, Sharpe Ratio = -13.42

Simulation Run = 2798

Weights = [0.029 0.134 0.258 0.003 0.103 0.212 0.052 0.144 0.064], Final Value = \$1493207.94, Sharpe Ratio = -17.12

Simulation Run = 2799

Weights = [0.096 0.061 0.053 0.15 0.185 0.028 0.108 0.18 0.139], Final Value = \$1524441.04, Sharpe Ratio = -21.81

Simulation Run = 2800

Weights = [0.169 0.089 0.115 0.107 0.039 0.169 0.007 0.169 0.136], Final Value = \$1519723.25, Sharpe Ratio = -20.02

Simulation Run = 2801

Weights = [0.043 0.01 0.046 0.246 0.079 0. 0.21 0.099 0.266], Final Value = \$1396641.94, Sharpe Ratio = -17.42

Simulation Run = 2802

Weights = [0.189 0.184 0.147 0.196 0.03 0.007 0.085 0.038 0.124], Final Value = \$1444136.52, Sharpe Ratio = -21.08

Simulation Run = 2803

Weights = [0.115 0.11 0.044 0.196 0.146 0.129 0.102 0.098 0.059], Final Value = \$1624952.59, Sharpe Ratio = -19.21

Simulation Run = 2804

Weights = [0.099 0.13 0.073 0.001 0.063 0.233 0.207 0.029 0.165], Final Value = \$1480124.95, Sharpe Ratio = -14.14

Simulation Run = 2805

Weights = [0.121 0.123 0.19 0.023 0.036 0.174 0.115 0.183 0.036], Final Value = \$1535884.32, Sharpe Ratio = -15.62

Simulation Run = 2806

Weights = [0.127 0.098 0.095 0.01 0.09 0.16 0.117 0.146 0.158], Final Value = \$1479791.64, Sharpe Ratio = -17.91

Simulation Run = 2807
Weights = [0.056 0.098 0.06 0.139 0.078 0.238 0.035 0.121 0.175], Final Value =
\$1525389.46, Sharpe Ratio = -19.74

Simulation Run = 2808
Weights = [0.171 0.217 0.013 0.062 0.031 0.267 0.083 0.156 0.001], Final Value =
\$1664930.86, Sharpe Ratio = -15.93

Simulation Run = 2809
Weights = [0.125 0.066 0.21 0.186 0.123 0.041 0.126 0.07 0.054], Final Value =
\$1531556.38, Sharpe Ratio = -17.18

Simulation Run = 2810
Weights = [0.19 0.155 0.185 0.069 0.013 0.083 0.094 0.041 0.171], Final Value =
\$1391244.97, Sharpe Ratio = -19.08

Simulation Run = 2811
Weights = [0.008 0.12 0.079 0.138 0.082 0.182 0.236 0.147 0.008], Final Value =
\$1617898.89, Sharpe Ratio = -13.41

Simulation Run = 2812
Weights = [0.013 0.203 0.158 0.066 0.066 0.128 0.164 0.093 0.109], Final Value =
\$1438793.37, Sharpe Ratio = -17.07

Simulation Run = 2813
Weights = [0.132 0.156 0.158 0.047 0.154 0.095 0.021 0.017 0.219], Final Value =
\$1387602.79, Sharpe Ratio = -25.12

Simulation Run = 2814
Weights = [0.127 0.114 0.123 0.123 0.122 0.134 0.129 0.029 0.098], Final Value =
\$1536712.52, Sharpe Ratio = -17.76

Simulation Run = 2815
Weights = [0.097 0.165 0.083 0.26 0.021 0.139 0.121 0.065 0.048], Final Value =
\$1585030.26, Sharpe Ratio = -17.40

Simulation Run = 2816
Weights = [0.108 0.039 0.095 0.17 0.043 0.144 0.189 0.022 0.19], Final Value =

\$1474558.09, Sharpe Ratio = -15.48

Simulation Run = 2817

Weights = [0.161 0.105 0.166 0.1 0.084 0.095 0.14 0.114 0.037], Final Value = \$1552927.66, Sharpe Ratio = -16.34

Simulation Run = 2818

Weights = [0.149 0.029 0.052 0.164 0.14 0.167 0.083 0.14 0.077], Final Value = \$1641631.03, Sharpe Ratio = -18.07

Simulation Run = 2819

Weights = [0.138 0.095 0.044 0.083 0.02 0.152 0.213 0.168 0.087], Final Value = \$1556230.99, Sharpe Ratio = -14.13

Simulation Run = 2820

Weights = [0.131 0.154 0.083 0.149 0. 0.174 0.172 0.06 0.078], Final Value = \$1548945.43, Sharpe Ratio = -15.17

Simulation Run = 2821

Weights = [0.112 0.019 0.151 0.177 0.036 0.151 0.085 0.113 0.155], Final Value = \$1498948.23, Sharpe Ratio = -17.60

Simulation Run = 2822

Weights = [0.215 0.077 0.137 0.104 0.089 0.105 0.021 0.103 0.15], Final Value = \$1495168.16, Sharpe Ratio = -21.27

Simulation Run = 2823

Weights = [0.092 0.095 0.099 0.237 0.035 0.179 0.011 0.001 0.251], Final Value = \$1436612.10, Sharpe Ratio = -22.17

Simulation Run = 2824

Weights = [0.14 0.086 0.165 0.128 0.175 0.011 0.149 0.09 0.054], Final Value = \$1535514.32, Sharpe Ratio = -17.74

Simulation Run = 2825

Weights = [0.083 0.157 0.095 0.061 0.177 0.178 0.026 0.088 0.134], Final Value = \$1520553.03, Sharpe Ratio = -22.53

Simulation Run = 2826
Weights = [0.149 0.115 0.053 0.138 0.11 0.164 0.148 0.024 0.101], Final Value =
\$1576464.27, Sharpe Ratio = -16.89

Simulation Run = 2827
Weights = [0.119 0.039 0.167 0.164 0.238 0.035 0.009 0.099 0.129], Final Value =
\$1519443.60, Sharpe Ratio = -23.59

Simulation Run = 2828
Weights = [0.043 0.221 0.073 0.145 0.077 0.171 0.152 0.06 0.058], Final Value =
\$1554808.33, Sharpe Ratio = -17.17

Simulation Run = 2829
Weights = [0.072 0.026 0.173 0.197 0.076 0.067 0.159 0.07 0.16], Final Value =
\$1454279.04, Sharpe Ratio = -16.79

Simulation Run = 2830
Weights = [0.11 0.195 0.143 0.182 0.037 0.036 0.082 0.042 0.173], Final Value =
\$1395792.59, Sharpe Ratio = -22.42

Simulation Run = 2831
Weights = [0.234 0.137 0.063 0.159 0.086 0.057 0.041 0.177 0.047], Final Value =
\$1596797.96, Sharpe Ratio = -21.43

Simulation Run = 2832
Weights = [0.012 0.16 0.085 0.163 0.184 0.027 0.002 0.175 0.191], Final Value =
\$1431947.84, Sharpe Ratio = -30.21

Simulation Run = 2833
Weights = [0.122 0.076 0.09 0.213 0.105 0.171 0.191 0.008 0.024], Final Value =
\$1648780.23, Sharpe Ratio = -14.40

Simulation Run = 2834
Weights = [0.139 0.17 0.134 0.031 0.049 0.168 0.154 0.085 0.07], Final Value =
\$1517495.42, Sharpe Ratio = -15.73

Simulation Run = 2835
Weights = [0.084 0.095 0.19 0.035 0.085 0.031 0.259 0.216 0.004], Final Value =
\$1518007.45, Sharpe Ratio = -13.20

Simulation Run = 2836
Weights = [0.008 0.22 0.195 0.033 0.17 0.027 0.089 0.082 0.176], Final Value =
\$1344784.53, Sharpe Ratio = -23.53

Simulation Run = 2837
Weights = [0.138 0.056 0.13 0.021 0.228 0.032 0.225 0.078 0.092], Final Value =
\$1517915.63, Sharpe Ratio = -15.43

Simulation Run = 2838
Weights = [0.133 0.172 0.031 0.076 0.154 0.157 0.087 0.034 0.156], Final Value =
\$1517224.50, Sharpe Ratio = -21.21

Simulation Run = 2839
Weights = [0.046 0.115 0.136 0.15 0.164 0.066 0.006 0.199 0.117], Final Value =
\$1501287.22, Sharpe Ratio = -24.84

Simulation Run = 2840
Weights = [0.031 0.064 0.268 0.025 0.24 0.066 0.097 0.204 0.004], Final Value =
\$1543870.12, Sharpe Ratio = -17.55

Simulation Run = 2841
Weights = [0.063 0.171 0.183 0.077 0.05 0.051 0.171 0.225 0.01], Final Value =
\$1504985.47, Sharpe Ratio = -16.07

Simulation Run = 2842
Weights = [0.101 0.138 0.107 0.141 0.024 0.183 0.01 0.11 0.186], Final Value =
\$1461048.22, Sharpe Ratio = -21.44

Simulation Run = 2843
Weights = [0.089 0.294 0.154 0.037 0.097 0.122 0.145 0.048 0.015], Final Value =
\$1510323.30, Sharpe Ratio = -17.64

Simulation Run = 2844
Weights = [0.054 0.15 0.053 0.023 0.119 0.037 0.217 0.156 0.191], Final Value =
\$1400012.05, Sharpe Ratio = -17.30

Simulation Run = 2845

Weights = [0.112 0.061 0.158 0.107 0.095 0.044 0.141 0.171 0.111], Final Value = \$1481118.68, Sharpe Ratio = -17.71

Simulation Run = 2846

Weights = [0.144 0.028 0.119 0.042 0.092 0.187 0.099 0.271 0.019], Final Value = \$1635599.95, Sharpe Ratio = -15.64

Simulation Run = 2847

Weights = [0.109 0.183 0.24 0.05 0.062 0.045 0.251 0.028 0.032], Final Value = \$1452526.74, Sharpe Ratio = -13.52

Simulation Run = 2848

Weights = [0.002 0.008 0.105 0.147 0.181 0.093 0.06 0.216 0.188], Final Value = \$1484036.90, Sharpe Ratio = -22.62

Simulation Run = 2849

Weights = [0.11 0.065 0.063 0.38 0.093 0.027 0.026 0.002 0.234], Final Value = \$1466706.77, Sharpe Ratio = -25.04

Simulation Run = 2850

Weights = [0.082 0.059 0.028 0.146 0.155 0.115 0.147 0.131 0.136], Final Value = \$1556021.47, Sharpe Ratio = -18.42

Simulation Run = 2851

Weights = [0.104 0.173 0.075 0.087 0.163 0.044 0.171 0.15 0.032], Final Value = \$1562374.83, Sharpe Ratio = -17.96

Simulation Run = 2852

Weights = [0.023 0.077 0.079 0.116 0.185 0.155 0.118 0.081 0.166], Final Value = \$1510486.94, Sharpe Ratio = -19.52

Simulation Run = 2853

Weights = [0.114 0.241 0.178 0.199 0.036 0.023 0.114 0.063 0.031], Final Value = \$1491039.48, Sharpe Ratio = -18.95

Simulation Run = 2854

Weights = [0.052 0.204 0.251 0.097 0.003 0.013 0.196 0.131 0.053], Final Value = \$1402906.30, Sharpe Ratio = -15.28

Simulation Run = 2855
Weights = [0.194 0.018 0.174 0.148 0.251 0.008 0.087 0.114 0.006], Final Value =
\$1629495.89, Sharpe Ratio = -18.53

Simulation Run = 2856
Weights = [0.043 0.171 0.082 0.142 0.106 0.17 0.112 0.135 0.037], Final Value =
\$1593240.26, Sharpe Ratio = -18.08

Simulation Run = 2857
Weights = [0.028 0.207 0.042 0.027 0.176 0.052 0.193 0.098 0.177], Final Value =
\$1417269.91, Sharpe Ratio = -19.10

Simulation Run = 2858
Weights = [0.096 0.189 0.117 0.055 0.147 0.18 0.079 0.019 0.119], Final Value =
\$1506292.39, Sharpe Ratio = -20.08

Simulation Run = 2859
Weights = [0.11 0.002 0.05 0.141 0.19 0.118 0.143 0.151 0.094], Final Value =
\$1614187.87, Sharpe Ratio = -17.40

Simulation Run = 2860
Weights = [0.119 0.239 0.197 0.047 0.033 0.103 0.064 0.109 0.089], Final Value =
\$1433710.19, Sharpe Ratio = -20.16

Simulation Run = 2861
Weights = [0.103 0.113 0.017 0.14 0.103 0.208 0.073 0.066 0.176], Final Value =
\$1538302.75, Sharpe Ratio = -19.83

Simulation Run = 2862
Weights = [0.123 0.162 0.075 0.084 0.158 0.014 0.127 0.13 0.126], Final Value =
\$1475378.29, Sharpe Ratio = -21.47

Simulation Run = 2863
Weights = [0.158 0.106 0.16 0.19 0.009 0.122 0.062 0.076 0.116], Final Value =
\$1500368.42, Sharpe Ratio = -18.74

Simulation Run = 2864
Weights = [0.145 0.162 0.206 0.037 0.082 0.096 0.068 0.19 0.014], Final Value =

\$1530098.67, Sharpe Ratio = -18.42

Simulation Run = 2865

Weights = [0.083 0.011 0.145 0.136 0.102 0.178 0.133 0.055 0.157], Final Value = \$1510493.32, Sharpe Ratio = -16.38

Simulation Run = 2866

Weights = [0.091 0.034 0.137 0.115 0. 0.139 0.187 0.158 0.139], Final Value = \$1479113.76, Sharpe Ratio = -14.64

Simulation Run = 2867

Weights = [0.037 0.242 0.048 0.19 0.117 0.006 0.215 0.109 0.037], Final Value = \$1532166.99, Sharpe Ratio = -17.27

Simulation Run = 2868

Weights = [0.076 0.143 0.103 0.207 0.062 0.182 0.074 0.139 0.015], Final Value = \$1627615.52, Sharpe Ratio = -17.78

Simulation Run = 2869

Weights = [0.148 0.01 0.014 0.101 0.066 0.228 0.096 0.159 0.178], Final Value = \$1563717.83, Sharpe Ratio = -16.84

Simulation Run = 2870

Weights = [0.116 0.122 0.144 0.043 0.112 0.114 0.027 0.162 0.16], Final Value = \$1450938.89, Sharpe Ratio = -22.60

Simulation Run = 2871

Weights = [0.009 0.157 0.108 0.086 0.038 0.016 0.216 0.212 0.158], Final Value = \$1382923.62, Sharpe Ratio = -16.69

Simulation Run = 2872

Weights = [0.017 0.001 0.099 0.019 0.193 0.253 0.122 0.221 0.073], Final Value = \$1623203.36, Sharpe Ratio = -15.48

Simulation Run = 2873

Weights = [0.117 0.026 0.175 0.15 0.008 0.163 0.147 0.022 0.192], Final Value = \$1441354.08, Sharpe Ratio = -15.58

Simulation Run = 2874
Weights = [0.063 0.005 0.155 0.186 0.098 0.12 0.123 0.113 0.137], Final Value =
\$1511946.76, Sharpe Ratio = -17.28

Simulation Run = 2875
Weights = [0.189 0.031 0.104 0.146 0.131 0.175 0.031 0.149 0.043], Final Value =
\$1656987.85, Sharpe Ratio = -18.16

Simulation Run = 2876
Weights = [0.055 0.186 0.021 0.169 0.186 0.056 0.18 0.132 0.014], Final Value =
\$1615989.92, Sharpe Ratio = -18.08

Simulation Run = 2877
Weights = [0.169 0.082 0.167 0.123 0.126 0.048 0.077 0.147 0.062], Final Value =
\$1540113.76, Sharpe Ratio = -19.46

Simulation Run = 2878
Weights = [0.036 0.047 0.067 0.026 0.237 0.212 0.206 0.071 0.098], Final Value =
\$1594329.73, Sharpe Ratio = -14.65

Simulation Run = 2879
Weights = [0.028 0.233 0.01 0.218 0.056 0.061 0.233 0.026 0.133], Final Value =
\$1473327.19, Sharpe Ratio = -16.55

Simulation Run = 2880
Weights = [0.126 0.063 0.205 0.104 0.126 0.099 0.089 0.029 0.16], Final Value =
\$1447987.10, Sharpe Ratio = -19.10

Simulation Run = 2881
Weights = [0.187 0.225 0.002 0.082 0.211 0.023 0.085 0.08 0.106], Final Value =
\$1534913.29, Sharpe Ratio = -24.82

Simulation Run = 2882
Weights = [0.038 0.145 0.148 0.121 0.154 0.111 0.045 0.094 0.144], Final Value =
\$1466963.23, Sharpe Ratio = -23.13

Simulation Run = 2883
Weights = [0.034 0.133 0.166 0.055 0.111 0.156 0.049 0.163 0.134], Final Value =
\$1463730.55, Sharpe Ratio = -20.68

Simulation Run = 2884
Weights = [0.067 0.212 0.129 0.019 0.023 0.036 0.202 0.095 0.217], Final Value =
\$1305238.08, Sharpe Ratio = -17.37

Simulation Run = 2885
Weights = [0.117 0.151 0.166 0.083 0.048 0.051 0.143 0.094 0.148], Final Value =
\$1404961.78, Sharpe Ratio = -18.33

Simulation Run = 2886
Weights = [0.152 0.11 0.042 0.058 0.115 0.184 0.114 0.127 0.098], Final Value =
\$1581436.39, Sharpe Ratio = -17.50

Simulation Run = 2887
Weights = [0.312 0.011 0.229 0.12 0.179 0.035 0.091 0.01 0.012], Final Value =
\$1606482.73, Sharpe Ratio = -16.50

Simulation Run = 2888
Weights = [0.079 0.158 0.161 0.122 0.073 0.083 0.168 0.123 0.033], Final Value =
\$1525195.82, Sharpe Ratio = -16.28

Simulation Run = 2889
Weights = [0.017 0.017 0.232 0.22 0.127 0.039 0.087 0.101 0.159], Final Value =
\$1436172.68, Sharpe Ratio = -19.18

Simulation Run = 2890
Weights = [0.045 0.201 0.136 0.198 0.253 0.07 0.051 0.012 0.034], Final Value =
\$1578533.39, Sharpe Ratio = -23.30

Simulation Run = 2891
Weights = [0.148 0.157 0.024 0.06 0.167 0.133 0.04 0.141 0.13], Final Value =
\$1545835.58, Sharpe Ratio = -23.38

Simulation Run = 2892
Weights = [0.026 0.016 0.024 0.016 0.287 0.137 0.209 0.267 0.018], Final Value =
\$1675266.19, Sharpe Ratio = -15.04

Simulation Run = 2893

Weights = [0.031 0.211 0.175 0.167 0.017 0.039 0.129 0.18 0.052], Final Value = \$1463186.74, Sharpe Ratio = -18.37

Simulation Run = 2894

Weights = [0.023 0.146 0.125 0.069 0.072 0.217 0.096 0.161 0.09], Final Value = \$1527039.74, Sharpe Ratio = -17.42

Simulation Run = 2895

Weights = [0.132 0.142 0.129 0.097 0.103 0.03 0.138 0.161 0.066], Final Value = \$1508367.67, Sharpe Ratio = -18.56

Simulation Run = 2896

Weights = [0.129 0.05 0.027 0.184 0.096 0.145 0.195 0.173 0.002], Final Value = \$1687972.90, Sharpe Ratio = -14.37

Simulation Run = 2897

Weights = [0.092 0.149 0.17 0.152 0.129 0.158 0.078 0.047 0.025], Final Value = \$1586030.32, Sharpe Ratio = -18.19

Simulation Run = 2898

Weights = [0.162 0.021 0.202 0.067 0.185 0.05 0.061 0.076 0.175], Final Value = \$1444811.04, Sharpe Ratio = -20.88

Simulation Run = 2899

Weights = [0.034 0.098 0.094 0.045 0.15 0.154 0.12 0.144 0.16], Final Value = \$1482247.23, Sharpe Ratio = -19.07

Simulation Run = 2900

Weights = [0.116 0.174 0.026 0.093 0.194 0.153 0.064 0.023 0.158], Final Value = \$1527368.39, Sharpe Ratio = -23.10

Simulation Run = 2901

Weights = [0.189 0.198 0.231 0.247 0.023 0.072 0.015 0.011 0.015], Final Value = \$1538291.03, Sharpe Ratio = -19.17

Simulation Run = 2902

Weights = [0.019 0.106 0.108 0.266 0.06 0.012 0.21 0.173 0.045], Final Value = \$1541206.70, Sharpe Ratio = -15.63

Simulation Run = 2903
Weights = [0.157 0.144 0.1 0.09 0.138 0.015 0.078 0.113 0.164], Final Value =
\$1442631.66, Sharpe Ratio = -23.70

Simulation Run = 2904
Weights = [0.094 0.032 0.067 0.048 0.157 0.023 0.152 0.195 0.232], Final Value =
\$1411600.92, Sharpe Ratio = -19.94

Simulation Run = 2905
Weights = [0.181 0.151 0.034 0.246 0.025 0.151 0.031 0.098 0.083], Final Value =
\$1600737.00, Sharpe Ratio = -20.43

Simulation Run = 2906
Weights = [0.079 0.116 0.075 0.091 0.133 0.105 0.197 0.042 0.162], Final Value =
\$1471811.55, Sharpe Ratio = -16.84

Simulation Run = 2907
Weights = [0.222 0.045 0.004 0.104 0.043 0.174 0.013 0.212 0.183], Final Value =
\$1547748.66, Sharpe Ratio = -20.18

Simulation Run = 2908
Weights = [0.087 0.131 0.081 0.02 0.099 0.139 0.14 0.198 0.104], Final Value =
\$1513726.76, Sharpe Ratio = -17.58

Simulation Run = 2909
Weights = [0.038 0.045 0.184 0.076 0.136 0.066 0.173 0.144 0.138], Final Value =
\$1447472.56, Sharpe Ratio = -16.71

Simulation Run = 2910
Weights = [0.097 0.054 0.153 0.102 0.086 0.168 0.102 0.143 0.096], Final Value =
\$1539839.02, Sharpe Ratio = -16.97

Simulation Run = 2911
Weights = [0.183 0.152 0.059 0.044 0.145 0.172 0.143 0.021 0.082], Final Value =
\$1578079.82, Sharpe Ratio = -16.93

Simulation Run = 2912
Weights = [0.075 0.132 0.121 0.168 0.033 0.192 0.162 0.102 0.015], Final Value =

\$1604707.70, Sharpe Ratio = -14.71

Simulation Run = 2913

Weights = [0.074 0.143 0.028 0.17 0.188 0.097 0.114 0.043 0.143], Final Value = \$1533271.68, Sharpe Ratio = -21.77

Simulation Run = 2914

Weights = [0.135 0.027 0.13 0.025 0.137 0.149 0.161 0.119 0.117], Final Value = \$1529908.13, Sharpe Ratio = -15.72

Simulation Run = 2915

Weights = [0.202 0.156 0.117 0.217 0.017 0.153 0.055 0.022 0.06], Final Value = \$1579916.30, Sharpe Ratio = -18.44

Simulation Run = 2916

Weights = [0.038 0.073 0.081 0.089 0.229 0.078 0.173 0.138 0.101], Final Value = \$1545101.54, Sharpe Ratio = -17.91

Simulation Run = 2917

Weights = [0.127 0.225 0.102 0.223 0.083 0.105 0.077 0.006 0.052], Final Value = \$1559344.28, Sharpe Ratio = -20.78

Simulation Run = 2918

Weights = [0.154 0.073 0.016 0.177 0.167 0.105 0.129 0.123 0.055], Final Value = \$1648450.70, Sharpe Ratio = -18.26

Simulation Run = 2919

Weights = [0.044 0.116 0.159 0.037 0.003 0.144 0.179 0.141 0.176], Final Value = \$1392986.71, Sharpe Ratio = -15.60

Simulation Run = 2920

Weights = [0.086 0.008 0.209 0.122 0.23 0.021 0.05 0.063 0.211], Final Value = \$1413830.27, Sharpe Ratio = -22.66

Simulation Run = 2921

Weights = [0.032 0.16 0.187 0.18 0.082 0.03 0.086 0.058 0.185], Final Value = \$1371493.01, Sharpe Ratio = -22.04

Simulation Run = 2922
Weights = [0.108 0.057 0.205 0.225 0.051 0.016 0.057 0.08 0.201], Final Value =
\$1389921.28, Sharpe Ratio = -21.02

Simulation Run = 2923
Weights = [0.229 0.068 0.229 0.062 0.057 0.093 0.092 0.065 0.104], Final Value =
\$1475376.89, Sharpe Ratio = -17.00

Simulation Run = 2924
Weights = [0.017 0.111 0.049 0.117 0.052 0.261 0.039 0.089 0.265], Final Value =
\$1436900.81, Sharpe Ratio = -20.05

Simulation Run = 2925
Weights = [0.159 0.113 0.054 0.175 0.148 0.093 0.022 0.141 0.096], Final Value =
\$1583691.90, Sharpe Ratio = -23.45

Simulation Run = 2926
Weights = [0.046 0.036 0.067 0.214 0.196 0.032 0.187 0.087 0.134], Final Value =
\$1533258.72, Sharpe Ratio = -17.76

Simulation Run = 2927
Weights = [0.049 0.13 0.079 0.212 0.045 0.235 0.106 0.078 0.066], Final Value =
\$1604988.48, Sharpe Ratio = -16.45

Simulation Run = 2928
Weights = [0.138 0.059 0.237 0.054 0.059 0.088 0.191 0.151 0.023], Final Value =
\$1523012.42, Sharpe Ratio = -13.88

Simulation Run = 2929
Weights = [0.172 0.117 0.011 0.083 0.112 0.155 0.187 0.103 0.06], Final Value =
\$1618104.76, Sharpe Ratio = -15.32

Simulation Run = 2930
Weights = [0.107 0.008 0.135 0.177 0.052 0.158 0.105 0.068 0.189], Final Value =
\$1481936.60, Sharpe Ratio = -17.48

Simulation Run = 2931
Weights = [0.029 0.089 0.081 0.074 0.151 0.071 0.051 0.212 0.241], Final Value =
\$1399632.96, Sharpe Ratio = -25.88

Simulation Run = 2932
Weights = [0.078 0.037 0.114 0.014 0.16 0.148 0.17 0.168 0.112], Final Value =
\$1532205.25, Sharpe Ratio = -15.94

Simulation Run = 2933
Weights = [0.024 0.191 0.194 0.141 0.067 0.058 0.166 0.107 0.054], Final Value =
\$1468616.30, Sharpe Ratio = -16.89

Simulation Run = 2934
Weights = [0.099 0.117 0.126 0.141 0.014 0.168 0.181 0.115 0.039], Final Value =
\$1569112.21, Sharpe Ratio = -14.41

Simulation Run = 2935
Weights = [0.015 0.001 0.193 0.108 0.064 0.256 0.22 0.075 0.069], Final Value =
\$1567637.52, Sharpe Ratio = -12.21

Simulation Run = 2936
Weights = [0.039 0.219 0.124 0.05 0.163 0.062 0.056 0.083 0.203], Final Value =
\$1372462.82, Sharpe Ratio = -26.64

Simulation Run = 2937
Weights = [0.09 0.095 0.111 0.187 0.161 0.152 0.063 0.136 0.004], Final Value =
\$1659709.78, Sharpe Ratio = -18.72

Simulation Run = 2938
Weights = [0.128 0.095 0.019 0.135 0.137 0.115 0.111 0.024 0.236], Final Value =
\$1463178.35, Sharpe Ratio = -21.33

Simulation Run = 2939
Weights = [0.106 0.059 0.047 0.015 0.11 0.006 0.27 0.142 0.245], Final Value =
\$1369938.14, Sharpe Ratio = -15.00

Simulation Run = 2940
Weights = [0.12 0.155 0.099 0.034 0.15 0.074 0.103 0.156 0.11], Final Value =
\$1492726.23, Sharpe Ratio = -20.93

Simulation Run = 2941

Weights = [0.296 0.134 0.195 0.041 0.044 0.13 0.011 0.028 0.123], Final Value = \$1476732.46, Sharpe Ratio = -19.29

Simulation Run = 2942

Weights = [0.154 0.02 0.133 0.154 0.063 0.17 0.162 0.011 0.132], Final Value = \$1535447.24, Sharpe Ratio = -15.09

Simulation Run = 2943

Weights = [0.111 0.042 0.087 0.026 0.057 0.223 0.192 0.218 0.044], Final Value = \$1611295.88, Sharpe Ratio = -13.29

Simulation Run = 2944

Weights = [0.083 0.122 0.124 0.164 0.14 0.01 0.12 0.071 0.166], Final Value = \$1434131.90, Sharpe Ratio = -21.45

Simulation Run = 2945

Weights = [0.222 0.094 0.134 0.129 0.238 0.005 0.069 0.109 0.001], Final Value = \$1626768.71, Sharpe Ratio = -20.38

Simulation Run = 2946

Weights = [0.039 0.028 0.122 0.133 0.197 0.017 0.22 0.027 0.217], Final Value = \$1411493.39, Sharpe Ratio = -16.88

Simulation Run = 2947

Weights = [0.059 0.089 0.148 0.157 0.04 0.133 0.11 0.068 0.195], Final Value = \$1424194.50, Sharpe Ratio = -18.65

Simulation Run = 2948

Weights = [0.109 0.062 0.032 0.059 0.047 0.209 0.215 0.229 0.038], Final Value = \$1631803.66, Sharpe Ratio = -13.13

Simulation Run = 2949

Weights = [0.146 0.126 0.154 0.01 0.006 0.174 0.238 0.03 0.117], Final Value = \$1462173.77, Sharpe Ratio = -13.04

Simulation Run = 2950

Weights = [0.057 0.22 0.215 0.219 0.008 0.092 0.045 0.035 0.109], Final Value = \$1429393.91, Sharpe Ratio = -20.58

Simulation Run = 2951
Weights = [0.206 0.08 0.029 0.08 0.172 0.213 0.047 0.111 0.062], Final Value =
\$1668919.80, Sharpe Ratio = -18.36

Simulation Run = 2952
Weights = [0.153 0.078 0.071 0.152 0.042 0.2 0.177 0.02 0.107], Final Value =
\$1572065.29, Sharpe Ratio = -14.65

Simulation Run = 2953
Weights = [0.091 0.217 0.04 0.005 0.133 0.087 0.137 0.063 0.226], Final Value =
\$1383757.87, Sharpe Ratio = -21.33

Simulation Run = 2954
Weights = [0.104 0.078 0.161 0.125 0.103 0.135 0.12 0.019 0.155], Final Value =
\$1472935.53, Sharpe Ratio = -17.93

Simulation Run = 2955
Weights = [0.039 0.147 0.179 0.177 0.085 0.066 0.035 0.173 0.097], Final Value =
\$1475447.32, Sharpe Ratio = -22.05

Simulation Run = 2956
Weights = [0.147 0.124 0.239 0.125 0.12 0.041 0.001 0.125 0.077], Final Value =
\$1482482.28, Sharpe Ratio = -21.38

Simulation Run = 2957
Weights = [0.097 0.12 0.015 0.183 0.15 0.055 0.009 0.172 0.198], Final Value =
\$1486486.31, Sharpe Ratio = -28.70

Simulation Run = 2958
Weights = [0.033 0.057 0.011 0.102 0.069 0.193 0.097 0.203 0.234], Final Value =
\$1471984.65, Sharpe Ratio = -19.28

Simulation Run = 2959
Weights = [0.219 0.123 0.206 0.066 0.111 0.001 0.016 0.221 0.036], Final Value =
\$1515717.24, Sharpe Ratio = -20.90

Simulation Run = 2960
Weights = [0.115 0.067 0.11 0.145 0.17 0.004 0.165 0.165 0.06], Final Value =

\$1554399.35, Sharpe Ratio = -17.69

Simulation Run = 2961

Weights = [0.131 0.03 0.166 0.092 0.128 0.069 0.03 0.174 0.179], Final Value = \$1450869.79, Sharpe Ratio = -22.14

Simulation Run = 2962

Weights = [0.026 0.05 0.249 0.016 0.169 0.081 0.01 0.206 0.192], Final Value = \$1380942.29, Sharpe Ratio = -22.31

Simulation Run = 2963

Weights = [0.132 0.002 0.139 0.17 0.117 0.174 0.119 0.094 0.053], Final Value = \$1626773.68, Sharpe Ratio = -15.67

Simulation Run = 2964

Weights = [0.163 0.006 0.013 0.035 0.228 0.065 0.124 0.133 0.233], Final Value = \$1483427.68, Sharpe Ratio = -20.69

Simulation Run = 2965

Weights = [0.13 0.022 0.149 0.138 0.072 0.179 0.021 0.141 0.148], Final Value = \$1523972.71, Sharpe Ratio = -19.02

Simulation Run = 2966

Weights = [0.037 0.026 0.123 0.187 0.132 0.122 0.006 0.229 0.138], Final Value = \$1532887.03, Sharpe Ratio = -22.11

Simulation Run = 2967

Weights = [0.174 0.129 0.108 0.101 0.039 0.006 0.129 0.143 0.171], Final Value = \$1411683.98, Sharpe Ratio = -19.78

Simulation Run = 2968

Weights = [0.106 0.202 0.016 0.004 0.062 0.189 0.165 0.151 0.106], Final Value = \$1525616.74, Sharpe Ratio = -16.25

Simulation Run = 2969

Weights = [0.101 0.151 0.127 0.2 0.076 0.112 0.079 0.15 0.004], Final Value = \$1604717.14, Sharpe Ratio = -18.65

Simulation Run = 2970
Weights = [0.017 0.18 0.07 0.092 0.08 0.218 0.099 0.023 0.221], Final Value =
\$1428467.71, Sharpe Ratio = -19.58

Simulation Run = 2971
Weights = [0.014 0.101 0.205 0.026 0.145 0.169 0.109 0.102 0.128], Final Value =
\$1459815.08, Sharpe Ratio = -17.76

Simulation Run = 2972
Weights = [0.003 0.049 0.136 0.117 0.11 0.095 0.157 0.142 0.191], Final Value =
\$1427235.36, Sharpe Ratio = -17.95

Simulation Run = 2973
Weights = [0.129 0.119 0.081 0.118 0.149 0.118 0.105 0.095 0.086], Final Value =
\$1565269.69, Sharpe Ratio = -19.45

Simulation Run = 2974
Weights = [0.056 0.189 0.212 0.032 0.117 0.179 0.032 0.005 0.178], Final Value =
\$1397910.15, Sharpe Ratio = -21.14

Simulation Run = 2975
Weights = [0.101 0.074 0.047 0.149 0.076 0.154 0.016 0.211 0.172], Final Value =
\$1520873.78, Sharpe Ratio = -22.29

Simulation Run = 2976
Weights = [0.086 0.084 0.178 0.143 0.149 0.073 0.169 0.015 0.103], Final Value =
\$1495637.76, Sharpe Ratio = -16.79

Simulation Run = 2977
Weights = [0.216 0.204 0.031 0.121 0.089 0.032 0.144 0.055 0.107], Final Value =
\$1510211.60, Sharpe Ratio = -19.64

Simulation Run = 2978
Weights = [0.083 0.064 0.019 0.176 0.177 0.022 0.178 0.152 0.13], Final Value =
\$1540099.68, Sharpe Ratio = -18.59

Simulation Run = 2979
Weights = [0.268 0.134 0.075 0.02 0.139 0.034 0.066 0.007 0.258], Final Value =
\$1382408.55, Sharpe Ratio = -24.00

Simulation Run = 2980
Weights = [0.073 0.141 0.115 0.135 0.13 0.135 0.106 0.129 0.038], Final Value =
\$1584324.70, Sharpe Ratio = -18.50

Simulation Run = 2981
Weights = [0.112 0.19 0.206 0.036 0.107 0.083 0.041 0.019 0.207], Final Value =
\$1346538.38, Sharpe Ratio = -23.37

Simulation Run = 2982
Weights = [0.022 0.1 0.045 0.164 0.173 0.191 0.075 0.088 0.143], Final Value =
\$1562008.33, Sharpe Ratio = -20.59

Simulation Run = 2983
Weights = [0.134 0.174 0.061 0.119 0.198 0.089 0.138 0.014 0.072], Final Value =
\$1570182.46, Sharpe Ratio = -19.51

Simulation Run = 2984
Weights = [0.167 0.158 0.084 0.203 0.105 0.006 0.134 0.084 0.06], Final Value =
\$1547262.04, Sharpe Ratio = -19.39

Simulation Run = 2985
Weights = [0.185 0.159 0.079 0.16 0.097 0.141 0.076 0.019 0.085], Final Value =
\$1570979.70, Sharpe Ratio = -19.78

Simulation Run = 2986
Weights = [0.022 0.133 0.129 0.001 0.107 0.144 0.218 0.166 0.081], Final Value =
\$1496188.28, Sharpe Ratio = -14.68

Simulation Run = 2987
Weights = [0.149 0.101 0.16 0.163 0.163 0.048 0.083 0.106 0.028], Final Value =
\$1581089.44, Sharpe Ratio = -19.47

Simulation Run = 2988
Weights = [0.147 0.14 0.128 0.127 0.042 0.117 0.092 0.149 0.057], Final Value =
\$1545754.19, Sharpe Ratio = -18.21

Simulation Run = 2989

Weights = [0.161 0.038 0.175 0.106 0.049 0.111 0.106 0.043 0.211], Final Value = \$1412825.61, Sharpe Ratio = -18.07

Simulation Run = 2990

Weights = [0.208 0.032 0.172 0.048 0.038 0.014 0.206 0.201 0.082], Final Value = \$1483912.47, Sharpe Ratio = -14.42

Simulation Run = 2991

Weights = [0.059 0.083 0.209 0.042 0.156 0.188 0.173 0.042 0.048], Final Value = \$1549424.58, Sharpe Ratio = -14.59

Simulation Run = 2992

Weights = [0.079 0.218 0.086 0.155 0.152 0.148 0.009 0.105 0.047], Final Value = \$1587371.75, Sharpe Ratio = -23.33

Simulation Run = 2993

Weights = [0.137 0.163 0.069 0.01 0.172 0.057 0.223 0.104 0.066], Final Value = \$1530353.34, Sharpe Ratio = -15.81

Simulation Run = 2994

Weights = [0.128 0.222 0.147 0.009 0.086 0.042 0.188 0.128 0.05], Final Value = \$1470337.22, Sharpe Ratio = -16.60

Simulation Run = 2995

Weights = [0.187 0.022 0.003 0.192 0.144 0.145 0.08 0.075 0.152], Final Value = \$1602274.64, Sharpe Ratio = -19.66

Simulation Run = 2996

Weights = [0.09 0.221 0.187 0.093 0.086 0.042 0.036 0.221 0.024], Final Value = \$1498677.42, Sharpe Ratio = -21.92

Simulation Run = 2997

Weights = [0.001 0.106 0.039 0.023 0.214 0.071 0.171 0.18 0.195], Final Value = \$1444490.88, Sharpe Ratio = -19.62

Simulation Run = 2998

Weights = [0.112 0.03 0.23 0.03 0.034 0.155 0.215 0.048 0.146], Final Value = \$1431589.54, Sharpe Ratio = -13.34

Simulation Run = 2999
Weights = [0.033 0.171 0.251 0.243 0.011 0.017 0.105 0.07 0.098], Final Value =
\$1409095.28, Sharpe Ratio = -18.24

Simulation Run = 3000
Weights = [0.151 0.074 0.068 0.12 0.127 0.099 0.09 0.117 0.153], Final Value =
\$1517157.63, Sharpe Ratio = -20.62

Simulation Run = 3001
Weights = [0.057 0.125 0.138 0.156 0.083 0.06 0.123 0.165 0.093], Final Value =
\$1492151.91, Sharpe Ratio = -19.03

Simulation Run = 3002
Weights = [0.103 0.102 0.127 0.142 0.118 0.022 0.103 0.158 0.125], Final Value =
\$1476092.61, Sharpe Ratio = -20.89

Simulation Run = 3003
Weights = [0.077 0.096 0.125 0.062 0.174 0.183 0.083 0.041 0.16], Final Value =
\$1498146.62, Sharpe Ratio = -19.60

Simulation Run = 3004
Weights = [0.135 0.186 0.062 0.149 0.016 0.23 0.128 0.034 0.06], Final Value =
\$1590922.23, Sharpe Ratio = -15.84

Simulation Run = 3005
Weights = [0.049 0.024 0.206 0.02 0.053 0.226 0.073 0.216 0.133], Final Value =
\$1483853.64, Sharpe Ratio = -16.17

Simulation Run = 3006
Weights = [0.152 0.044 0.136 0.098 0.123 0.1 0.174 0.028 0.146], Final Value =
\$1492357.99, Sharpe Ratio = -16.28

Simulation Run = 3007
Weights = [0.055 0.101 0.13 0.09 0.101 0.117 0.041 0.196 0.168], Final Value =
\$1452756.53, Sharpe Ratio = -22.42

Simulation Run = 3008
Weights = [0.112 0.112 0.103 0.156 0.098 0.136 0.155 0.085 0.044], Final Value =

\$1592215.98, Sharpe Ratio = -16.27

Simulation Run = 3009

Weights = [0.078 0.005 0.111 0.14 0.015 0.2 0.216 0.005 0.231], Final Value = \$1441483.93, Sharpe Ratio = -13.87

Simulation Run = 3010

Weights = [0.133 0.03 0.068 0.047 0.22 0.156 0.089 0.032 0.225], Final Value = \$1490359.89, Sharpe Ratio = -20.48

Simulation Run = 3011

Weights = [0.037 0.165 0.203 0.016 0.054 0.152 0.104 0.154 0.116], Final Value = \$1428409.16, Sharpe Ratio = -17.84

Simulation Run = 3012

Weights = [0.022 0.197 0.087 0.086 0.197 0.076 0.117 0.178 0.041], Final Value = \$1553554.12, Sharpe Ratio = -20.88

Simulation Run = 3013

Weights = [0.226 0.066 0.096 0.091 0.182 0.055 0.024 0.058 0.202], Final Value = \$1472302.00, Sharpe Ratio = -24.60

Simulation Run = 3014

Weights = [0.133 0.089 0.178 0.064 0.092 0.079 0.152 0.147 0.067], Final Value = \$1508396.40, Sharpe Ratio = -16.38

Simulation Run = 3015

Weights = [0.102 0.133 0.02 0.003 0.207 0.194 0.084 0.059 0.198], Final Value = \$1502104.53, Sharpe Ratio = -20.74

Simulation Run = 3016

Weights = [0.248 0.194 0.004 0.02 0.083 0. 0.204 0.081 0.165], Final Value = \$1440765.11, Sharpe Ratio = -17.26

Simulation Run = 3017

Weights = [0.12 0.152 0.051 0.173 0.065 0.153 0.193 0.09 0.003], Final Value = \$1638956.73, Sharpe Ratio = -14.81

Simulation Run = 3018
Weights = [0.153 0.191 0.077 0.184 0.158 0.033 0.121 0.08 0.003], Final Value =
\$1608038.87, Sharpe Ratio = -19.81

Simulation Run = 3019
Weights = [0.171 0.054 0.202 0.031 0.076 0.093 0.009 0.235 0.129], Final Value =
\$1465157.46, Sharpe Ratio = -20.26

Simulation Run = 3020
Weights = [0.027 0.037 0.067 0.15 0.138 0.146 0.185 0.117 0.132], Final Value =
\$1545721.93, Sharpe Ratio = -16.12

Simulation Run = 3021
Weights = [0.202 0.017 0.094 0.075 0.131 0.127 0.017 0.193 0.143], Final Value =
\$1548155.73, Sharpe Ratio = -20.82

Simulation Run = 3022
Weights = [0.078 0.111 0.149 0.123 0.079 0.093 0.148 0.128 0.091], Final Value =
\$1498872.96, Sharpe Ratio = -17.21

Simulation Run = 3023
Weights = [0.109 0.063 0.139 0.06 0.134 0.147 0.1 0.115 0.134], Final Value =
\$1506592.86, Sharpe Ratio = -18.43

Simulation Run = 3024
Weights = [0.001 0.133 0.218 0.111 0.204 0.035 0.025 0.085 0.188], Final Value =
\$1379212.87, Sharpe Ratio = -24.94

Simulation Run = 3025
Weights = [0.028 0.101 0.094 0.085 0.227 0.133 0.002 0.172 0.158], Final Value =
\$1509963.15, Sharpe Ratio = -25.31

Simulation Run = 3026
Weights = [0.135 0.144 0.167 0.141 0.147 0.015 0.137 0.025 0.09], Final Value =
\$1483917.84, Sharpe Ratio = -19.01

Simulation Run = 3027
Weights = [0.168 0.067 0.162 0.029 0.01 0.195 0.149 0.064 0.156], Final Value =
\$1463075.93, Sharpe Ratio = -14.87

Simulation Run = 3028
Weights = [0.103 0.126 0.003 0.131 0.069 0.256 0.131 0.01 0.17], Final Value =
\$1548199.27, Sharpe Ratio = -16.49

Simulation Run = 3029
Weights = [0.114 0.069 0.152 0.003 0.073 0.221 0.07 0.093 0.207], Final Value =
\$1437605.97, Sharpe Ratio = -17.87

Simulation Run = 3030
Weights = [0.004 0.074 0.266 0.09 0.002 0.165 0.252 0.012 0.135], Final Value =
\$1401206.93, Sharpe Ratio = -12.46

Simulation Run = 3031
Weights = [0.018 0.128 0.158 0.012 0.141 0.208 0.164 0.055 0.116], Final Value =
\$1489528.34, Sharpe Ratio = -15.78

Simulation Run = 3032
Weights = [0.07 0.044 0.115 0.133 0.09 0.112 0.173 0.105 0.157], Final Value =
\$1482295.87, Sharpe Ratio = -16.51

Simulation Run = 3033
Weights = [0.027 0.197 0.134 0.162 0.18 0.133 0.011 0.061 0.095], Final Value =
\$1524113.05, Sharpe Ratio = -24.14

Simulation Run = 3034
Weights = [0.141 0.081 0.035 0.158 0.106 0.142 0.152 0.042 0.143], Final Value =
\$1550103.56, Sharpe Ratio = -17.35

Simulation Run = 3035
Weights = [0.136 0.161 0.066 0.058 0.072 0.123 0.158 0.076 0.15], Final Value =
\$1472134.85, Sharpe Ratio = -17.62

Simulation Run = 3036
Weights = [0.102 0.069 0.133 0.085 0.136 0.146 0.05 0.168 0.111], Final Value =
\$1536167.97, Sharpe Ratio = -20.04

Simulation Run = 3037

Weights = [0.054 0.242 0.095 0.121 0.215 0.076 0.079 0.099 0.018], Final Value = \$1576145.91, Sharpe Ratio = -22.82

Simulation Run = 3038

Weights = [0.184 0. 0.125 0.166 0.053 0.162 0.135 0.154 0.022], Final Value = \$1648127.24, Sharpe Ratio = -14.58

Simulation Run = 3039

Weights = [0.001 0.275 0.065 0.132 0.035 0.255 0.167 0.015 0.055], Final Value = \$1554545.85, Sharpe Ratio = -15.39

Simulation Run = 3040

Weights = [0.113 0.086 0.084 0.144 0.089 0.136 0.113 0.13 0.104], Final Value = \$1552441.36, Sharpe Ratio = -18.18

Simulation Run = 3041

Weights = [0.05 0.204 0.068 0.143 0.129 0.054 0.056 0.057 0.238], Final Value = \$1379203.81, Sharpe Ratio = -28.00

Simulation Run = 3042

Weights = [0.051 0.231 0.041 0.182 0.143 0.088 0.016 0.019 0.23], Final Value = \$1416231.71, Sharpe Ratio = -30.20

Simulation Run = 3043

Weights = [0.09 0.111 0.144 0.033 0.159 0.149 0.124 0.109 0.08], Final Value = \$1534966.24, Sharpe Ratio = -17.57

Simulation Run = 3044

Weights = [0.199 0.09 0.133 0.01 0.043 0.166 0.107 0.07 0.182], Final Value = \$1447723.20, Sharpe Ratio = -17.22

Simulation Run = 3045

Weights = [0.097 0.038 0.272 0.093 0.098 0.015 0.113 0.235 0.039], Final Value = \$1491010.71, Sharpe Ratio = -16.53

Simulation Run = 3046

Weights = [0.13 0.035 0.053 0.012 0.166 0.194 0.124 0.082 0.205], Final Value = \$1503626.83, Sharpe Ratio = -17.64

Simulation Run = 3047
Weights = [0.166 0.06 0.147 0.077 0.101 0.153 0.101 0.105 0.09], Final Value =
\$1550224.55, Sharpe Ratio = -17.09

Simulation Run = 3048
Weights = [0.179 0.074 0.156 0.045 0.005 0.004 0.037 0.25 0.25], Final Value =
\$1325068.05, Sharpe Ratio = -22.93

Simulation Run = 3049
Weights = [0.074 0.025 0.102 0.312 0.03 0.083 0.05 0.142 0.182], Final Value =
\$1492680.21, Sharpe Ratio = -20.84

Simulation Run = 3050
Weights = [0.078 0.12 0.07 0.098 0.082 0.168 0.126 0.082 0.176], Final Value =
\$1478686.11, Sharpe Ratio = -18.39

Simulation Run = 3051
Weights = [0.194 0.168 0.048 0.024 0.096 0.064 0.067 0.192 0.148], Final Value =
\$1473599.54, Sharpe Ratio = -22.83

Simulation Run = 3052
Weights = [0.082 0.243 0.126 0.049 0.221 0.063 0.132 0.032 0.051], Final Value =
\$1515122.25, Sharpe Ratio = -20.41

Simulation Run = 3053
Weights = [0.232 0.005 0.099 0.024 0.248 0.134 0.172 0.053 0.034], Final Value =
\$1658210.30, Sharpe Ratio = -15.03

Simulation Run = 3054
Weights = [0.148 0.037 0.162 0.081 0.172 0.085 0.064 0.097 0.153], Final Value =
\$1487074.97, Sharpe Ratio = -20.73

Simulation Run = 3055
Weights = [0.034 0.166 0.173 0.133 0.107 0.026 0.177 0.066 0.117], Final Value =
\$1424721.05, Sharpe Ratio = -17.74

Simulation Run = 3056
Weights = [0.047 0.086 0.165 0.081 0.095 0.18 0.158 0.087 0.1], Final Value =

\$1511653.65, Sharpe Ratio = -15.59

Simulation Run = 3057

Weights = [0.139 0.106 0.157 0.084 0.138 0.114 0.153 0. 0.11], Final Value = \$1502004.35, Sharpe Ratio = -17.02

Simulation Run = 3058

Weights = [0.05 0.089 0.17 0.116 0.016 0.158 0.176 0.158 0.068], Final Value = \$1518028.18, Sharpe Ratio = -14.56

Simulation Run = 3059

Weights = [0.052 0.098 0.104 0.006 0.16 0.067 0.173 0.102 0.238], Final Value = \$1371115.91, Sharpe Ratio = -18.83

Simulation Run = 3060

Weights = [0.146 0.086 0.072 0.005 0.183 0.122 0.176 0.122 0.089], Final Value = \$1560378.00, Sharpe Ratio = -16.36

Simulation Run = 3061

Weights = [0.019 0.048 0.133 0.03 0.269 0.134 0.059 0.239 0.07], Final Value = \$1580792.12, Sharpe Ratio = -20.54

Simulation Run = 3062

Weights = [0.153 0.084 0.009 0.229 0.096 0.05 0.144 0.029 0.206], Final Value = \$1485171.10, Sharpe Ratio = -20.00

Simulation Run = 3063

Weights = [0.104 0.223 0.238 0.024 0.111 0.095 0.012 0.066 0.128], Final Value = \$1397766.96, Sharpe Ratio = -22.70

Simulation Run = 3064

Weights = [0.167 0.206 0.01 0.217 0.036 0.12 0.024 0.156 0.064], Final Value = \$1596797.55, Sharpe Ratio = -22.35

Simulation Run = 3065

Weights = [0.014 0.131 0.162 0.002 0.101 0.139 0.187 0.158 0.106], Final Value = \$1458247.30, Sharpe Ratio = -15.68

Simulation Run = 3066
Weights = [0.081 0.13 0.189 0.033 0.121 0.151 0.112 0.125 0.056], Final Value =
\$1522833.72, Sharpe Ratio = -17.19

Simulation Run = 3067
Weights = [0.211 0.038 0.022 0.038 0.135 0.084 0.188 0.133 0.151], Final Value =
\$1531838.55, Sharpe Ratio = -16.21

Simulation Run = 3068
Weights = [0.129 0.226 0.001 0.135 0.074 0.072 0.084 0.23 0.049], Final Value =
\$1573914.62, Sharpe Ratio = -21.99

Simulation Run = 3069
Weights = [0.112 0.122 0.141 0.092 0.06 0.097 0.177 0.023 0.176], Final Value =
\$1416790.54, Sharpe Ratio = -16.80

Simulation Run = 3070
Weights = [0.018 0.058 0.122 0.123 0.224 0.058 0.136 0.128 0.134], Final Value =
\$1500557.00, Sharpe Ratio = -19.76

Simulation Run = 3071
Weights = [0.007 0.021 0.161 0.228 0.014 0.085 0.019 0.28 0.186], Final Value =
\$1437214.88, Sharpe Ratio = -21.15

Simulation Run = 3072
Weights = [0.013 0.144 0.086 0.137 0.145 0.134 0.106 0.096 0.139], Final Value =
\$1498889.91, Sharpe Ratio = -20.68

Simulation Run = 3073
Weights = [0.125 0.051 0.14 0.036 0.11 0.167 0.159 0.175 0.037], Final Value =
\$1591247.81, Sharpe Ratio = -14.83

Simulation Run = 3074
Weights = [0.127 0.189 0.079 0.057 0.157 0.071 0.141 0.092 0.088], Final Value =
\$1514387.39, Sharpe Ratio = -19.55

Simulation Run = 3075
Weights = [0.012 0.152 0.101 0.091 0.164 0.106 0.129 0.089 0.157], Final Value =
\$1457504.84, Sharpe Ratio = -20.47

Simulation Run = 3076
Weights = [0.121 0.176 0.016 0.162 0.105 0.1 0.037 0.181 0.102], Final Value =
\$1559699.66, Sharpe Ratio = -24.13

Simulation Run = 3077
Weights = [0.136 0.095 0.111 0.116 0.116 0.06 0.062 0.163 0.14], Final Value =
\$1487827.08, Sharpe Ratio = -22.22

Simulation Run = 3078
Weights = [0.173 0.074 0.178 0.122 0.125 0.042 0.082 0.122 0.082], Final Value =
\$1517487.72, Sharpe Ratio = -19.36

Simulation Run = 3079
Weights = [0.116 0.036 0.166 0.199 0.084 0.079 0.211 0.071 0.037], Final Value =
\$1574336.11, Sharpe Ratio = -14.09

Simulation Run = 3080
Weights = [0.082 0.246 0.068 0.141 0.056 0.168 0.088 0.089 0.062], Final Value =
\$1550318.31, Sharpe Ratio = -19.58

Simulation Run = 3081
Weights = [0.082 0.087 0.098 0.044 0.126 0.16 0.163 0.171 0.069], Final Value =
\$1566551.06, Sharpe Ratio = -15.88

Simulation Run = 3082
Weights = [0.168 0.146 0.131 0.029 0.073 0.134 0.122 0.123 0.075], Final Value =
\$1521356.28, Sharpe Ratio = -17.21

Simulation Run = 3083
Weights = [0.186 0.039 0.194 0.127 0.099 0.133 0.073 0.05 0.099], Final Value =
\$1535601.42, Sharpe Ratio = -17.57

Simulation Run = 3084
Weights = [0.205 0.059 0.12 0.192 0.106 0.161 0.101 0.015 0.041], Final Value =
\$1639216.33, Sharpe Ratio = -16.52

Simulation Run = 3085

Weights = [0.022 0.008 0.255 0.044 0.221 0.012 0.081 0.338 0.018], Final Value = \$1534011.35, Sharpe Ratio = -18.19

Simulation Run = 3086

Weights = [0.13 0.047 0.124 0.119 0.051 0.163 0.064 0.177 0.126], Final Value = \$1529427.15, Sharpe Ratio = -18.27

Simulation Run = 3087

Weights = [0.082 0.15 0.116 0.152 0.163 0.104 0.077 0.071 0.085], Final Value = \$1541950.94, Sharpe Ratio = -21.34

Simulation Run = 3088

Weights = [0.098 0.14 0.217 0.182 0.028 0.019 0.02 0.184 0.111], Final Value = \$1429737.40, Sharpe Ratio = -21.53

Simulation Run = 3089

Weights = [0.2 0.016 0.126 0.034 0.064 0.01 0.151 0.221 0.178], Final Value = \$1427642.94, Sharpe Ratio = -17.44

Simulation Run = 3090

Weights = [0.141 0.106 0.173 0.012 0.112 0.158 0.005 0.204 0.089], Final Value = \$1522027.21, Sharpe Ratio = -20.04

Simulation Run = 3091

Weights = [0.202 0.093 0.083 0.123 0.004 0.218 0.218 0.058 0.002], Final Value = \$1653640.71, Sharpe Ratio = -12.40

Simulation Run = 3092

Weights = [0.201 0.133 0.254 0.073 0.014 0.03 0.082 0.101 0.111], Final Value = \$1406370.14, Sharpe Ratio = -18.25

Simulation Run = 3093

Weights = [0.03 0.182 0.028 0.18 0.081 0.139 0.2 0.026 0.133], Final Value = \$1509289.29, Sharpe Ratio = -16.64

Simulation Run = 3094

Weights = [0.149 0.137 0.109 0.029 0.052 0.113 0.189 0.071 0.152], Final Value = \$1444276.90, Sharpe Ratio = -15.94

Simulation Run = 3095
Weights = [0.056 0.122 0.122 0.137 0.178 0.094 0.105 0.169 0.017], Final Value =
\$1600258.69, Sharpe Ratio = -19.10

Simulation Run = 3096
Weights = [0.091 0.098 0.194 0.168 0.01 0.173 0.011 0.208 0.047], Final Value =
\$1557059.16, Sharpe Ratio = -17.86

Simulation Run = 3097
Weights = [0.156 0.225 0.251 0.036 0.234 0.073 0.017 0.004 0.003], Final Value =
\$1534087.30, Sharpe Ratio = -21.30

Simulation Run = 3098
Weights = [0.017 0.038 0.146 0.07 0.107 0.114 0.234 0.177 0.097], Final Value =
\$1503697.18, Sharpe Ratio = -14.07

Simulation Run = 3099
Weights = [0.166 0.025 0.211 0.128 0.022 0.051 0.196 0.121 0.08], Final Value =
\$1490210.41, Sharpe Ratio = -14.16

Simulation Run = 3100
Weights = [0.106 0.084 0.171 0.125 0.097 0.029 0.036 0.174 0.178], Final Value =
\$1414783.57, Sharpe Ratio = -23.21

Simulation Run = 3101
Weights = [0.086 0.087 0.178 0.141 0.023 0.055 0.152 0.14 0.139], Final Value =
\$1428813.24, Sharpe Ratio = -17.04

Simulation Run = 3102
Weights = [0.024 0.106 0.211 0.134 0.026 0.04 0.211 0.13 0.118], Final Value =
\$1407478.78, Sharpe Ratio = -15.07

Simulation Run = 3103
Weights = [0.167 0.164 0.144 0.17 0.1 0.192 0.046 0.012 0.005], Final Value =
\$1633459.67, Sharpe Ratio = -18.01

Simulation Run = 3104
Weights = [0.187 0.033 0.163 0.101 0.113 0.086 0.003 0.13 0.185], Final Value =

\$1461346.82, Sharpe Ratio = -22.21

Simulation Run = 3105

Weights = [0.08 0.111 0.122 0.091 0.118 0.16 0.204 0.037 0.077], Final Value = \$1545094.37, Sharpe Ratio = -14.81

Simulation Run = 3106

Weights = [0.117 0.103 0.14 0.144 0.114 0.164 0.067 0.039 0.113], Final Value = \$1535328.73, Sharpe Ratio = -19.24

Simulation Run = 3107

Weights = [0.181 0.18 0.029 0.063 0.018 0.134 0.068 0.152 0.176], Final Value = \$1465343.98, Sharpe Ratio = -20.94

Simulation Run = 3108

Weights = [0.189 0.012 0.023 0.194 0.118 0.143 0.145 0.158 0.019], Final Value = \$1705352.36, Sharpe Ratio = -15.55

Simulation Run = 3109

Weights = [0.031 0.036 0.092 0.147 0.019 0.178 0.15 0.191 0.157], Final Value = \$1500059.73, Sharpe Ratio = -15.97

Simulation Run = 3110

Weights = [0.03 0.119 0.242 0.127 0.085 0.02 0.096 0.069 0.211], Final Value = \$1321600.57, Sharpe Ratio = -20.57

Simulation Run = 3111

Weights = [0.08 0.039 0.099 0.197 0.073 0.195 0.063 0.06 0.196], Final Value = \$1503535.55, Sharpe Ratio = -19.17

Simulation Run = 3112

Weights = [0.037 0.235 0.248 0.028 0.076 0.079 0.007 0.048 0.241], Final Value = \$1265458.23, Sharpe Ratio = -24.74

Simulation Run = 3113

Weights = [0.228 0.04 0.182 0.017 0.052 0.106 0.139 0.156 0.081], Final Value = \$1516054.23, Sharpe Ratio = -15.35

Simulation Run = 3114
Weights = [0.137 0.18 0.082 0.038 0.169 0.045 0.137 0.142 0.07], Final Value =
\$1524066.42, Sharpe Ratio = -19.77

Simulation Run = 3115
Weights = [0.125 0.066 0.12 0.074 0.198 0.18 0.057 0.046 0.135], Final Value =
\$1548031.97, Sharpe Ratio = -19.87

Simulation Run = 3116
Weights = [0.164 0.131 0.007 0.175 0.295 0.103 0.029 0.058 0.037], Final Value =
\$1688786.88, Sharpe Ratio = -23.60

Simulation Run = 3117
Weights = [0.049 0.094 0.109 0.05 0.244 0.015 0.26 0.093 0.086], Final Value =
\$1508331.75, Sharpe Ratio = -15.05

Simulation Run = 3118
Weights = [0.191 0.001 0.196 0.219 0.163 0.088 0.117 0.019 0.006], Final Value =
\$1643185.45, Sharpe Ratio = -15.88

Simulation Run = 3119
Weights = [0.022 0.051 0.171 0.184 0.093 0.085 0.027 0.031 0.335], Final Value =
\$1300541.06, Sharpe Ratio = -24.71

Simulation Run = 3120
Weights = [0.149 0.077 0.067 0.116 0.117 0.169 0.041 0.183 0.08], Final Value =
\$1608222.05, Sharpe Ratio = -19.56

Simulation Run = 3121
Weights = [0.235 0.004 0.004 0.094 0.207 0.095 0.241 0.01 0.11], Final Value =
\$1617790.15, Sharpe Ratio = -14.25

Simulation Run = 3122
Weights = [0.062 0.168 0.151 0.049 0.158 0.008 0.13 0.138 0.135], Final Value =
\$1414791.21, Sharpe Ratio = -20.89

Simulation Run = 3123
Weights = [0.193 0.088 0.082 0.178 0.22 0.173 0.051 0.013 0.002], Final Value =
\$1710778.29, Sharpe Ratio = -18.70

Simulation Run = 3124
Weights = [0.126 0.192 0.189 0.051 0.129 0.093 0.051 0.148 0.02], Final Value =
\$1534313.16, Sharpe Ratio = -20.29

Simulation Run = 3125
Weights = [0.202 0.09 0.161 0.01 0.08 0.128 0.079 0.052 0.198], Final Value =
\$1418157.80, Sharpe Ratio = -19.17

Simulation Run = 3126
Weights = [0.096 0.092 0.246 0.044 0.051 0.216 0.004 0.182 0.069], Final Value =
\$1518333.35, Sharpe Ratio = -17.16

Simulation Run = 3127
Weights = [0.045 0.128 0.168 0.171 0.04 0.158 0.162 0.046 0.083], Final Value =
\$1509551.76, Sharpe Ratio = -15.61

Simulation Run = 3128
Weights = [0.148 0.096 0.085 0.076 0.117 0.129 0.113 0.093 0.144], Final Value =
\$1508761.11, Sharpe Ratio = -18.90

Simulation Run = 3129
Weights = [0.082 0.053 0.124 0.162 0.122 0.095 0.006 0.147 0.207], Final Value =
\$1452554.38, Sharpe Ratio = -24.32

Simulation Run = 3130
Weights = [0.104 0.142 0.111 0.128 0.093 0.133 0.144 0. 0.145], Final Value =
\$1480172.38, Sharpe Ratio = -17.98

Simulation Run = 3131
Weights = [0.101 0.035 0.144 0.16 0.078 0.159 0.113 0.052 0.157], Final Value =
\$1500616.51, Sharpe Ratio = -17.33

Simulation Run = 3132
Weights = [0.203 0.009 0.081 0.009 0.176 0.156 0.172 0.142 0.052], Final Value =
\$1633320.53, Sharpe Ratio = -14.73

Simulation Run = 3133

Weights = [0.135 0.151 0.118 0.108 0.095 0.079 0.092 0.153 0.068], Final Value = \$1529783.19, Sharpe Ratio = -19.88

Simulation Run = 3134

Weights = [0.162 0.079 0.105 0.131 0.085 0.1 0.022 0.139 0.176], Final Value = \$1479288.45, Sharpe Ratio = -22.71

Simulation Run = 3135

Weights = [0.125 0.124 0.156 0.147 0.126 0.046 0.064 0.057 0.154], Final Value = \$1447849.28, Sharpe Ratio = -22.58

Simulation Run = 3136

Weights = [0.059 0.082 0.051 0.093 0.078 0.247 0.106 0.031 0.253], Final Value = \$1452689.53, Sharpe Ratio = -17.87

Simulation Run = 3137

Weights = [0.053 0.021 0.152 0.221 0.245 0.032 0.201 0.011 0.064], Final Value = \$1575512.48, Sharpe Ratio = -15.93

Simulation Run = 3138

Weights = [0.112 0.039 0.248 0.029 0.161 0.238 0.031 0.084 0.058], Final Value = \$1573120.38, Sharpe Ratio = -16.41

Simulation Run = 3139

Weights = [0.071 0.09 0.033 0.156 0.171 0.236 0.119 0.051 0.072], Final Value = \$1651725.32, Sharpe Ratio = -16.83

Simulation Run = 3140

Weights = [0.127 0.001 0.096 0.201 0.05 0.108 0.166 0.096 0.154], Final Value = \$1517638.06, Sharpe Ratio = -16.03

Simulation Run = 3141

Weights = [0.074 0.059 0.11 0.148 0.008 0.144 0.165 0.153 0.139], Final Value = \$1492565.70, Sharpe Ratio = -15.69

Simulation Run = 3142

Weights = [0.139 0.192 0.12 0.053 0.003 0.172 0.201 0.089 0.032], Final Value = \$1543058.69, Sharpe Ratio = -13.99

Simulation Run = 3143
Weights = [0.069 0.054 0.018 0.267 0.083 0.191 0.057 0.13 0.133], Final Value =
\$1604301.66, Sharpe Ratio = -19.49

Simulation Run = 3144
Weights = [0.156 0.145 0.131 0.003 0.035 0.296 0. 0.196 0.037], Final Value =
\$1606841.20, Sharpe Ratio = -16.23

Simulation Run = 3145
Weights = [0.031 0.186 0.165 0.098 0.044 0.19 0.104 0.106 0.077], Final Value =
\$1500033.60, Sharpe Ratio = -17.36

Simulation Run = 3146
Weights = [0.128 0.024 0.17 0.058 0.13 0.086 0.145 0.022 0.237], Final Value =
\$1387966.49, Sharpe Ratio = -18.00

Simulation Run = 3147
Weights = [0.133 0.082 0.193 0.093 0.061 0.16 0.091 0.132 0.054], Final Value =
\$1548795.88, Sharpe Ratio = -16.49

Simulation Run = 3148
Weights = [0.123 0.201 0.125 0.016 0.191 0.118 0.037 0.137 0.052], Final Value =
\$1546927.65, Sharpe Ratio = -22.44

Simulation Run = 3149
Weights = [0.224 0.029 0.095 0.108 0.073 0.006 0.356 0.028 0.081], Final Value =
\$1526423.63, Sharpe Ratio = -11.30

Simulation Run = 3150
Weights = [0.134 0.096 0.187 0.07 0.068 0.111 0.202 0.026 0.105], Final Value =
\$1471871.06, Sharpe Ratio = -14.66

Simulation Run = 3151
Weights = [0.096 0.008 0.14 0.163 0.126 0.136 0.157 0.126 0.048], Final Value =
\$1607353.48, Sharpe Ratio = -15.35

Simulation Run = 3152
Weights = [0.091 0.141 0.216 0.12 0.178 0.08 0.029 0.075 0.071], Final Value =

\$1507861.81, Sharpe Ratio = -21.57

Simulation Run = 3153

Weights = [0.094 0.069 0.063 0.08 0.146 0.075 0.176 0.115 0.182], Final Value = \$1467630.48, Sharpe Ratio = -17.97

Simulation Run = 3154

Weights = [0.17 0.061 0.22 0.005 0.081 0.179 0.096 0.159 0.03], Final Value = \$1563359.78, Sharpe Ratio = -15.32

Simulation Run = 3155

Weights = [0.105 0.181 0.004 0.095 0.172 0.179 0.085 0.163 0.016], Final Value = \$1664168.88, Sharpe Ratio = -19.32

Simulation Run = 3156

Weights = [0.121 0.008 0.007 0.202 0.061 0.22 0.044 0.202 0.134], Final Value = \$1622344.39, Sharpe Ratio = -18.15

Simulation Run = 3157

Weights = [0.081 0.143 0.109 0.143 0.073 0.144 0.146 0.126 0.034], Final Value = \$1579591.72, Sharpe Ratio = -16.46

Simulation Run = 3158

Weights = [0.162 0.161 0.156 0.065 0.095 0.126 0.052 0.038 0.145], Final Value = \$1457716.92, Sharpe Ratio = -21.07

Simulation Run = 3159

Weights = [0.056 0.223 0.056 0.021 0.185 0.093 0.118 0.212 0.037], Final Value = \$1558062.25, Sharpe Ratio = -20.62

Simulation Run = 3160

Weights = [0.212 0.117 0.087 0.19 0.129 0.062 0.077 0.05 0.077], Final Value = \$1577030.03, Sharpe Ratio = -20.68

Simulation Run = 3161

Weights = [0.187 0.08 0.129 0.072 0.07 0.066 0.096 0.17 0.131], Final Value = \$1480208.71, Sharpe Ratio = -19.20

Simulation Run = 3162
Weights = [0.082 0.018 0.131 0.166 0.152 0.122 0.065 0.093 0.172], Final Value =
\$1503811.04, Sharpe Ratio = -20.64

Simulation Run = 3163
Weights = [0.131 0.158 0.153 0.093 0.129 0.08 0.027 0.003 0.227], Final Value =
\$1380443.76, Sharpe Ratio = -25.34

Simulation Run = 3164
Weights = [0.214 0.062 0.121 0.188 0.046 0.123 0.183 0.01 0.054], Final Value =
\$1592741.54, Sharpe Ratio = -14.49

Simulation Run = 3165
Weights = [0.15 0.108 0.074 0.072 0.104 0.041 0.179 0.2 0.07], Final Value =
\$1536974.74, Sharpe Ratio = -16.84

Simulation Run = 3166
Weights = [0.054 0.106 0.033 0.12 0.17 0.082 0.087 0.182 0.166], Final Value =
\$1500620.31, Sharpe Ratio = -23.33

Simulation Run = 3167
Weights = [0.038 0.219 0.03 0.147 0.064 0.08 0.145 0.051 0.226], Final Value =
\$1387822.84, Sharpe Ratio = -21.30

Simulation Run = 3168
Weights = [0.139 0.155 0.083 0.106 0.186 0.107 0.071 0.137 0.015], Final Value =
\$1624878.58, Sharpe Ratio = -20.58

Simulation Run = 3169
Weights = [0.003 0.121 0.203 0.077 0.134 0.128 0.024 0.165 0.144], Final Value =
\$1439552.23, Sharpe Ratio = -21.92

Simulation Run = 3170
Weights = [0.025 0.121 0.185 0.147 0.104 0.016 0.145 0.115 0.143], Final Value =
\$1408686.75, Sharpe Ratio = -18.91

Simulation Run = 3171
Weights = [0.132 0.09 0.204 0.163 0.12 0.204 0.037 0.01 0.04], Final Value =
\$1600513.30, Sharpe Ratio = -17.32

Simulation Run = 3172
Weights = [0.139 0.146 0.035 0.175 0.172 0.018 0.047 0.077 0.191], Final Value =
\$1470709.78, Sharpe Ratio = -27.64

Simulation Run = 3173
Weights = [0.004 0.142 0.056 0.15 0.114 0.144 0.169 0.073 0.148], Final Value =
\$1497378.29, Sharpe Ratio = -17.75

Simulation Run = 3174
Weights = [0.187 0.027 0.197 0.105 0.016 0.184 0.1 0.056 0.128], Final Value =
\$1504078.44, Sharpe Ratio = -15.54

Simulation Run = 3175
Weights = [0.111 0.129 0.039 0.11 0.143 0.038 0.095 0.175 0.159], Final Value =
\$1481738.50, Sharpe Ratio = -23.30

Simulation Run = 3176
Weights = [0.18 0.044 0.123 0.173 0.092 0.057 0.053 0.178 0.1], Final Value =
\$1544677.66, Sharpe Ratio = -20.35

Simulation Run = 3177
Weights = [0.027 0.132 0.112 0.037 0.046 0.142 0.187 0.059 0.257], Final Value =
\$1341238.78, Sharpe Ratio = -16.79

Simulation Run = 3178
Weights = [0.023 0.105 0.151 0.061 0.032 0.254 0.107 0.068 0.199], Final Value =
\$1431509.65, Sharpe Ratio = -16.49

Simulation Run = 3179
Weights = [0.064 0.134 0.139 0.047 0.116 0.135 0.135 0.099 0.131], Final Value =
\$1467821.77, Sharpe Ratio = -18.08

Simulation Run = 3180
Weights = [0.018 0.134 0.103 0.123 0.162 0.014 0.129 0.133 0.184], Final Value =
\$1412315.42, Sharpe Ratio = -22.10

Simulation Run = 3181

Weights = [0.148 0.183 0.113 0.139 0.135 0.077 0.084 0.005 0.117], Final Value = \$1496388.74, Sharpe Ratio = -21.91

Simulation Run = 3182

Weights = [0.137 0.173 0.163 0.154 0.097 0.058 0.068 0.012 0.138], Final Value = \$1445396.84, Sharpe Ratio = -22.05

Simulation Run = 3183

Weights = [0.129 0.157 0.14 0.09 0.11 0.094 0.102 0.069 0.109], Final Value = \$1486036.56, Sharpe Ratio = -19.79

Simulation Run = 3184

Weights = [0.152 0.068 0.062 0.074 0.157 0.047 0.176 0.048 0.215], Final Value = \$1439217.61, Sharpe Ratio = -18.43

Simulation Run = 3185

Weights = [0.151 0.075 0.121 0.165 0.018 0.015 0.156 0.043 0.256], Final Value = \$1350931.60, Sharpe Ratio = -18.62

Simulation Run = 3186

Weights = [0.022 0.007 0.213 0.173 0.093 0.045 0.203 0.017 0.227], Final Value = \$1362242.29, Sharpe Ratio = -15.81

Simulation Run = 3187

Weights = [0.068 0.203 0.157 0.197 0.066 0.076 0.007 0.103 0.122], Final Value = \$1456250.42, Sharpe Ratio = -24.18

Simulation Run = 3188

Weights = [0.058 0.116 0.021 0.219 0.063 0.152 0.223 0.135 0.013], Final Value = \$1650680.20, Sharpe Ratio = -14.11

Simulation Run = 3189

Weights = [0.196 0.054 0.153 0.197 0.19 0.006 0.059 0.082 0.061], Final Value = \$1575087.36, Sharpe Ratio = -20.65

Simulation Run = 3190

Weights = [0.218 0.025 0.034 0.069 0.09 0.152 0.208 0.17 0.034], Final Value = \$1655474.32, Sharpe Ratio = -13.56

Simulation Run = 3191
Weights = [0.134 0.092 0.2 0.183 0.041 0.095 0.132 0.007 0.116], Final Value =
\$1473771.26, Sharpe Ratio = -16.77

Simulation Run = 3192
Weights = [0.025 0.314 0.074 0.166 0.136 0.075 0.017 0.177 0.017], Final Value =
\$1555937.93, Sharpe Ratio = -26.41

Simulation Run = 3193
Weights = [0.049 0.036 0.15 0.182 0.16 0.131 0.164 0.016 0.112], Final Value =
\$1539421.64, Sharpe Ratio = -16.34

Simulation Run = 3194
Weights = [0.162 0.033 0.158 0.076 0.088 0.207 0.084 0.072 0.12], Final Value =
\$1542965.76, Sharpe Ratio = -16.51

Simulation Run = 3195
Weights = [0.036 0.122 0.15 0.153 0.179 0.063 0.03 0.101 0.166], Final Value =
\$1449762.25, Sharpe Ratio = -25.09

Simulation Run = 3196
Weights = [0.153 0.135 0.009 0.101 0.235 0.096 0.081 0.068 0.122], Final Value =
\$1573565.60, Sharpe Ratio = -22.91

Simulation Run = 3197
Weights = [0.046 0.193 0.154 0.231 0.007 0.098 0.086 0.149 0.036], Final Value =
\$1528534.47, Sharpe Ratio = -18.70

Simulation Run = 3198
Weights = [0.129 0.095 0.15 0.098 0.06 0.158 0.056 0.147 0.106], Final Value =
\$1518496.42, Sharpe Ratio = -18.75

Simulation Run = 3199
Weights = [0.137 0.085 0.115 0.14 0.105 0.125 0.109 0.059 0.126], Final Value =
\$1523114.06, Sharpe Ratio = -18.57

Simulation Run = 3200
Weights = [0.051 0.136 0.059 0.07 0.125 0.213 0.024 0.129 0.193], Final Value =

\$1487199.80, Sharpe Ratio = -22.03

Simulation Run = 3201

Weights = [0.145 0.068 0.099 0.101 0.067 0.207 0.241 0.055 0.019], Final Value = \$1634196.40, Sharpe Ratio = -12.38

Simulation Run = 3202

Weights = [0.137 0.149 0.161 0.116 0.147 0.081 0.07 0.137 0.003], Final Value = \$1586829.91, Sharpe Ratio = -19.58

Simulation Run = 3203

Weights = [0.021 0.103 0.113 0.06 0.147 0.194 0.059 0.162 0.14], Final Value = \$1510334.57, Sharpe Ratio = -20.09

Simulation Run = 3204

Weights = [0.01 0.088 0.178 0.151 0.047 0.211 0.023 0.112 0.178], Final Value = \$1453858.85, Sharpe Ratio = -19.33

Simulation Run = 3205

Weights = [0.061 0.231 0.128 0.059 0.054 0.095 0.221 0.006 0.146], Final Value = \$1397496.94, Sharpe Ratio = -15.87

Simulation Run = 3206

Weights = [0.12 0.088 0.036 0.145 0.135 0.003 0.228 0.041 0.204], Final Value = \$1438813.13, Sharpe Ratio = -16.90

Simulation Run = 3207

Weights = [0.126 0.02 0.066 0.068 0.059 0.207 0.147 0.079 0.229], Final Value = \$1469658.29, Sharpe Ratio = -16.06

Simulation Run = 3208

Weights = [0.059 0.208 0.184 0.184 0.063 0.115 0.023 0.09 0.075], Final Value = \$1492474.88, Sharpe Ratio = -21.50

Simulation Run = 3209

Weights = [0.16 0.032 0.102 0.184 0.163 0.125 0.089 0.025 0.12], Final Value = \$1576447.25, Sharpe Ratio = -19.08

Simulation Run = 3210
Weights = [0.001 0.138 0.04 0.143 0.108 0.087 0.165 0.152 0.167], Final Value =
\$1464613.07, Sharpe Ratio = -19.13

Simulation Run = 3211
Weights = [0.131 0.14 0.032 0.01 0.04 0.083 0.327 0.177 0.06], Final Value =
\$1528262.22, Sharpe Ratio = -11.97

Simulation Run = 3212
Weights = [0.202 0.137 0.125 0.15 0.116 0.021 0.088 0.012 0.147], Final Value =
\$1463227.99, Sharpe Ratio = -21.73

Simulation Run = 3213
Weights = [0.065 0.188 0.121 0.102 0.083 0.167 0.103 0.122 0.048], Final Value =
\$1551555.40, Sharpe Ratio = -18.12

Simulation Run = 3214
Weights = [0.176 0.025 0.147 0.024 0.214 0.181 0.04 0.063 0.13], Final Value =
\$1556157.17, Sharpe Ratio = -19.19

Simulation Run = 3215
Weights = [0.056 0.16 0.167 0.012 0.105 0.171 0.17 0.125 0.036], Final Value =
\$1532711.18, Sharpe Ratio = -15.29

Simulation Run = 3216
Weights = [0.124 0.225 0.208 0.025 0.046 0.022 0.18 0.103 0.067], Final Value =
\$1413994.53, Sharpe Ratio = -16.50

Simulation Run = 3217
Weights = [0.137 0.061 0.13 0.192 0.141 0.122 0.031 0.036 0.15], Final Value =
\$1525758.50, Sharpe Ratio = -21.63

Simulation Run = 3218
Weights = [0.104 0.037 0.159 0.148 0.162 0.124 0.003 0.164 0.099], Final Value =
\$1559404.72, Sharpe Ratio = -21.08

Simulation Run = 3219
Weights = [0.067 0.1 0.234 0.048 0.199 0.071 0.122 0.047 0.114], Final Value =
\$1450192.58, Sharpe Ratio = -18.54

Simulation Run = 3220
Weights = [0.117 0.028 0.085 0.097 0.167 0.158 0.008 0.19 0.149], Final Value =
\$1553712.70, Sharpe Ratio = -21.77

Simulation Run = 3221
Weights = [0.101 0.092 0.163 0.101 0.126 0.117 0.014 0.129 0.157], Final Value =
\$1468507.20, Sharpe Ratio = -22.48

Simulation Run = 3222
Weights = [0.065 0.178 0.139 0.116 0.106 0.055 0.071 0.17 0.101], Final Value =
\$1470949.80, Sharpe Ratio = -22.43

Simulation Run = 3223
Weights = [0.084 0.177 0.145 0.084 0.031 0.169 0.043 0.128 0.139], Final Value =
\$1456093.16, Sharpe Ratio = -20.31

Simulation Run = 3224
Weights = [0.155 0.128 0.167 0.081 0.105 0.031 0.058 0.116 0.158], Final Value =
\$1420703.95, Sharpe Ratio = -22.53

Simulation Run = 3225
Weights = [0.286 0.213 0.004 0.029 0.039 0.164 0.015 0.23 0.02], Final Value =
\$1636029.78, Sharpe Ratio = -19.26

Simulation Run = 3226
Weights = [0.138 0.006 0.055 0.154 0.091 0.178 0.164 0.053 0.163], Final Value =
\$1552714.69, Sharpe Ratio = -15.70

Simulation Run = 3227
Weights = [0.102 0.206 0.178 0.135 0.134 0.058 0.006 0.083 0.098], Final Value =
\$1469806.07, Sharpe Ratio = -24.53

Simulation Run = 3228
Weights = [0.127 0.11 0.136 0.034 0.129 0.135 0.144 0.046 0.139], Final Value =
\$1478302.83, Sharpe Ratio = -17.43

Simulation Run = 3229

Weights = [0.172 0.135 0.077 0.115 0.099 0.155 0.137 0.053 0.056], Final Value = \$1594417.00, Sharpe Ratio = -16.76

Simulation Run = 3230

Weights = [0.008 0.051 0.15 0.035 0.218 0.211 0.076 0.165 0.086], Final Value = \$1571859.49, Sharpe Ratio = -18.07

Simulation Run = 3231

Weights = [0.088 0.089 0.049 0.15 0.068 0.033 0.194 0.153 0.176], Final Value = \$1452014.81, Sharpe Ratio = -17.46

Simulation Run = 3232

Weights = [0.082 0.147 0.048 0.01 0.154 0.151 0.009 0.195 0.203], Final Value = \$1458804.55, Sharpe Ratio = -25.13

Simulation Run = 3233

Weights = [0.189 0.172 0.113 0.118 0.041 0.131 0.022 0.155 0.059], Final Value = \$1555749.38, Sharpe Ratio = -20.46

Simulation Run = 3234

Weights = [0.095 0.092 0.086 0.131 0.132 0.186 0.073 0.166 0.039], Final Value = \$1633294.92, Sharpe Ratio = -18.15

Simulation Run = 3235

Weights = [0.127 0.047 0.004 0.217 0.215 0.092 0.086 0.085 0.128], Final Value = \$1608792.09, Sharpe Ratio = -21.70

Simulation Run = 3236

Weights = [0.184 0.243 0.045 0.09 0.108 0.004 0.064 0.038 0.222], Final Value = \$1378818.71, Sharpe Ratio = -27.39

Simulation Run = 3237

Weights = [0.09 0.042 0.157 0.22 0.08 0.058 0.162 0.033 0.157], Final Value = \$1464059.48, Sharpe Ratio = -17.02

Simulation Run = 3238

Weights = [0.23 0.006 0.145 0.213 0.142 0.018 0.166 0.004 0.076], Final Value = \$1572451.52, Sharpe Ratio = -16.10

Simulation Run = 3239
Weights = [0.061 0.06 0.176 0.151 0.013 0.149 0.19 0.028 0.172], Final Value =
\$1434244.76, Sharpe Ratio = -14.81

Simulation Run = 3240
Weights = [0.192 0.039 0.226 0.015 0.018 0.047 0.157 0.078 0.227], Final Value =
\$1329655.30, Sharpe Ratio = -16.26

Simulation Run = 3241
Weights = [0.048 0.059 0.132 0.144 0.072 0.167 0.117 0.18 0.079], Final Value =
\$1558257.03, Sharpe Ratio = -16.65

Simulation Run = 3242
Weights = [0.058 0.147 0.1 0.03 0.145 0.134 0.087 0.112 0.188], Final Value =
\$1435418.94, Sharpe Ratio = -21.68

Simulation Run = 3243
Weights = [0.142 0.164 0.171 0.069 0.075 0.199 0.041 0.085 0.052], Final Value =
\$1552844.25, Sharpe Ratio = -18.16

Simulation Run = 3244
Weights = [0.081 0.149 0.041 0.149 0.262 0.195 0.036 0.04 0.048], Final Value =
\$1666187.64, Sharpe Ratio = -21.40

Simulation Run = 3245
Weights = [0.104 0.185 0.115 0.014 0.105 0.026 0.183 0.183 0.085], Final Value =
\$1459274.45, Sharpe Ratio = -17.53

Simulation Run = 3246
Weights = [0.133 0.052 0.144 0.085 0.167 0.179 0.049 0.072 0.119], Final Value =
\$1552394.94, Sharpe Ratio = -19.19

Simulation Run = 3247
Weights = [0.178 0.151 0.049 0.144 0.12 0.002 0.099 0.093 0.163], Final Value =
\$1466702.22, Sharpe Ratio = -23.13

Simulation Run = 3248
Weights = [0.169 0.067 0.198 0.234 0.143 0.017 0.111 0.012 0.05], Final Value =

\$1553679.35, Sharpe Ratio = -17.87

Simulation Run = 3249

Weights = [0.175 0.209 0.017 0.041 0.03 0.141 0.197 0.02 0.17], Final Value = \$1456667.13, Sharpe Ratio = -16.02

Simulation Run = 3250

Weights = [0.109 0.032 0.046 0.072 0.167 0.114 0.158 0.116 0.186], Final Value = \$1502252.35, Sharpe Ratio = -17.98

Simulation Run = 3251

Weights = [0.184 0.117 0.184 0.021 0.141 0.138 0.048 0.033 0.133], Final Value = \$1477912.48, Sharpe Ratio = -20.01

Simulation Run = 3252

Weights = [0.251 0.024 0.073 0.082 0.187 0.058 0.005 0.172 0.147], Final Value = \$1549448.28, Sharpe Ratio = -23.29

Simulation Run = 3253

Weights = [0.177 0.172 0.04 0.197 0.261 0.096 0.002 0.038 0.017], Final Value = \$1678842.48, Sharpe Ratio = -24.20

Simulation Run = 3254

Weights = [0.2 0.011 0.163 0.188 0.044 0.063 0.1 0.098 0.133], Final Value = \$1501313.80, Sharpe Ratio = -17.65

Simulation Run = 3255

Weights = [0.043 0.101 0.195 0.186 0.18 0.138 0.046 0.038 0.072], Final Value = \$1553191.72, Sharpe Ratio = -19.89

Simulation Run = 3256

Weights = [0.115 0.221 0.033 0.002 0.001 0.027 0.262 0.165 0.175], Final Value = \$1373468.13, Sharpe Ratio = -15.00

Simulation Run = 3257

Weights = [0.094 0.116 0.233 0.085 0.128 0.116 0.004 0.083 0.142], Final Value = \$1441160.19, Sharpe Ratio = -21.57

Simulation Run = 3258
Weights = [0.105 0.104 0.155 0.125 0.039 0.125 0.015 0.139 0.194], Final Value =
\$1422795.16, Sharpe Ratio = -22.05

Simulation Run = 3259
Weights = [0.187 0.078 0.186 0.063 0.13 0.11 0.104 0.053 0.089], Final Value =
\$1520128.32, Sharpe Ratio = -17.63

Simulation Run = 3260
Weights = [0.126 0.047 0.24 0.253 0.098 0.105 0.015 0.035 0.083], Final Value =
\$1537520.57, Sharpe Ratio = -18.73

Simulation Run = 3261
Weights = [0.044 0.105 0.157 0.124 0.083 0.155 0.093 0.091 0.148], Final Value =
\$1468275.83, Sharpe Ratio = -18.84

Simulation Run = 3262
Weights = [0.033 0.04 0.112 0.077 0.25 0.223 0.227 0.005 0.033], Final Value =
\$1650993.81, Sharpe Ratio = -13.43

Simulation Run = 3263
Weights = [0.168 0.098 0.126 0.056 0.056 0.153 0.026 0.171 0.146], Final Value =
\$1489703.88, Sharpe Ratio = -20.23

Simulation Run = 3264
Weights = [0.127 0.038 0.124 0.108 0.075 0.088 0.135 0.156 0.149], Final Value =
\$1482117.90, Sharpe Ratio = -17.62

Simulation Run = 3265
Weights = [0.085 0.225 0.179 0.116 0.043 0.027 0.233 0.076 0.016], Final Value =
\$1481406.77, Sharpe Ratio = -14.66

Simulation Run = 3266
Weights = [0.167 0.145 0.144 0.023 0.155 0.047 0.011 0.22 0.089], Final Value =
\$1499453.98, Sharpe Ratio = -23.81

Simulation Run = 3267
Weights = [0.003 0.088 0.141 0.19 0.053 0.153 0.189 0.124 0.059], Final Value =
\$1551603.90, Sharpe Ratio = -14.72

Simulation Run = 3268
Weights = [0.122 0.097 0.132 0.025 0.213 0.111 0.073 0.066 0.161], Final Value =
\$1477750.43, Sharpe Ratio = -21.65

Simulation Run = 3269
Weights = [0.16 0.115 0.142 0.115 0.208 0.027 0.055 0.103 0.074], Final Value =
\$1540502.69, Sharpe Ratio = -22.46

Simulation Run = 3270
Weights = [0.067 0.147 0.08 0.089 0.212 0.146 0.074 0.058 0.127], Final Value =
\$1532418.74, Sharpe Ratio = -22.02

Simulation Run = 3271
Weights = [0.133 0.237 0.264 0.084 0.025 0.021 0.114 0.06 0.061], Final Value =
\$1405309.64, Sharpe Ratio = -17.97

Simulation Run = 3272
Weights = [0.031 0.083 0.089 0.008 0.156 0.172 0.178 0.078 0.205], Final Value =
\$1443770.57, Sharpe Ratio = -16.70

Simulation Run = 3273
Weights = [0.198 0.112 0.182 0.002 0.193 0.082 0.135 0.086 0.009], Final Value =
\$1575643.06, Sharpe Ratio = -16.75

Simulation Run = 3274
Weights = [0.069 0.098 0.16 0.088 0.163 0.152 0.056 0.039 0.176], Final Value =
\$1460951.95, Sharpe Ratio = -21.22

Simulation Run = 3275
Weights = [0.11 0.113 0.139 0.147 0.13 0.066 0.105 0.142 0.048], Final Value =
\$1557235.66, Sharpe Ratio = -19.04

Simulation Run = 3276
Weights = [0.181 0.121 0.071 0.107 0.046 0.098 0.197 0.04 0.139], Final Value =
\$1489608.79, Sharpe Ratio = -15.79

Simulation Run = 3277

Weights = [0.09 0.103 0.134 0.153 0.212 0.168 0.053 0.066 0.022], Final Value = \$1641870.60, Sharpe Ratio = -19.26

Simulation Run = 3278

Weights = [0.08 0.126 0.159 0.072 0.167 0.087 0.026 0.176 0.106], Final Value = \$1494957.67, Sharpe Ratio = -23.07

Simulation Run = 3279

Weights = [0.117 0.324 0.145 0.049 0.049 0.085 0.065 0.083 0.081], Final Value = \$1435467.96, Sharpe Ratio = -22.41

Simulation Run = 3280

Weights = [0.269 0.081 0.073 0.199 0.095 0.019 0.167 0.002 0.095], Final Value = \$1556925.33, Sharpe Ratio = -16.97

Simulation Run = 3281

Weights = [0.127 0.209 0.053 0.048 0.168 0.114 0.014 0.197 0.069], Final Value = \$1563195.00, Sharpe Ratio = -24.60

Simulation Run = 3282

Weights = [0.185 0.095 0.126 0.156 0.101 0.068 0.022 0.15 0.095], Final Value = \$1539808.28, Sharpe Ratio = -21.89

Simulation Run = 3283

Weights = [0.077 0.091 0.153 0.035 0.045 0.179 0.181 0.076 0.162], Final Value = \$1441774.08, Sharpe Ratio = -15.04

Simulation Run = 3284

Weights = [0.171 0.144 0.073 0.08 0.211 0.151 0.11 0.058 0.001], Final Value = \$1662367.82, Sharpe Ratio = -17.98

Simulation Run = 3285

Weights = [0.163 0.111 0.156 0.048 0.015 0.123 0.165 0.155 0.065], Final Value = \$1512659.64, Sharpe Ratio = -15.08

Simulation Run = 3286

Weights = [0.204 0.003 0.064 0.101 0.149 0.051 0.045 0.206 0.175], Final Value = \$1515996.50, Sharpe Ratio = -22.48

Simulation Run = 3287
Weights = [0.147 0.015 0.146 0.027 0.183 0.149 0.107 0.095 0.131], Final Value =
\$1530932.48, Sharpe Ratio = -17.61

Simulation Run = 3288
Weights = [0.097 0.239 0.14 0.075 0.1 0.143 0.073 0.029 0.104], Final Value =
\$1475251.15, Sharpe Ratio = -20.92

Simulation Run = 3289
Weights = [0.189 0.065 0.205 0.12 0.037 0.191 0.092 0.045 0.056], Final Value =
\$1565719.20, Sharpe Ratio = -15.39

Simulation Run = 3290
Weights = [0.186 0.062 0.031 0.125 0.199 0.175 0.007 0.182 0.033], Final Value =
\$1701764.72, Sharpe Ratio = -20.04

Simulation Run = 3291
Weights = [0.166 0.085 0.186 0.042 0.065 0.003 0.276 0.053 0.124], Final Value =
\$1413624.42, Sharpe Ratio = -13.37

Simulation Run = 3292
Weights = [0.143 0.179 0.042 0.183 0.111 0. 0.116 0.04 0.186], Final Value =
\$1438842.51, Sharpe Ratio = -23.23

Simulation Run = 3293
Weights = [0.102 0.13 0.078 0.125 0.108 0.138 0.045 0.142 0.132], Final Value =
\$1522125.21, Sharpe Ratio = -22.03

Simulation Run = 3294
Weights = [0.049 0.002 0.237 0.234 0.234 0.004 0.038 0.16 0.041], Final Value =
\$1567718.97, Sharpe Ratio = -19.44

Simulation Run = 3295
Weights = [0.277 0.183 0.058 0.221 0.043 0.08 0.062 0.045 0.03], Final Value =
\$1615855.85, Sharpe Ratio = -19.78

Simulation Run = 3296
Weights = [0.17 0.13 0.14 0.121 0.024 0.012 0.04 0.193 0.17], Final Value =

\$1407843.90, Sharpe Ratio = -23.07

Simulation Run = 3297

Weights = [0.137 0.225 0.064 0.044 0.019 0.186 0.117 0.039 0.169], Final Value = \$1447277.08, Sharpe Ratio = -18.24

Simulation Run = 3298

Weights = [0.023 0.107 0.03 0.087 0.287 0.188 0.023 0.042 0.215], Final Value = \$1515806.56, Sharpe Ratio = -24.79

Simulation Run = 3299

Weights = [0.02 0.125 0.198 0.177 0.112 0.061 0.184 0.06 0.063], Final Value = \$1494165.34, Sharpe Ratio = -16.08

Simulation Run = 3300

Weights = [0.142 0.053 0.121 0.068 0.148 0.098 0.129 0.116 0.126], Final Value = \$1514186.92, Sharpe Ratio = -18.14

Simulation Run = 3301

Weights = [0.045 0.076 0.087 0.217 0.054 0.311 0.037 0.172], Final Value = \$1431097.16, Sharpe Ratio = -12.83

Simulation Run = 3302

Weights = [0.179 0.135 0.097 0.099 0.133 0.007 0.118 0.156 0.076], Final Value = \$1523437.49, Sharpe Ratio = -20.10

Simulation Run = 3303

Weights = [0.093 0.067 0.176 0.139 0.063 0.142 0.105 0.186 0.028], Final Value = \$1579440.18, Sharpe Ratio = -16.27

Simulation Run = 3304

Weights = [0.162 0.075 0.013 0.192 0.113 0.073 0.104 0.069 0.199], Final Value = \$1501957.61, Sharpe Ratio = -21.47

Simulation Run = 3305

Weights = [0.106 0.243 0.216 0.025 0.009 0.009 0.186 0.076 0.131], Final Value = \$1332085.73, Sharpe Ratio = -16.78

Simulation Run = 3306
Weights = [0.138 0.077 0.123 0.214 0.218 0.025 0.025 0.024 0.156], Final Value =
\$1506040.23, Sharpe Ratio = -25.01

Simulation Run = 3307
Weights = [0.151 0.179 0.145 0.048 0.132 0.032 0.103 0.149 0.062], Final Value =
\$1497867.64, Sharpe Ratio = -20.32

Simulation Run = 3308
Weights = [0.191 0.168 0.157 0.153 0.126 0.008 0.15 0.023 0.024], Final Value =
\$1542495.77, Sharpe Ratio = -17.65

Simulation Run = 3309
Weights = [0.061 0.051 0.239 0.045 0.05 0.145 0.114 0.078 0.216], Final Value =
\$1361238.75, Sharpe Ratio = -17.13

Simulation Run = 3310
Weights = [0.118 0.006 0.211 0.166 0.151 0.187 0.06 0.095 0.006], Final Value =
\$1650857.88, Sharpe Ratio = -16.06

Simulation Run = 3311
Weights = [0.158 0.181 0.098 0.089 0.137 0.12 0.068 0.053 0.096], Final Value =
\$1530700.40, Sharpe Ratio = -21.36

Simulation Run = 3312
Weights = [0.049 0.089 0.075 0.211 0.008 0.117 0.33 0.111 0.009], Final Value =
\$1601966.36, Sharpe Ratio = -11.32

Simulation Run = 3313
Weights = [0.059 0.177 0.19 0.082 0.109 0.011 0.076 0.103 0.194], Final Value =
\$1342104.19, Sharpe Ratio = -23.49

Simulation Run = 3314
Weights = [0.035 0.164 0.091 0.066 0.159 0.136 0.137 0.12 0.093], Final Value =
\$1523587.02, Sharpe Ratio = -18.77

Simulation Run = 3315
Weights = [0.134 0.207 0.061 0.021 0.129 0.022 0.183 0.069 0.173], Final Value =
\$1407250.27, Sharpe Ratio = -18.97

Simulation Run = 3316
Weights = [0.064 0.078 0.181 0.23 0.131 0.012 0.067 0.069 0.168], Final Value =
\$1433743.76, Sharpe Ratio = -22.05

Simulation Run = 3317
Weights = [0.058 0.008 0.042 0.214 0.248 0.155 0.161 0.066 0.048], Final Value =
\$1688725.39, Sharpe Ratio = -16.38

Simulation Run = 3318
Weights = [0.173 0.098 0.081 0.086 0.168 0.074 0.151 0.031 0.138], Final Value =
\$1510636.39, Sharpe Ratio = -18.55

Simulation Run = 3319
Weights = [0.069 0.158 0.032 0.187 0.195 0.11 0.026 0.067 0.155], Final Value =
\$1531273.26, Sharpe Ratio = -26.53

Simulation Run = 3320
Weights = [0.142 0.003 0.089 0.073 0.175 0.154 0.144 0.033 0.184], Final Value =
\$1516345.39, Sharpe Ratio = -17.18

Simulation Run = 3321
Weights = [0.094 0.098 0.001 0.101 0.127 0.083 0.2 0.269 0.027], Final Value =
\$1625693.23, Sharpe Ratio = -15.85

Simulation Run = 3322
Weights = [0.059 0.022 0.087 0.155 0.114 0.273 0.204 0.037 0.051], Final Value =
\$1658483.85, Sharpe Ratio = -12.92

Simulation Run = 3323
Weights = [0.099 0.078 0.002 0.091 0.163 0.263 0.13 0.057 0.118], Final Value =
\$1625388.05, Sharpe Ratio = -16.14

Simulation Run = 3324
Weights = [0.007 0.053 0.073 0.061 0.067 0.093 0.234 0.214 0.198], Final Value =
\$1419778.55, Sharpe Ratio = -15.21

Simulation Run = 3325

Weights = [0.133 0.152 0.1 0.155 0.083 0.005 0.141 0.142 0.089], Final Value = \$1494994.63, Sharpe Ratio = -19.26

Simulation Run = 3326

Weights = [0.003 0.135 0.094 0.091 0.157 0.126 0.136 0.156 0.102], Final Value = \$1517965.60, Sharpe Ratio = -18.92

Simulation Run = 3327

Weights = [0.067 0.175 0.008 0.132 0.157 0.117 0.187 0.127 0.029], Final Value = \$1620011.44, Sharpe Ratio = -16.84

Simulation Run = 3328

Weights = [0.195 0.03 0.025 0.077 0.136 0.145 0.185 0.112 0.096], Final Value = \$1609610.68, Sharpe Ratio = -15.18

Simulation Run = 3329

Weights = [0.099 0.131 0.072 0.145 0.14 0.038 0.115 0.163 0.096], Final Value = \$1526699.54, Sharpe Ratio = -20.97

Simulation Run = 3330

Weights = [0.144 0.159 0.159 0.151 0.041 0.104 0.004 0.164 0.073], Final Value = \$1518560.72, Sharpe Ratio = -21.23

Simulation Run = 3331

Weights = [0.139 0.15 0.037 0.005 0.133 0.19 0.144 0.196 0.006], Final Value = \$1646179.10, Sharpe Ratio = -15.89

Simulation Run = 3332

Weights = [0.056 0.086 0.168 0.194 0.056 0.093 0.067 0.23 0.05], Final Value = \$1547280.29, Sharpe Ratio = -18.69

Simulation Run = 3333

Weights = [0.05 0.177 0.105 0.096 0.081 0.125 0.158 0.125 0.084], Final Value = \$1506871.01, Sharpe Ratio = -17.36

Simulation Run = 3334

Weights = [0.083 0.153 0.16 0.006 0.136 0.197 0.013 0.011 0.242], Final Value = \$1384908.26, Sharpe Ratio = -22.41

Simulation Run = 3335
Weights = [0.107 0.131 0.187 0.019 0.166 0.025 0.135 0.055 0.173], Final Value =
\$1383870.91, Sharpe Ratio = -19.77

Simulation Run = 3336
Weights = [0.177 0.066 0.137 0.157 0.172 0.012 0.12 0.093 0.067], Final Value =
\$1556313.93, Sharpe Ratio = -18.90

Simulation Run = 3337
Weights = [0.133 0.128 0.03 0.142 0.144 0.127 0.057 0.133 0.105], Final Value =
\$1578849.00, Sharpe Ratio = -22.01

Simulation Run = 3338
Weights = [0.164 0.206 0.107 0.131 0.02 0.007 0.208 0.067 0.09], Final Value =
\$1456475.86, Sharpe Ratio = -16.25

Simulation Run = 3339
Weights = [0.173 0.013 0.13 0.054 0.158 0.112 0.12 0.132 0.107], Final Value =
\$1549430.99, Sharpe Ratio = -17.37

Simulation Run = 3340
Weights = [0.029 0.191 0.19 0.077 0.104 0.018 0.096 0.124 0.171], Final Value =
\$1353202.37, Sharpe Ratio = -22.28

Simulation Run = 3341
Weights = [0.058 0.019 0.112 0.154 0.076 0.149 0.156 0.129 0.148], Final Value =
\$1512453.31, Sharpe Ratio = -16.22

Simulation Run = 3342
Weights = [0.079 0.171 0.08 0.172 0.133 0.129 0.007 0.165 0.064], Final Value =
\$1581766.09, Sharpe Ratio = -23.38

Simulation Run = 3343
Weights = [0.184 0.131 0.113 0.039 0.016 0.223 0.006 0.142 0.146], Final Value =
\$1502010.40, Sharpe Ratio = -18.82

Simulation Run = 3344
Weights = [0.019 0.11 0.134 0.046 0.157 0.119 0.181 0.183 0.05], Final Value =

\$1542538.52, Sharpe Ratio = -16.06

Simulation Run = 3345

Weights = [0.074 0.002 0.169 0.114 0.151 0.016 0.217 0.169 0.088], Final Value = \$1505961.36, Sharpe Ratio = -15.04

Simulation Run = 3346

Weights = [0.111 0.127 0.146 0.005 0.113 0.146 0.153 0.102 0.096], Final Value = \$1499268.85, Sharpe Ratio = -16.44

Simulation Run = 3347

Weights = [0.02 0.163 0.055 0.162 0.128 0.147 0.156 0.101 0.068], Final Value = \$1572865.89, Sharpe Ratio = -17.63

Simulation Run = 3348

Weights = [0.056 0.127 0.035 0.113 0.158 0.109 0.093 0.147 0.163], Final Value = \$1501832.45, Sharpe Ratio = -22.36

Simulation Run = 3349

Weights = [0.17 0.207 0.081 0.022 0.024 0.037 0.186 0.129 0.145], Final Value = \$1410996.23, Sharpe Ratio = -17.27

Simulation Run = 3350

Weights = [0.04 0.103 0.192 0.162 0.096 0.14 0.088 0.03 0.148], Final Value = \$1458309.17, Sharpe Ratio = -18.96

Simulation Run = 3351

Weights = [0.079 0.175 0.244 0.119 0.006 0.032 0.075 0.248 0.023], Final Value = \$1467811.21, Sharpe Ratio = -18.29

Simulation Run = 3352

Weights = [0.144 0.072 0.153 0.186 0.139 0.008 0.082 0.01 0.207], Final Value = \$1416222.93, Sharpe Ratio = -22.35

Simulation Run = 3353

Weights = [0.156 0.019 0.232 0.2 0.139 0.036 0.012 0.002 0.204], Final Value = \$1419884.38, Sharpe Ratio = -21.82

Simulation Run = 3354
Weights = [0.026 0.14 0.06 0.046 0.202 0.101 0.169 0.099 0.157], Final Value =
\$1475189.11, Sharpe Ratio = -18.92

Simulation Run = 3355
Weights = [0.073 0.083 0.056 0.179 0.095 0.161 0.122 0.153 0.077], Final Value =
\$1600197.99, Sharpe Ratio = -17.48

Simulation Run = 3356
Weights = [0.012 0.064 0.163 0.133 0.133 0.166 0.057 0.185 0.086], Final Value =
\$1547686.29, Sharpe Ratio = -18.95

Simulation Run = 3357
Weights = [0.221 0.015 0.056 0.221 0.096 0.063 0.058 0.141 0.129], Final Value =
\$1575116.64, Sharpe Ratio = -20.57

Simulation Run = 3358
Weights = [0.181 0.114 0.019 0.102 0.203 0.187 0.115 0.041 0.037], Final Value =
\$1678378.09, Sharpe Ratio = -17.42

Simulation Run = 3359
Weights = [0.144 0.085 0.095 0.217 0.073 0.216 0.083 0.006 0.08], Final Value =
\$1614986.10, Sharpe Ratio = -16.95

Simulation Run = 3360
Weights = [0.008 0.075 0.223 0.186 0.056 0.184 0.015 0.187 0.065], Final Value =
\$1540230.82, Sharpe Ratio = -17.85

Simulation Run = 3361
Weights = [0.112 0.117 0.191 0.018 0.082 0.216 0.051 0.097 0.114], Final Value =
\$1494412.43, Sharpe Ratio = -17.73

Simulation Run = 3362
Weights = [0.057 0.164 0.101 0.04 0.162 0.061 0.08 0.149 0.185], Final Value =
\$1413513.35, Sharpe Ratio = -24.30

Simulation Run = 3363
Weights = [0.021 0.141 0.009 0.113 0.248 0.096 0.038 0.123 0.21], Final Value =
\$1481449.00, Sharpe Ratio = -28.33

Simulation Run = 3364
Weights = [0.165 0.136 0.028 0.174 0.12 0.111 0.085 0.058 0.124], Final Value =
\$1558879.58, Sharpe Ratio = -21.21

Simulation Run = 3365
Weights = [0.132 0.009 0.145 0.188 0.015 0.075 0.085 0.233 0.118], Final Value =
\$1511905.92, Sharpe Ratio = -17.97

Simulation Run = 3366
Weights = [0.106 0.053 0.081 0.128 0.124 0.165 0.161 0.182 0.002], Final Value =
\$1665202.58, Sharpe Ratio = -15.08

Simulation Run = 3367
Weights = [0.063 0.162 0.004 0.044 0.064 0.228 0.152 0.189 0.094], Final Value =
\$1569877.22, Sharpe Ratio = -15.92

Simulation Run = 3368
Weights = [0.109 0.2 0.166 0.073 0.093 0.142 0.069 0.038 0.11], Final Value =
\$1469480.72, Sharpe Ratio = -20.24

Simulation Run = 3369
Weights = [0.149 0.012 0.012 0.134 0.254 0.043 0.21 0.167 0.018], Final Value =
\$1683751.81, Sharpe Ratio = -15.61

Simulation Run = 3370
Weights = [0.077 0.158 0.088 0.052 0.012 0.176 0.148 0.164 0.125], Final Value =
\$1480403.75, Sharpe Ratio = -16.45

Simulation Run = 3371
Weights = [0.113 0.015 0.236 0.07 0.152 0.089 0.095 0.168 0.062], Final Value =
\$1529481.99, Sharpe Ratio = -17.15

Simulation Run = 3372
Weights = [0.045 0.189 0.111 0.059 0.072 0.169 0.048 0.172 0.134], Final Value =
\$1470064.06, Sharpe Ratio = -21.29

Simulation Run = 3373

Weights = [0.155 0.114 0.124 0.138 0.055 0.036 0.126 0.069 0.184], Final Value = \$1415880.92, Sharpe Ratio = -19.67

Simulation Run = 3374

Weights = [0.161 0.169 0.147 0.063 0.078 0.08 0.052 0.099 0.15], Final Value = \$1433030.81, Sharpe Ratio = -22.22

Simulation Run = 3375

Weights = [0.188 0.037 0.066 0.185 0.09 0.008 0.131 0.09 0.205], Final Value = \$1457158.51, Sharpe Ratio = -19.88

Simulation Run = 3376

Weights = [0.022 0.081 0.056 0.066 0.059 0.198 0.156 0.277 0.087], Final Value = \$1564259.48, Sharpe Ratio = -15.60

Simulation Run = 3377

Weights = [0.113 0.173 0.024 0.14 0.113 0.121 0.146 0.028 0.142], Final Value = \$1516143.81, Sharpe Ratio = -19.12

Simulation Run = 3378

Weights = [0.126 0.022 0.135 0.065 0.07 0.111 0.189 0.142 0.141], Final Value = \$1483721.13, Sharpe Ratio = -15.14

Simulation Run = 3379

Weights = [0.164 0.143 0.015 0.058 0.101 0.074 0.145 0.172 0.128], Final Value = \$1513455.85, Sharpe Ratio = -18.95

Simulation Run = 3380

Weights = [0.173 0.151 0.152 0.11 0.068 0.03 0.16 0.113 0.041], Final Value = \$1517129.27, Sharpe Ratio = -16.82

Simulation Run = 3381

Weights = [0.118 0.038 0.182 0.19 0.066 0.013 0.03 0.118 0.246], Final Value = \$1364577.11, Sharpe Ratio = -23.19

Simulation Run = 3382

Weights = [0.056 0.146 0.114 0.038 0.015 0.232 0.027 0.242 0.129], Final Value = \$1493728.63, Sharpe Ratio = -18.73

Simulation Run = 3383
Weights = [0.048 0.014 0.087 0.258 0.179 0.269 0.125 0.006 0.013], Final Value =
\$1732636.36, Sharpe Ratio = -14.73

Simulation Run = 3384
Weights = [0.058 0.134 0.006 0.152 0.198 0.054 0.142 0.074 0.182], Final Value =
\$1488921.40, Sharpe Ratio = -21.78

Simulation Run = 3385
Weights = [0.113 0.112 0.091 0.071 0.072 0.004 0.188 0.193 0.155], Final Value =
\$1425482.63, Sharpe Ratio = -17.57

Simulation Run = 3386
Weights = [0.09 0.049 0.171 0.04 0.067 0.214 0.004 0.21 0.156], Final Value =
\$1486668.11, Sharpe Ratio = -18.85

Simulation Run = 3387
Weights = [0.119 0.077 0.062 0.097 0.18 0.104 0.125 0.046 0.189], Final Value =
\$1488119.39, Sharpe Ratio = -20.15

Simulation Run = 3388
Weights = [0.02 0.131 0.045 0.254 0.219 0.051 0.034 0.092 0.153], Final Value =
\$1525431.41, Sharpe Ratio = -27.29

Simulation Run = 3389
Weights = [0.197 0.141 0.066 0.101 0.068 0.148 0.052 0.181 0.047], Final Value =
\$1604281.04, Sharpe Ratio = -19.19

Simulation Run = 3390
Weights = [0.092 0.077 0.175 0.062 0.007 0.106 0.179 0.101 0.199], Final Value =
\$1375688.19, Sharpe Ratio = -15.79

Simulation Run = 3391
Weights = [0.101 0.074 0.181 0.194 0.089 0.17 0.059 0.102 0.03], Final Value =
\$1605102.54, Sharpe Ratio = -17.20

Simulation Run = 3392
Weights = [0.143 0.247 0.059 0.256 0.015 0.015 0.007 0.043 0.216], Final Value =

\$1391384.00, Sharpe Ratio = -28.81

Simulation Run = 3393

Weights = [0.134 0.137 0.083 0.143 0.09 0.025 0.09 0.136 0.161], Final Value = \$1452490.55, Sharpe Ratio = -22.65

Simulation Run = 3394

Weights = [0.018 0.098 0.068 0.136 0.167 0.126 0.17 0.155 0.063], Final Value = \$1586593.22, Sharpe Ratio = -16.99

Simulation Run = 3395

Weights = [0.193 0.047 0.009 0.033 0.052 0.204 0.19 0.11 0.162], Final Value = \$1543992.25, Sharpe Ratio = -14.31

Simulation Run = 3396

Weights = [0.122 0.019 0.131 0.195 0.052 0.149 0.097 0.069 0.167], Final Value = \$1504163.70, Sharpe Ratio = -17.73

Simulation Run = 3397

Weights = [0.194 0.13 0.075 0. 0.003 0.231 0.18 0.137 0.05], Final Value = \$1584950.85, Sharpe Ratio = -13.43

Simulation Run = 3398

Weights = [0.152 0.059 0.118 0.045 0.116 0.211 0.118 0.096 0.084], Final Value = \$1582055.32, Sharpe Ratio = -15.86

Simulation Run = 3399

Weights = [0.148 0.153 0.19 0.175 0.093 0.176 0.057 0.004 0.003], Final Value = \$1608376.34, Sharpe Ratio = -17.43

Simulation Run = 3400

Weights = [0.111 0.036 0.093 0.124 0.111 0.107 0.145 0.077 0.196], Final Value = \$1468447.48, Sharpe Ratio = -18.12

Simulation Run = 3401

Weights = [0.06 0.076 0.095 0.159 0.066 0.113 0.12 0.102 0.208], Final Value = \$1438431.02, Sharpe Ratio = -19.43

Simulation Run = 3402
Weights = [0.11 0.062 0.093 0.069 0.128 0.117 0.111 0.157 0.153], Final Value =
\$1498811.50, Sharpe Ratio = -19.16

Simulation Run = 3403
Weights = [0.08 0.076 0.155 0.052 0.107 0.086 0.156 0.144 0.144], Final Value =
\$1448523.07, Sharpe Ratio = -17.34

Simulation Run = 3404
Weights = [0.073 0.051 0.119 0.14 0.175 0.017 0.153 0.101 0.171], Final Value =
\$1455292.72, Sharpe Ratio = -19.36

Simulation Run = 3405
Weights = [0.163 0.189 0.109 0.107 0.05 0.113 0.086 0.049 0.135], Final Value =
\$1469232.94, Sharpe Ratio = -20.33

Simulation Run = 3406
Weights = [0.192 0.077 0.15 0.171 0.114 0.024 0.095 0.061 0.116], Final Value =
\$1501108.60, Sharpe Ratio = -19.77

Simulation Run = 3407
Weights = [0.044 0.141 0.128 0.146 0.072 0.091 0.169 0.148 0.061], Final Value =
\$1521843.84, Sharpe Ratio = -16.66

Simulation Run = 3408
Weights = [0.116 0.153 0.019 0.129 0.129 0.082 0.156 0.114 0.102], Final Value =
\$1546684.08, Sharpe Ratio = -18.80

Simulation Run = 3409
Weights = [0.128 0.001 0.2 0.02 0.181 0.177 0.036 0.108 0.148], Final Value =
\$1507293.36, Sharpe Ratio = -18.75

Simulation Run = 3410
Weights = [0.068 0.042 0.14 0.091 0.197 0.041 0.277 0.031 0.114], Final Value =
\$1493218.54, Sharpe Ratio = -13.89

Simulation Run = 3411
Weights = [0.12 0.005 0.065 0.075 0.192 0.085 0.199 0.098 0.16], Final Value =
\$1519597.99, Sharpe Ratio = -16.34

Simulation Run = 3412
Weights = [0.108 0.052 0.161 0.235 0.047 0.024 0.136 0.08 0.158], Final Value =
\$1446404.19, Sharpe Ratio = -18.06

Simulation Run = 3413
Weights = [0.018 0.177 0.171 0.07 0.089 0.044 0.175 0.075 0.181], Final Value =
\$1352556.81, Sharpe Ratio = -18.27

Simulation Run = 3414
Weights = [0.039 0.1 0.177 0.052 0.111 0.162 0.142 0.147 0.07], Final Value =
\$1521499.77, Sharpe Ratio = -16.16

Simulation Run = 3415
Weights = [0.113 0.061 0.188 0.097 0.026 0.142 0.136 0.15 0.088], Final Value =
\$1506165.08, Sharpe Ratio = -15.54

Simulation Run = 3416
Weights = [0.171 0.083 0.079 0.118 0.063 0.023 0.189 0.144 0.129], Final Value =
\$1485019.99, Sharpe Ratio = -16.67

Simulation Run = 3417
Weights = [0.026 0.18 0.224 0.193 0.061 0.034 0.084 0.071 0.126], Final Value =
\$1400600.20, Sharpe Ratio = -20.45

Simulation Run = 3418
Weights = [0.013 0.066 0.165 0.137 0.171 0.048 0.185 0.03 0.186], Final Value =
\$1414845.49, Sharpe Ratio = -17.59

Simulation Run = 3419
Weights = [0.15 0.087 0.055 0.178 0.013 0.114 0.212 0.179 0.013], Final Value =
\$1625970.18, Sharpe Ratio = -13.92

Simulation Run = 3420
Weights = [0.166 0.202 0.153 0.192 0.087 0.011 0.023 0.115 0.05], Final Value =
\$1517505.49, Sharpe Ratio = -23.06

Simulation Run = 3421

Weights = [0.078 0.073 0.14 0.094 0.058 0.132 0.156 0.185 0.083], Final Value = \$1523453.28, Sharpe Ratio = -15.88

Simulation Run = 3422

Weights = [0.201 0.127 0.004 0.018 0.15 0.156 0.199 0.136 0.008], Final Value = \$1664568.53, Sharpe Ratio = -14.56

Simulation Run = 3423

Weights = [0.005 0.129 0.115 0.118 0.151 0.032 0.1 0.187 0.163], Final Value = \$1430944.02, Sharpe Ratio = -22.90

Simulation Run = 3424

Weights = [0.097 0.269 0.061 0.05 0.199 0.093 0.107 0.084 0.039], Final Value = \$1556739.06, Sharpe Ratio = -21.64

Simulation Run = 3425

Weights = [0.043 0.06 0.166 0.183 0.063 0.166 0.047 0.172 0.099], Final Value = \$1536534.30, Sharpe Ratio = -18.50

Simulation Run = 3426

Weights = [0.081 0.124 0.124 0.098 0.139 0.151 0.093 0.135 0.054], Final Value = \$1573037.13, Sharpe Ratio = -18.60

Simulation Run = 3427

Weights = [0.144 0.13 0.123 0.066 0.097 0.064 0.157 0.085 0.136], Final Value = \$1456692.81, Sharpe Ratio = -17.95

Simulation Run = 3428

Weights = [0.138 0.087 0.113 0.179 0.179 0.165 0.084 0.021 0.034], Final Value = \$1646528.68, Sharpe Ratio = -18.10

Simulation Run = 3429

Weights = [0.031 0.034 0.112 0.133 0.116 0.102 0.139 0.133 0.199], Final Value = \$1447532.08, Sharpe Ratio = -18.65

Simulation Run = 3430

Weights = [0.155 0.219 0.01 0.118 0.176 0.133 0.145 0.038 0.005], Final Value = \$1652620.28, Sharpe Ratio = -18.01

Simulation Run = 3431
Weights = [0.123 0.162 0.127 0.045 0.143 0.059 0.156 0.003 0.184], Final Value =
\$1403731.04, Sharpe Ratio = -19.28

Simulation Run = 3432
Weights = [0.177 0.145 0.076 0.018 0.011 0.167 0.149 0.16 0.097], Final Value =
\$1520041.18, Sharpe Ratio = -15.74

Simulation Run = 3433
Weights = [0.17 0.036 0.054 0.168 0.2 0.205 0.095 0.025 0.045], Final Value =
\$1697680.62, Sharpe Ratio = -16.99

Simulation Run = 3434
Weights = [0.155 0.11 0.104 0.101 0.029 0.182 0.165 0.123 0.031], Final Value =
\$1598557.81, Sharpe Ratio = -14.51

Simulation Run = 3435
Weights = [0.155 0.104 0.165 0.111 0.19 0.033 0.053 0.163 0.026], Final Value =
\$1573465.30, Sharpe Ratio = -20.85

Simulation Run = 3436
Weights = [0.158 0.202 0.031 0.178 0.126 0.157 0.042 0.042 0.064], Final Value =
\$1612562.14, Sharpe Ratio = -21.77

Simulation Run = 3437
Weights = [0.216 0.082 0.105 0.094 0.001 0.002 0.049 0.246 0.206], Final Value =
\$1396801.60, Sharpe Ratio = -22.38

Simulation Run = 3438
Weights = [0.173 0.095 0.087 0.131 0.026 0.147 0.145 0.113 0.083], Final Value =
\$1560896.64, Sharpe Ratio = -15.93

Simulation Run = 3439
Weights = [0.248 0.174 0.143 0.011 0.092 0.15 0.066 0.089 0.027], Final Value =
\$1573802.89, Sharpe Ratio = -17.93

Simulation Run = 3440
Weights = [0.104 0.008 0.024 0.243 0.093 0.046 0.202 0.139 0.142], Final Value =

\$1547051.49, Sharpe Ratio = -16.27

Simulation Run = 3441

Weights = [0.121 0.023 0.181 0.251 0.084 0.203 0.051 0.04 0.046], Final Value = \$1630207.36, Sharpe Ratio = -16.35

Simulation Run = 3442

Weights = [0.132 0.197 0.091 0.104 0.081 0.029 0.153 0.006 0.207], Final Value = \$1376775.99, Sharpe Ratio = -20.32

Simulation Run = 3443

Weights = [0.084 0.004 0.01 0.313 0.156 0.108 0.015 0.029 0.281], Final Value = \$1491441.61, Sharpe Ratio = -25.59

Simulation Run = 3444

Weights = [0.042 0.076 0.123 0.148 0.085 0.106 0.118 0.141 0.161], Final Value = \$1465451.44, Sharpe Ratio = -19.03

Simulation Run = 3445

Weights = [0.097 0.065 0.149 0.077 0.076 0.085 0.154 0.076 0.221], Final Value = \$1385550.34, Sharpe Ratio = -17.86

Simulation Run = 3446

Weights = [0.019 0.162 0.141 0.13 0.168 0.108 0.086 0.06 0.125], Final Value = \$1479406.63, Sharpe Ratio = -21.68

Simulation Run = 3447

Weights = [0.174 0.125 0.017 0.059 0.165 0.113 0.079 0.196 0.073], Final Value = \$1602491.63, Sharpe Ratio = -20.61

Simulation Run = 3448

Weights = [0.083 0.109 0.103 0.141 0.097 0.147 0.078 0.119 0.123], Final Value = \$1523817.37, Sharpe Ratio = -19.85

Simulation Run = 3449

Weights = [0.127 0.213 0.175 0.071 0.101 0.125 0.054 0.035 0.1], Final Value = \$1470554.75, Sharpe Ratio = -21.06

Simulation Run = 3450
Weights = [0.013 0.09 0.107 0.067 0.027 0.24 0.085 0.197 0.174], Final Value =
\$1472604.20, Sharpe Ratio = -17.36

Simulation Run = 3451
Weights = [0.171 0.107 0.16 0.102 0.122 0.008 0.078 0.099 0.152], Final Value =
\$1435868.25, Sharpe Ratio = -21.77

Simulation Run = 3452
Weights = [0.014 0.209 0.199 0.155 0.09 0.112 0.01 0.109 0.102], Final Value =
\$1455369.78, Sharpe Ratio = -22.67

Simulation Run = 3453
Weights = [0.086 0.236 0.103 0.044 0.141 0.006 0.17 0.011 0.202], Final Value =
\$1349522.22, Sharpe Ratio = -20.46

Simulation Run = 3454
Weights = [0.079 0.12 0.189 0.06 0.135 0.031 0.187 0.097 0.102], Final Value =
\$1444440.82, Sharpe Ratio = -16.66

Simulation Run = 3455
Weights = [0.112 0.131 0.184 0.077 0.087 0.154 0.087 0.035 0.133], Final Value =
\$1464572.85, Sharpe Ratio = -18.55

Simulation Run = 3456
Weights = [0.146 0.171 0.078 0.098 0.044 0.045 0.103 0.121 0.194], Final Value =
\$1403821.79, Sharpe Ratio = -21.87

Simulation Run = 3457
Weights = [0.119 0.022 0.162 0.203 0.056 0.107 0.069 0.111 0.152], Final Value =
\$1492475.99, Sharpe Ratio = -18.89

Simulation Run = 3458
Weights = [0.041 0.113 0.006 0.106 0.212 0.053 0.217 0.115 0.137], Final Value =
\$1520692.67, Sharpe Ratio = -17.35

Simulation Run = 3459
Weights = [0.173 0.13 0.02 0.12 0.197 0.09 0.151 0.113 0.006], Final Value =
\$1665719.91, Sharpe Ratio = -17.63

Simulation Run = 3460
Weights = [0.051 0.163 0.067 0.192 0.06 0.038 0.103 0.131 0.195], Final Value =
\$1415185.51, Sharpe Ratio = -22.98

Simulation Run = 3461
Weights = [0.152 0.202 0.176 0.125 0.029 0.144 0.128 0.018 0.025], Final Value =
\$1539104.93, Sharpe Ratio = -16.30

Simulation Run = 3462
Weights = [0.073 0.197 0.227 0.15 0.027 0.046 0.018 0.072 0.19], Final Value =
\$1337821.76, Sharpe Ratio = -23.32

Simulation Run = 3463
Weights = [0.018 0.111 0.064 0.107 0.11 0.226 0.001 0.139 0.224], Final Value =
\$1469616.51, Sharpe Ratio = -22.38

Simulation Run = 3464
Weights = [0.076 0.216 0.101 0.121 0.138 0.171 0.085 0.092 0.001], Final Value =
\$1615445.29, Sharpe Ratio = -18.97

Simulation Run = 3465
Weights = [0.142 0.034 0.11 0.086 0.158 0.005 0.146 0.17 0.149], Final Value =
\$1476233.31, Sharpe Ratio = -18.92

Simulation Run = 3466
Weights = [0.083 0.176 0.101 0.054 0.178 0.059 0.115 0.169 0.065], Final Value =
\$1524537.52, Sharpe Ratio = -20.75

Simulation Run = 3467
Weights = [0.21 0.036 0.065 0.016 0.065 0.109 0.123 0.182 0.194], Final Value =
\$1468531.55, Sharpe Ratio = -17.80

Simulation Run = 3468
Weights = [0.187 0.139 0.028 0.102 0.098 0.04 0.121 0.184 0.102], Final Value =
\$1533968.59, Sharpe Ratio = -20.09

Simulation Run = 3469

Weights = [0.044 0.197 0.159 0.235 0.002 0.003 0.1 0.101 0.159], Final Value = \$1379085.05, Sharpe Ratio = -21.18

Simulation Run = 3470

Weights = [0.15 0.172 0.089 0.106 0.121 0.186 0.125 0.042 0.008], Final Value = \$1633673.22, Sharpe Ratio = -16.62

Simulation Run = 3471

Weights = [0.108 0.138 0.151 0.087 0.142 0.04 0.156 0.052 0.127], Final Value = \$1450049.58, Sharpe Ratio = -18.58

Simulation Run = 3472

Weights = [0.175 0.024 0.086 0.033 0.05 0.124 0.178 0.075 0.257], Final Value = \$1401632.24, Sharpe Ratio = -16.11

Simulation Run = 3473

Weights = [0.06 0.153 0.073 0.078 0.105 0.146 0.163 0.066 0.156], Final Value = \$1472603.46, Sharpe Ratio = -17.67

Simulation Run = 3474

Weights = [0.094 0.001 0.141 0.129 0.239 0.083 0.09 0.081 0.141], Final Value = \$1531371.95, Sharpe Ratio = -20.24

Simulation Run = 3475

Weights = [0.07 0.004 0.155 0.089 0.224 0.023 0.126 0.248 0.061], Final Value = \$1556946.98, Sharpe Ratio = -18.39

Simulation Run = 3476

Weights = [0.156 0.008 0.182 0.087 0.142 0.155 0.15 0.084 0.036], Final Value = \$1605523.32, Sharpe Ratio = -14.78

Simulation Run = 3477

Weights = [0.172 0.01 0.126 0.136 0.067 0.199 0.07 0.122 0.096], Final Value = \$1591909.39, Sharpe Ratio = -16.59

Simulation Run = 3478

Weights = [0.03 0.029 0.139 0.096 0.025 0.22 0.205 0.186 0.069], Final Value = \$1562103.97, Sharpe Ratio = -13.04

Simulation Run = 3479
Weights = [0.103 0.101 0.159 0.122 0.156 0.016 0.098 0.174 0.072], Final Value =
\$1512815.95, Sharpe Ratio = -20.21

Simulation Run = 3480
Weights = [0.067 0.164 0.231 0.09 0.103 0.138 0.003 0.042 0.161], Final Value =
\$1409811.06, Sharpe Ratio = -21.97

Simulation Run = 3481
Weights = [0.028 0.113 0.184 0.082 0.037 0.119 0.154 0.122 0.162], Final Value =
\$1403077.36, Sharpe Ratio = -16.82

Simulation Run = 3482
Weights = [0.012 0.188 0.222 0.217 0.046 0.031 0.06 0.128 0.096], Final Value =
\$1426277.75, Sharpe Ratio = -20.79

Simulation Run = 3483
Weights = [0.068 0.074 0.145 0.1 0.136 0.064 0.149 0.141 0.124], Final Value =
\$1479077.23, Sharpe Ratio = -18.08

Simulation Run = 3484
Weights = [0.169 0.046 0.173 0.064 0.066 0.164 0.111 0.119 0.088], Final Value =
\$1538195.65, Sharpe Ratio = -15.96

Simulation Run = 3485
Weights = [0.038 0.075 0.029 0.15 0.213 0.082 0.193 0.211 0.009], Final Value =
\$1657875.41, Sharpe Ratio = -16.38

Simulation Run = 3486
Weights = [0.112 0.055 0.171 0.173 0.065 0.039 0.08 0.187 0.118], Final Value =
\$1479777.38, Sharpe Ratio = -19.53

Simulation Run = 3487
Weights = [0.052 0.055 0.218 0.044 0.101 0.045 0.153 0.126 0.206], Final Value =
\$1350176.00, Sharpe Ratio = -17.73

Simulation Run = 3488
Weights = [0.211 0.139 0.162 0.004 0.036 0.083 0.112 0.033 0.219], Final Value =

\$1356783.85, Sharpe Ratio = -18.93

Simulation Run = 3489

Weights = [0.182 0.206 0.009 0.135 0.083 0.023 0.039 0.164 0.159], Final Value = \$1474313.27, Sharpe Ratio = -26.92

Simulation Run = 3490

Weights = [0.021 0.088 0.016 0.12 0.024 0.193 0.176 0.186 0.176], Final Value = \$1498441.85, Sharpe Ratio = -15.86

Simulation Run = 3491

Weights = [0.074 0.168 0.002 0.307 0.171 0.011 0.022 0.135 0.109], Final Value = \$1567769.36, Sharpe Ratio = -27.67

Simulation Run = 3492

Weights = [0.068 0.139 0.157 0.157 0.056 0.058 0.06 0.146 0.157], Final Value = \$1422739.43, Sharpe Ratio = -22.19

Simulation Run = 3493

Weights = [0.09 0.042 0.213 0.112 0.234 0.005 0.158 0.01 0.135], Final Value = \$1455059.16, Sharpe Ratio = -17.91

Simulation Run = 3494

Weights = [0.056 0.371 0.061 0.036 0.006 0.042 0.042 0.051 0.335], Final Value = \$1194709.71, Sharpe Ratio = -29.67

Simulation Run = 3495

Weights = [0.272 0.025 0.096 0.126 0.018 0.235 0.173 0.054 0.001], Final Value = \$1692190.45, Sharpe Ratio = -12.54

Simulation Run = 3496

Weights = [0.161 0.066 0.035 0.115 0.266 0.055 0.023 0.121 0.159], Final Value = \$1550718.16, Sharpe Ratio = -26.16

Simulation Run = 3497

Weights = [0.028 0.065 0.096 0.19 0.161 0.15 0.055 0.042 0.213], Final Value = \$1477407.45, Sharpe Ratio = -22.45

Simulation Run = 3498
Weights = [0.101 0.11 0.202 0.061 0.168 0.024 0.136 0.186 0.012], Final Value =
\$1536099.83, Sharpe Ratio = -17.47

Simulation Run = 3499
Weights = [0.1 0.083 0.166 0.101 0.113 0.034 0.092 0.191 0.12], Final Value =
\$1464659.53, Sharpe Ratio = -20.26

Simulation Run = 3500
Weights = [0.154 0.131 0.14 0.015 0.029 0.152 0.16 0.148 0.07], Final Value =
\$1514364.40, Sharpe Ratio = -15.22

Simulation Run = 3501
Weights = [0.156 0.168 0.066 0.178 0.193 0.071 0.082 0.033 0.051], Final Value =
\$1600558.39, Sharpe Ratio = -21.84

Simulation Run = 3502
Weights = [0.205 0.116 0.197 0.181 0.008 0.082 0.033 0.089 0.091], Final Value =
\$1496360.98, Sharpe Ratio = -19.23

Simulation Run = 3503
Weights = [0.207 0.092 0.037 0.113 0.222 0.096 0.053 0.079 0.101], Final Value =
\$1602794.44, Sharpe Ratio = -22.33

Simulation Run = 3504
Weights = [0.116 0.21 0.18 0.09 0.069 0.147 0.022 0.162 0.006], Final Value =
\$1559410.61, Sharpe Ratio = -19.58

Simulation Run = 3505
Weights = [0.157 0.156 0.007 0.103 0.112 0.055 0.082 0.176 0.152], Final Value =
\$1500182.85, Sharpe Ratio = -23.40

Simulation Run = 3506
Weights = [0.107 0.095 0.008 0.079 0.011 0.253 0.065 0.206 0.176], Final Value =
\$1531545.75, Sharpe Ratio = -17.58

Simulation Run = 3507
Weights = [0.217 0.118 0.057 0.139 0.201 0.08 0.066 0.015 0.107], Final Value =
\$1576937.04, Sharpe Ratio = -22.29

Simulation Run = 3508
Weights = [0.147 0.205 0.034 0.006 0.135 0.147 0.153 0.04 0.133], Final Value =
\$1502388.84, Sharpe Ratio = -18.06

Simulation Run = 3509
Weights = [0.093 0.071 0.161 0.124 0.174 0.107 0.176 0.081 0.013], Final Value =
\$1602261.69, Sharpe Ratio = -15.45

Simulation Run = 3510
Weights = [0.016 0.058 0.107 0.216 0.168 0.064 0.006 0.239 0.125], Final Value =
\$1532336.44, Sharpe Ratio = -24.41

Simulation Run = 3511
Weights = [0.213 0.009 0.226 0.004 0.221 0.003 0.032 0.106 0.185], Final Value =
\$1417896.02, Sharpe Ratio = -21.80

Simulation Run = 3512
Weights = [0.108 0.048 0.107 0.102 0.198 0.085 0.138 0.033 0.181], Final Value =
\$1480014.21, Sharpe Ratio = -19.29

Simulation Run = 3513
Weights = [0.163 0.156 0.096 0.016 0.209 0.02 0.09 0.217 0.033], Final Value =
\$1562116.73, Sharpe Ratio = -21.39

Simulation Run = 3514
Weights = [0.006 0.085 0.166 0.019 0.092 0.214 0.03 0.167 0.222], Final Value =
\$1404722.67, Sharpe Ratio = -20.15

Simulation Run = 3515
Weights = [0.091 0.033 0.219 0.096 0.169 0.22 0.085 0.083 0.004], Final Value =
\$1636531.41, Sharpe Ratio = -15.42

Simulation Run = 3516
Weights = [0.142 0.116 0.099 0.043 0.16 0.048 0.094 0.139 0.159], Final Value =
\$1459454.46, Sharpe Ratio = -22.04

Simulation Run = 3517

Weights = [0.173 0.078 0.091 0.135 0.116 0.069 0.081 0.051 0.207], Final Value = \$1451555.45, Sharpe Ratio = -22.02

Simulation Run = 3518

Weights = [0.145 0.064 0.005 0.179 0.162 0.099 0.136 0.021 0.189], Final Value = \$1529823.49, Sharpe Ratio = -19.76

Simulation Run = 3519

Weights = [0.167 0.102 0.076 0.19 0.142 0.12 0.032 0.084 0.087], Final Value = \$1596328.00, Sharpe Ratio = -21.69

Simulation Run = 3520

Weights = [0.071 0.215 0.178 0.016 0.059 0.14 0.104 0.11 0.106], Final Value = \$1436370.86, Sharpe Ratio = -18.63

Simulation Run = 3521

Weights = [0.127 0.128 0.11 0.144 0.162 0.131 0.007 0.083 0.107], Final Value = \$1551333.23, Sharpe Ratio = -23.11

Simulation Run = 3522

Weights = [0.006 0.079 0.161 0.197 0.075 0.081 0.07 0.18 0.151], Final Value = \$1454093.68, Sharpe Ratio = -20.75

Simulation Run = 3523

Weights = [0.133 0.134 0.087 0.039 0.104 0.161 0.157 0.116 0.068], Final Value = \$1560382.97, Sharpe Ratio = -16.15

Simulation Run = 3524

Weights = [0.173 0.025 0.013 0.172 0.053 0.143 0.085 0.171 0.165], Final Value = \$1557028.32, Sharpe Ratio = -18.84

Simulation Run = 3525

Weights = [0.007 0.187 0.201 0.12 0.143 0.059 0.065 0.053 0.165], Final Value = \$1385004.17, Sharpe Ratio = -23.20

Simulation Run = 3526

Weights = [0.12 0.036 0.147 0.018 0.169 0.048 0.184 0.17 0.108], Final Value = \$1494377.75, Sharpe Ratio = -16.34

Simulation Run = 3527
Weights = [0.154 0.119 0.097 0.166 0.2 0.029 0.018 0.152 0.066], Final Value =
\$1577736.57, Sharpe Ratio = -24.39

Simulation Run = 3528
Weights = [0.113 0.113 0.082 0.091 0.167 0.08 0.169 0.146 0.038], Final Value =
\$1587685.31, Sharpe Ratio = -17.04

Simulation Run = 3529
Weights = [0.181 0.001 0.214 0.108 0.081 0.214 0.023 0.176 0.001], Final Value =
\$1650026.14, Sharpe Ratio = -15.47

Simulation Run = 3530
Weights = [0.185 0.04 0.164 0.226 0.069 0.215 0.095 0.006 0.], Final Value =
\$1676185.13, Sharpe Ratio = -14.77

Simulation Run = 3531
Weights = [0.155 0.076 0.113 0.215 0.015 0.069 0.198 0.027 0.132], Final Value =
\$1490416.72, Sharpe Ratio = -15.41

Simulation Run = 3532
Weights = [0.025 0.154 0.177 0.018 0.007 0.142 0.22 0.155 0.101], Final Value =
\$1431694.03, Sharpe Ratio = -14.08

Simulation Run = 3533
Weights = [0.031 0.12 0.104 0.053 0.145 0.169 0.157 0.182 0.038], Final Value =
\$1583267.60, Sharpe Ratio = -16.21

Simulation Run = 3534
Weights = [0.125 0.095 0.019 0.126 0.213 0.108 0.148 0.086 0.079], Final Value =
\$1614400.60, Sharpe Ratio = -18.38

Simulation Run = 3535
Weights = [0.198 0.012 0.002 0.211 0.161 0.037 0.066 0.238 0.075], Final Value =
\$1646841.65, Sharpe Ratio = -21.02

Simulation Run = 3536
Weights = [0.064 0.004 0.175 0.048 0.227 0.063 0.147 0.083 0.189], Final Value =

\$1437478.72, Sharpe Ratio = -18.44

Simulation Run = 3537

Weights = [0.136 0.168 0.026 0.129 0.123 0.074 0.008 0.159 0.176], Final Value = \$1483689.51, Sharpe Ratio = -27.69

Simulation Run = 3538

Weights = [0.067 0.159 0.016 0.173 0.189 0.088 0.008 0.167 0.133], Final Value = \$1547455.00, Sharpe Ratio = -27.75

Simulation Run = 3539

Weights = [0.222 0.058 0.053 0.04 0.104 0.143 0.11 0.086 0.184], Final Value = \$1505179.90, Sharpe Ratio = -18.20

Simulation Run = 3540

Weights = [0.009 0.171 0.214 0.102 0.172 0.145 0.097 0.074 0.017], Final Value = \$1548547.78, Sharpe Ratio = -18.08

Simulation Run = 3541

Weights = [0.124 0.12 0.118 0.076 0.028 0.038 0.186 0.194 0.115], Final Value = \$1451957.25, Sharpe Ratio = -16.43

Simulation Run = 3542

Weights = [0.144 0.195 0.2 0.032 0.104 0.03 0.142 0.014 0.138], Final Value = \$1385659.69, Sharpe Ratio = -18.81

Simulation Run = 3543

Weights = [0.146 0.205 0.007 0.11 0.044 0.154 0.03 0.143 0.162], Final Value = \$1499250.52, Sharpe Ratio = -23.05

Simulation Run = 3544

Weights = [0.077 0.071 0.236 0.058 0.124 0.395 0.006 0.028 0.004], Final Value = \$1666030.50, Sharpe Ratio = -13.80

Simulation Run = 3545

Weights = [0.15 0.028 0.146 0.067 0.031 0.188 0.177 0.144 0.068], Final Value = \$1565666.51, Sharpe Ratio = -13.67

Simulation Run = 3546
Weights = [0.101 0.031 0.07 0.108 0.229 0.194 0.102 0.045 0.121], Final Value =
\$1603265.99, Sharpe Ratio = -18.27

Simulation Run = 3547
Weights = [0.099 0.086 0.119 0.176 0.191 0.198 0.06 0.052 0.019], Final Value =
\$1667063.11, Sharpe Ratio = -18.12

Simulation Run = 3548
Weights = [0.181 0.141 0.18 0.105 0.027 0.044 0.147 0.144 0.031], Final Value =
\$1514351.14, Sharpe Ratio = -16.29

Simulation Run = 3549
Weights = [0.18 0.197 0.039 0.034 0.006 0.006 0.246 0.258 0.035], Final Value =
\$1515207.33, Sharpe Ratio = -14.51

Simulation Run = 3550
Weights = [0.188 0.008 0.056 0.043 0.21 0.107 0.214 0.169 0.005], Final Value =
\$1677823.40, Sharpe Ratio = -14.14

Simulation Run = 3551
Weights = [0.059 0.132 0.122 0.108 0.013 0.125 0.175 0.088 0.178], Final Value =
\$1413825.82, Sharpe Ratio = -16.56

Simulation Run = 3552
Weights = [0.056 0.203 0.022 0.203 0.194 0.033 0.09 0.125 0.076], Final Value =
\$1563009.00, Sharpe Ratio = -24.38

Simulation Run = 3553
Weights = [0.108 0.118 0.014 0.119 0.225 0.012 0.093 0.138 0.173], Final Value =
\$1494763.13, Sharpe Ratio = -25.00

Simulation Run = 3554
Weights = [0.071 0.021 0.218 0.144 0.078 0.165 0.09 0.21 0.004], Final Value =
\$1606779.87, Sharpe Ratio = -15.44

Simulation Run = 3555
Weights = [0.137 0.062 0.183 0.199 0.012 0.127 0.087 0.009 0.184], Final Value =
\$1440137.58, Sharpe Ratio = -18.11

Simulation Run = 3556
Weights = [0.118 0.144 0.143 0.14 0.085 0.148 0.067 0.146 0.007], Final Value =
\$1603927.89, Sharpe Ratio = -18.19

Simulation Run = 3557
Weights = [0.01 0.141 0.162 0.15 0.119 0.111 0.141 0.091 0.075], Final Value =
\$1509603.67, Sharpe Ratio = -17.73

Simulation Run = 3558
Weights = [0.066 0.111 0.103 0.179 0.217 0.045 0.012 0.164 0.103], Final Value =
\$1542641.81, Sharpe Ratio = -25.67

Simulation Run = 3559
Weights = [0.239 0.166 0.151 0.136 0.1 0.025 0.098 0.045 0.04], Final Value =
\$1539530.43, Sharpe Ratio = -19.22

Simulation Run = 3560
Weights = [0.137 0.069 0.117 0.117 0.125 0.068 0.119 0.148 0.101], Final Value =
\$1528086.63, Sharpe Ratio = -18.77

Simulation Run = 3561
Weights = [0.114 0.132 0.161 0.149 0.163 0.029 0.056 0.059 0.138], Final Value =
\$1459964.23, Sharpe Ratio = -23.37

Simulation Run = 3562
Weights = [0.119 0.124 0.195 0.15 0.065 0.105 0.06 0.065 0.118], Final Value =
\$1470789.67, Sharpe Ratio = -19.75

Simulation Run = 3563
Weights = [0.035 0.071 0.234 0.078 0.118 0.028 0.072 0.194 0.172], Final Value =
\$1377719.97, Sharpe Ratio = -20.88

Simulation Run = 3564
Weights = [0.176 0.074 0.148 0.163 0.036 0.016 0.2 0.077 0.11], Final Value =
\$1474877.89, Sharpe Ratio = -15.46

Simulation Run = 3565

Weights = [0.002 0.114 0.139 0.17 0.063 0.168 0.021 0.145 0.178], Final Value = \$1454097.30, Sharpe Ratio = -21.66

Simulation Run = 3566

Weights = [0.192 0.035 0.003 0.259 0.125 0.018 0.145 0.008 0.215], Final Value = \$1501740.47, Sharpe Ratio = -19.94

Simulation Run = 3567

Weights = [0.137 0.072 0.096 0.022 0.122 0.017 0.25 0.073 0.212], Final Value = \$1389054.96, Sharpe Ratio = -15.30

Simulation Run = 3568

Weights = [0.122 0.151 0.172 0.115 0.053 0.069 0.151 0.091 0.074], Final Value = \$1483107.17, Sharpe Ratio = -16.98

Simulation Run = 3569

Weights = [0.073 0.186 0.1 0.038 0.24 0.095 0.156 0.063 0.049], Final Value = \$1555181.35, Sharpe Ratio = -18.57

Simulation Run = 3570

Weights = [0.157 0.031 0.04 0.076 0.232 0.036 0.049 0.164 0.215], Final Value = \$1484344.65, Sharpe Ratio = -25.49

Simulation Run = 3571

Weights = [0.124 0.026 0.088 0.185 0.026 0.052 0.176 0.183 0.14], Final Value = \$1497148.54, Sharpe Ratio = -16.30

Simulation Run = 3572

Weights = [0.162 0.124 0.158 0.007 0.02 0.084 0.182 0.077 0.185], Final Value = \$1376830.60, Sharpe Ratio = -16.05

Simulation Run = 3573

Weights = [0.127 0.009 0.031 0.127 0.096 0.155 0.137 0.136 0.182], Final Value = \$1533264.46, Sharpe Ratio = -17.31

Simulation Run = 3574

Weights = [0.231 0.087 0.034 0.118 0.054 0.054 0.106 0.043 0.273], Final Value = \$1398814.26, Sharpe Ratio = -21.24

Simulation Run = 3575
Weights = [0.035 0.117 0.104 0.091 0.045 0.172 0.124 0.14 0.171], Final Value =
\$1453914.28, Sharpe Ratio = -17.86

Simulation Run = 3576
Weights = [0.015 0.046 0.083 0.023 0.147 0.131 0.081 0.126 0.348], Final Value =
\$1320447.35, Sharpe Ratio = -23.03

Simulation Run = 3577
Weights = [0.166 0.106 0.114 0.04 0.164 0.091 0.139 0.162 0.017], Final Value =
\$1598755.25, Sharpe Ratio = -17.10

Simulation Run = 3578
Weights = [0.303 0.009 0.244 0.051 0.042 0.097 0.041 0.076 0.137], Final Value =
\$1468137.42, Sharpe Ratio = -17.24

Simulation Run = 3579
Weights = [0.112 0.124 0.102 0.04 0.164 0.178 0.146 0.102 0.033], Final Value =
\$1606340.70, Sharpe Ratio = -16.22

Simulation Run = 3580
Weights = [0.076 0.074 0.102 0.182 0.128 0.103 0.123 0.193 0.02], Final Value =
\$1622035.72, Sharpe Ratio = -17.51

Simulation Run = 3581
Weights = [0.147 0.154 0.148 0.139 0.009 0.095 0.125 0.122 0.06], Final Value =
\$1515481.96, Sharpe Ratio = -17.12

Simulation Run = 3582
Weights = [0.055 0.164 0.168 0.04 0.115 0.136 0.083 0.1 0.14], Final Value =
\$1439956.33, Sharpe Ratio = -20.24

Simulation Run = 3583
Weights = [0.099 0.041 0.154 0.025 0.144 0.075 0.167 0.141 0.155], Final Value =
\$1450930.62, Sharpe Ratio = -17.02

Simulation Run = 3584
Weights = [0.07 0.114 0.024 0.219 0.188 0.174 0.041 0.043 0.129], Final Value =

\$1597393.19, Sharpe Ratio = -22.45

Simulation Run = 3585

Weights = [0.136 0.052 0.154 0.096 0.073 0.027 0.165 0.171 0.126], Final Value = \$1460463.78, Sharpe Ratio = -16.83

Simulation Run = 3586

Weights = [0.09 0.13 0.095 0.164 0.128 0.09 0.144 0.086 0.074], Final Value = \$1552882.21, Sharpe Ratio = -18.24

Simulation Run = 3587

Weights = [0.105 0.058 0.119 0.142 0.193 0.028 0.213 0.036 0.106], Final Value = \$1520390.32, Sharpe Ratio = -16.13

Simulation Run = 3588

Weights = [0.112 0.12 0.1 0.06 0.086 0.131 0.179 0.046 0.165], Final Value = \$1455849.84, Sharpe Ratio = -16.55

Simulation Run = 3589

Weights = [0.257 0.019 0.18 0.167 0.118 0.096 0.109 0.028 0.027], Final Value = \$1619693.36, Sharpe Ratio = -16.02

Simulation Run = 3590

Weights = [0.257 0.213 0.086 0.078 0.13 0.038 0.176 0.003 0.019], Final Value = \$1570034.99, Sharpe Ratio = -16.93

Simulation Run = 3591

Weights = [0.148 0.187 0.039 0.105 0.119 0.105 0.128 0.097 0.073], Final Value = \$1562716.12, Sharpe Ratio = -19.22

Simulation Run = 3592

Weights = [0.038 0.229 0.104 0.186 0.167 0.02 0.086 0.101 0.07], Final Value = \$1508272.79, Sharpe Ratio = -23.70

Simulation Run = 3593

Weights = [0.035 0.255 0.07 0.144 0.028 0.116 0.261 0.043 0.048], Final Value = \$1514330.72, Sharpe Ratio = -14.10

Simulation Run = 3594
Weights = [0.133 0.299 0.027 0.118 0.114 0.131 0.1 0.007 0.07], Final Value =
\$1547627.67, Sharpe Ratio = -21.31

Simulation Run = 3595
Weights = [0.159 0.114 0.112 0.123 0.079 0.123 0.068 0.064 0.158], Final Value =
\$1483041.46, Sharpe Ratio = -20.59

Simulation Run = 3596
Weights = [0.046 0.014 0.151 0.054 0.136 0.032 0.227 0.215 0.125], Final Value =
\$1463181.67, Sharpe Ratio = -15.06

Simulation Run = 3597
Weights = [0.115 0.192 0.207 0.034 0.188 0.035 0.129 0.068 0.032], Final Value =
\$1497534.80, Sharpe Ratio = -18.69

Simulation Run = 3598
Weights = [0.104 0.176 0.177 0.146 0.068 0.043 0.193 0.078 0.015], Final Value =
\$1521002.77, Sharpe Ratio = -15.58

Simulation Run = 3599
Weights = [0.12 0.17 0.098 0.022 0.081 0.123 0.168 0.184 0.034], Final Value =
\$1551865.16, Sharpe Ratio = -16.11

Simulation Run = 3600
Weights = [0.082 0.013 0.102 0.175 0.025 0.276 0.252 0.022 0.053], Final Value =
\$1637093.57, Sharpe Ratio = -11.45

Simulation Run = 3601
Weights = [0.09 0.049 0.154 0.133 0.138 0.035 0.217 0.064 0.12], Final Value =
\$1480031.65, Sharpe Ratio = -15.52

Simulation Run = 3602
Weights = [0.073 0.117 0.158 0.102 0.023 0.171 0.183 0.018 0.156], Final Value =
\$1441925.36, Sharpe Ratio = -15.16

Simulation Run = 3603
Weights = [0.125 0.197 0.064 0.14 0.034 0.2 0.048 0.03 0.162], Final Value =
\$1492840.82, Sharpe Ratio = -20.53

Simulation Run = 3604
Weights = [0.041 0.13 0.18 0.147 0.142 0.116 0.124 0.077 0.043], Final Value =
\$1546294.36, Sharpe Ratio = -17.62

Simulation Run = 3605
Weights = [0.238 0.117 0.12 0.041 0.085 0.006 0.033 0.228 0.133], Final Value =
\$1460269.95, Sharpe Ratio = -22.92

Simulation Run = 3606
Weights = [0.101 0.129 0.095 0.105 0.158 0.13 0.12 0.137 0.024], Final Value =
\$1610035.77, Sharpe Ratio = -18.02

Simulation Run = 3607
Weights = [0.02 0.233 0.264 0.053 0.119 0.014 0.148 0.135 0.014], Final Value =
\$1441457.26, Sharpe Ratio = -17.40

Simulation Run = 3608
Weights = [0.028 0.11 0.203 0.148 0.17 0.024 0.057 0.19 0.069], Final Value =
\$1496363.38, Sharpe Ratio = -21.40

Simulation Run = 3609
Weights = [0.102 0.003 0.199 0.053 0.107 0.164 0.074 0.117 0.181], Final Value =
\$1455679.60, Sharpe Ratio = -17.92

Simulation Run = 3610
Weights = [0.156 0.093 0.17 0.119 0.092 0.192 0.02 0.08 0.078], Final Value =
\$1565902.22, Sharpe Ratio = -18.51

Simulation Run = 3611
Weights = [0.061 0.126 0.128 0.134 0.109 0.105 0.164 0.072 0.102], Final Value =
\$1503336.70, Sharpe Ratio = -17.20

Simulation Run = 3612
Weights = [0.154 0.143 0.145 0.17 0.102 0.124 0.015 0.1 0.047], Final Value =
\$1579402.20, Sharpe Ratio = -20.68

Simulation Run = 3613

Weights = [0.156 0.063 0.091 0.166 0.146 0.073 0.021 0.137 0.146], Final Value = \$1527751.15, Sharpe Ratio = -23.61

Simulation Run = 3614

Weights = [0.147 0.011 0.15 0.148 0.038 0.114 0.194 0.023 0.174], Final Value = \$1462681.72, Sharpe Ratio = -14.85

Simulation Run = 3615

Weights = [0.181 0.193 0. 0.211 0.021 0.234 0.084 0.051 0.024], Final Value = \$1673606.63, Sharpe Ratio = -16.78

Simulation Run = 3616

Weights = [0.162 0.08 0.027 0.138 0.157 0.106 0.12 0.027 0.183], Final Value = \$1518493.63, Sharpe Ratio = -20.17

Simulation Run = 3617

Weights = [0.119 0.169 0.113 0.128 0.008 0.139 0.074 0.136 0.115], Final Value = \$1489001.84, Sharpe Ratio = -19.45

Simulation Run = 3618

Weights = [0.162 0.094 0.192 0.054 0.13 0.221 0.021 0.041 0.087], Final Value = \$1555402.82, Sharpe Ratio = -18.01

Simulation Run = 3619

Weights = [0.157 0.054 0.136 0.038 0.166 0.04 0.191 0.189 0.031], Final Value = \$1568667.38, Sharpe Ratio = -15.55

Simulation Run = 3620

Weights = [0.082 0.092 0.141 0.102 0.106 0.158 0.093 0.053 0.173], Final Value = \$1464223.67, Sharpe Ratio = -19.16

Simulation Run = 3621

Weights = [0.029 0.132 0.06 0.183 0.175 0.167 0.077 0.041 0.136], Final Value = \$1548723.50, Sharpe Ratio = -21.37

Simulation Run = 3622

Weights = [0.17 0.045 0.167 0.015 0.054 0.117 0.217 0.051 0.164], Final Value = \$1435309.50, Sharpe Ratio = -14.10

Simulation Run = 3623
Weights = [0.122 0.022 0.122 0.16 0.127 0.152 0.005 0.176 0.115], Final Value =
\$1572620.56, Sharpe Ratio = -20.48

Simulation Run = 3624
Weights = [0.204 0.057 0.153 0.141 0.088 0.146 0.018 0.018 0.174], Final Value =
\$1492312.58, Sharpe Ratio = -20.39

Simulation Run = 3625
Weights = [0.175 0.119 0.142 0.162 0.051 0.14 0.128 0.032 0.051], Final Value =
\$1570289.55, Sharpe Ratio = -16.29

Simulation Run = 3626
Weights = [0.117 0.177 0.099 0.159 0.097 0.028 0.14 0.129 0.055], Final Value =
\$1528465.55, Sharpe Ratio = -19.09

Simulation Run = 3627
Weights = [0.043 0.159 0.158 0.115 0.161 0.109 0.108 0.137 0.01], Final Value =
\$1574804.29, Sharpe Ratio = -18.59

Simulation Run = 3628
Weights = [0.039 0.059 0.124 0.14 0.152 0.132 0.063 0.125 0.166], Final Value =
\$1492142.51, Sharpe Ratio = -21.29

Simulation Run = 3629
Weights = [0.175 0.115 0.107 0.002 0.127 0.164 0.05 0.085 0.173], Final Value =
\$1476426.32, Sharpe Ratio = -20.54

Simulation Run = 3630
Weights = [0.153 0.095 0.209 0.051 0.098 0.019 0.141 0.043 0.191], Final Value =
\$1363993.77, Sharpe Ratio = -18.42

Simulation Run = 3631
Weights = [0.146 0.043 0.074 0.171 0.033 0.126 0.065 0.144 0.197], Final Value =
\$1483124.08, Sharpe Ratio = -20.13

Simulation Run = 3632
Weights = [0.103 0.093 0.189 0.085 0.156 0.18 0.073 0.066 0.054], Final Value =

\$1570423.41, Sharpe Ratio = -17.69

Simulation Run = 3633

Weights = [0.15 0.108 0.184 0.051 0.025 0.187 0.187 0.103 0.005], Final Value = \$1576972.80, Sharpe Ratio = -13.27

Simulation Run = 3634

Weights = [0.128 0.084 0.075 0.081 0.134 0.085 0.141 0.118 0.153], Final Value = \$1493126.26, Sharpe Ratio = -18.84

Simulation Run = 3635

Weights = [0.16 0.138 0.162 0.163 0.058 0.013 0.097 0.129 0.08], Final Value = \$1486654.07, Sharpe Ratio = -19.55

Simulation Run = 3636

Weights = [0.15 0.15 0.055 0.156 0.129 0.153 0.031 0.076 0.101], Final Value = \$1578604.66, Sharpe Ratio = -22.06

Simulation Run = 3637

Weights = [0.22 0.015 0.209 0.041 0.23 0.11 0.08 0.048 0.047], Final Value = \$1592643.07, Sharpe Ratio = -17.40

Simulation Run = 3638

Weights = [0.113 0.09 0.063 0.078 0.308 0.014 0.074 0.018 0.241], Final Value = \$1434689.84, Sharpe Ratio = -26.51

Simulation Run = 3639

Weights = [0.147 0.1 0.051 0.037 0.13 0.116 0.145 0.09 0.184], Final Value = \$1474660.67, Sharpe Ratio = -18.51

Simulation Run = 3640

Weights = [0.026 0.072 0.19 0.203 0.007 0.059 0.201 0.048 0.193], Final Value = \$1375343.26, Sharpe Ratio = -15.58

Simulation Run = 3641

Weights = [0.095 0.041 0.17 0.045 0.014 0.296 0.044 0.007 0.287], Final Value = \$1386617.13, Sharpe Ratio = -16.82

Simulation Run = 3642
Weights = [0.151 0.112 0.189 0.108 0.093 0.045 0.122 0.119 0.06], Final Value =
\$1505790.76, Sharpe Ratio = -17.76

Simulation Run = 3643
Weights = [0.253 0.011 0.006 0.234 0.141 0.077 0.027 0.006 0.246], Final Value =
\$1518065.67, Sharpe Ratio = -23.94

Simulation Run = 3644
Weights = [0.168 0.14 0.083 0.158 0.137 0.055 0.087 0.072 0.101], Final Value =
\$1535745.08, Sharpe Ratio = -21.62

Simulation Run = 3645
Weights = [0.03 0.13 0.137 0.065 0.168 0.084 0.096 0.126 0.164], Final Value =
\$1435395.92, Sharpe Ratio = -21.86

Simulation Run = 3646
Weights = [0.132 0.047 0.07 0.206 0.216 0.007 0.113 0.025 0.183], Final Value =
\$1497885.74, Sharpe Ratio = -22.06

Simulation Run = 3647
Weights = [0.1 0.2 0.148 0.195 0.076 0.094 0.036 0.069 0.082], Final Value =
\$1507190.84, Sharpe Ratio = -22.18

Simulation Run = 3648
Weights = [0.122 0.115 0.147 0.086 0.141 0.072 0.083 0.134 0.101], Final Value =
\$1501134.01, Sharpe Ratio = -20.60

Simulation Run = 3649
Weights = [0.114 0.247 0.156 0.16 0.011 0.071 0.106 0.107 0.028], Final Value =
\$1505712.52, Sharpe Ratio = -18.74

Simulation Run = 3650
Weights = [0.188 0.001 0.125 0.015 0.175 0.002 0.195 0.052 0.246], Final Value =
\$1384234.43, Sharpe Ratio = -17.11

Simulation Run = 3651
Weights = [0.172 0.01 0.028 0.172 0.164 0.086 0.065 0.189 0.115], Final Value =
\$1607136.82, Sharpe Ratio = -20.92

Simulation Run = 3652
Weights = [0.21 0.104 0.048 0.219 0.168 0.039 0.092 0.052 0.069], Final Value =
\$1609757.39, Sharpe Ratio = -20.83

Simulation Run = 3653
Weights = [0.167 0.118 0.051 0.099 0.089 0.168 0.12 0.138 0.049], Final Value =
\$1617515.28, Sharpe Ratio = -16.88

Simulation Run = 3654
Weights = [0.099 0.186 0.021 0.089 0.169 0.112 0.062 0.105 0.158], Final Value =
\$1502687.33, Sharpe Ratio = -24.66

Simulation Run = 3655
Weights = [0.154 0.153 0.146 0.165 0.097 0.094 0.152 0.032 0.006], Final Value =
\$1588071.24, Sharpe Ratio = -16.38

Simulation Run = 3656
Weights = [0.028 0.184 0.186 0.113 0.092 0.181 0.009 0.166 0.041], Final Value =
\$1542151.78, Sharpe Ratio = -19.93

Simulation Run = 3657
Weights = [0.221 0.182 0.146 0.066 0.124 0.159 0.039 0.048 0.016], Final Value =
\$1599552.75, Sharpe Ratio = -19.02

Simulation Run = 3658
Weights = [0.077 0.203 0.047 0.152 0.211 0.011 0.095 0.102 0.103], Final Value =
\$1516334.10, Sharpe Ratio = -24.77

Simulation Run = 3659
Weights = [0.139 0.121 0.015 0.122 0.136 0.136 0.101 0.134 0.095], Final Value =
\$1590857.93, Sharpe Ratio = -19.66

Simulation Run = 3660
Weights = [0.208 0.142 0.033 0.191 0.12 0.094 0.103 0.004 0.105], Final Value =
\$1574097.98, Sharpe Ratio = -20.17

Simulation Run = 3661

Weights = [0.123 0.098 0.042 0.125 0.199 0.049 0.041 0.128 0.195], Final Value = \$1483967.81, Sharpe Ratio = -26.74

Simulation Run = 3662

Weights = [0.206 0.032 0.042 0.167 0.155 0.109 0.119 0.065 0.106], Final Value = \$1608403.77, Sharpe Ratio = -18.18

Simulation Run = 3663

Weights = [0.087 0.03 0.076 0.175 0.186 0.143 0.019 0.053 0.231], Final Value = \$1492816.41, Sharpe Ratio = -23.98

Simulation Run = 3664

Weights = [0.138 0.073 0.064 0.091 0.087 0.082 0.19 0.137 0.138], Final Value = \$1501991.02, Sharpe Ratio = -16.35

Simulation Run = 3665

Weights = [0.209 0.152 0.058 0.106 0.189 0.016 0.015 0.095 0.161], Final Value = \$1488537.19, Sharpe Ratio = -27.61

Simulation Run = 3666

Weights = [0.175 0.027 0.035 0.078 0.174 0.102 0.224 0.095 0.092], Final Value = \$1597182.91, Sharpe Ratio = -14.71

Simulation Run = 3667

Weights = [0.11 0.096 0.067 0.073 0.14 0.223 0.119 0.029 0.143], Final Value = \$1548710.39, Sharpe Ratio = -17.24

Simulation Run = 3668

Weights = [0.045 0.147 0.13 0.118 0.104 0.121 0.083 0.175 0.077], Final Value = \$1523956.66, Sharpe Ratio = -19.95

Simulation Run = 3669

Weights = [0.064 0.02 0.122 0.16 0.104 0.114 0.137 0.2 0.078], Final Value = \$1568179.32, Sharpe Ratio = -16.72

Simulation Run = 3670

Weights = [0.182 0.06 0.054 0.224 0.132 0.016 0.137 0.17 0.024], Final Value = \$1636233.41, Sharpe Ratio = -17.95

Simulation Run = 3671
Weights = [0.092 0.083 0.109 0.134 0.084 0.116 0.018 0.179 0.185], Final Value =
\$1463454.62, Sharpe Ratio = -23.17

Simulation Run = 3672
Weights = [0.11 0.119 0.205 0.096 0.032 0.098 0.069 0.033 0.238], Final Value =
\$1337417.40, Sharpe Ratio = -20.62

Simulation Run = 3673
Weights = [0.11 0.085 0.057 0.147 0.106 0.098 0.12 0.141 0.134], Final Value =
\$1527532.46, Sharpe Ratio = -19.37

Simulation Run = 3674
Weights = [0.104 0.118 0.161 0.066 0.122 0.096 0.137 0.091 0.104], Final Value =
\$1484803.68, Sharpe Ratio = -17.86

Simulation Run = 3675
Weights = [0.001 0.108 0.054 0.166 0.143 0.136 0.122 0.154 0.116], Final Value =
\$1546765.31, Sharpe Ratio = -19.49

Simulation Run = 3676
Weights = [0.195 0.207 0.066 0.064 0.116 0.196 0.065 0.008 0.084], Final Value =
\$1570417.48, Sharpe Ratio = -19.37

Simulation Run = 3677
Weights = [0.013 0.153 0.163 0.064 0.174 0.043 0.138 0.199 0.053], Final Value =
\$1498142.94, Sharpe Ratio = -18.99

Simulation Run = 3678
Weights = [0.093 0.056 0.03 0.033 0.156 0.198 0.203 0.144 0.087], Final Value =
\$1605130.56, Sharpe Ratio = -14.47

Simulation Run = 3679
Weights = [0.129 0.161 0.169 0.125 0.063 0.133 0.043 0.04 0.137], Final Value =
\$1461022.31, Sharpe Ratio = -20.84

Simulation Run = 3680
Weights = [0.115 0.108 0.054 0.11 0.171 0.066 0.121 0.176 0.078], Final Value =

\$1569480.23, Sharpe Ratio = -19.94

Simulation Run = 3681

Weights = [0.2 0.013 0.207 0.169 0.065 0.036 0.029 0.125 0.155], Final Value = \$1458914.69, Sharpe Ratio = -20.07

Simulation Run = 3682

Weights = [0.253 0.132 0.056 0.222 0.032 0.024 0.025 0.147 0.109], Final Value = \$1537959.03, Sharpe Ratio = -22.83

Simulation Run = 3683

Weights = [0.105 0.081 0.035 0.17 0.158 0.122 0.165 0.113 0.05], Final Value = \$1634012.18, Sharpe Ratio = -16.77

Simulation Run = 3684

Weights = [0.101 0.268 0.085 0.065 0.014 0.093 0.185 0.118 0.07], Final Value = \$1474271.45, Sharpe Ratio = -16.68

Simulation Run = 3685

Weights = [0.197 0.192 0.159 0.055 0.017 0.017 0.076 0.174 0.114], Final Value = \$1420190.48, Sharpe Ratio = -20.80

Simulation Run = 3686

Weights = [0.149 0.089 0.057 0.068 0.126 0.188 0.028 0.168 0.127], Final Value = \$1567185.51, Sharpe Ratio = -20.38

Simulation Run = 3687

Weights = [0.134 0.15 0.036 0.177 0.024 0.132 0.069 0.136 0.143], Final Value = \$1516150.20, Sharpe Ratio = -20.84

Simulation Run = 3688

Weights = [0.106 0.105 0.146 0.169 0.076 0.127 0.082 0.114 0.075], Final Value = \$1545904.19, Sharpe Ratio = -18.58

Simulation Run = 3689

Weights = [0.071 0.156 0.053 0.08 0.161 0.153 0.007 0.146 0.172], Final Value = \$1495629.95, Sharpe Ratio = -25.23

Simulation Run = 3690
Weights = [0.066 0.087 0.072 0.049 0.021 0.137 0.167 0.206 0.195], Final Value =
\$1430048.85, Sharpe Ratio = -16.69

Simulation Run = 3691
Weights = [0.036 0.142 0.199 0.053 0.025 0.04 0.172 0.202 0.132], Final Value =
\$1377819.51, Sharpe Ratio = -16.81

Simulation Run = 3692
Weights = [0.16 0.106 0.107 0.062 0.19 0.17 0.051 0.146 0.006], Final Value =
\$1655650.31, Sharpe Ratio = -18.70

Simulation Run = 3693
Weights = [0.185 0.073 0.192 0.159 0.039 0.191 0.119 0.041 0.001], Final Value =
\$1623375.38, Sharpe Ratio = -14.46

Simulation Run = 3694
Weights = [0.18 0.172 0.001 0.07 0.155 0.148 0.153 0.079 0.042], Final Value =
\$1630357.30, Sharpe Ratio = -17.09

Simulation Run = 3695
Weights = [0.079 0.071 0.137 0.052 0.07 0.112 0.149 0.085 0.245], Final Value =
\$1368240.69, Sharpe Ratio = -18.01

Simulation Run = 3696
Weights = [0.067 0.019 0.196 0.012 0.126 0.115 0.182 0.198 0.084], Final Value =
\$1504048.12, Sharpe Ratio = -14.90

Simulation Run = 3697
Weights = [0.141 0.082 0.055 0.142 0.106 0.147 0.18 0.007 0.138], Final Value =
\$1541598.17, Sharpe Ratio = -16.12

Simulation Run = 3698
Weights = [0.075 0.101 0.094 0.088 0.125 0.078 0.16 0.113 0.165], Final Value =
\$1456598.50, Sharpe Ratio = -18.50

Simulation Run = 3699
Weights = [0.201 0.138 0.007 0.123 0.227 0.058 0.062 0.014 0.169], Final Value =
\$1529980.14, Sharpe Ratio = -25.18

Simulation Run = 3700
Weights = [0.173 0.152 0.096 0.091 0.139 0.069 0.173 0.019 0.088], Final Value =
\$1524489.76, Sharpe Ratio = -17.34

Simulation Run = 3701
Weights = [0.14 0.046 0.114 0.081 0.138 0.091 0.096 0.168 0.126], Final Value =
\$1520158.44, Sharpe Ratio = -19.41

Simulation Run = 3702
Weights = [0.056 0.061 0.006 0.173 0.006 0.229 0.202 0.199 0.068], Final Value =
\$1630320.92, Sharpe Ratio = -13.50

Simulation Run = 3703
Weights = [0.275 0.177 0.139 0.128 0.035 0.126 0.008 0.074 0.038], Final Value =
\$1575261.38, Sharpe Ratio = -19.58

Simulation Run = 3704
Weights = [0.188 0.116 0.14 0.009 0.179 0.161 0.065 0.061 0.08], Final Value =
\$1559522.77, Sharpe Ratio = -18.97

Simulation Run = 3705
Weights = [0.163 0.124 0.131 0.097 0.012 0.063 0.128 0.125 0.156], Final Value =
\$1427691.22, Sharpe Ratio = -18.35

Simulation Run = 3706
Weights = [0.088 0.166 0.098 0.134 0.032 0.165 0.03 0.209 0.079], Final Value =
\$1543342.77, Sharpe Ratio = -20.30

Simulation Run = 3707
Weights = [0.162 0.078 0.094 0.019 0.092 0.175 0.059 0.182 0.14], Final Value =
\$1520485.61, Sharpe Ratio = -18.95

Simulation Run = 3708
Weights = [0.284 0.034 0.06 0.028 0.028 0.213 0.109 0.128 0.115], Final Value =
\$1584988.06, Sharpe Ratio = -15.05

Simulation Run = 3709

Weights = [0.127 0.157 0.074 0.071 0.161 0.013 0.167 0.068 0.164], Final Value = \$1438243.34, Sharpe Ratio = -19.74

Simulation Run = 3710

Weights = [0.004 0.091 0.145 0.205 0.036 0.121 0.149 0.051 0.198], Final Value = \$1415607.43, Sharpe Ratio = -17.58

Simulation Run = 3711

Weights = [0.063 0.047 0.044 0.224 0.18 0.169 0.148 0.122 0.003], Final Value = \$1709999.56, Sharpe Ratio = -16.01

Simulation Run = 3712

Weights = [0.028 0.158 0.217 0.106 0.051 0.153 0.221 0.03 0.036], Final Value = \$1502790.74, Sharpe Ratio = -13.59

Simulation Run = 3713

Weights = [0.129 0.138 0.167 0.065 0.164 0.04 0.088 0.073 0.138], Final Value = \$1443223.26, Sharpe Ratio = -21.67

Simulation Run = 3714

Weights = [0.032 0.14 0.023 0.121 0.158 0.177 0.027 0.144 0.178], Final Value = \$1516867.93, Sharpe Ratio = -23.99

Simulation Run = 3715

Weights = [0.099 0.023 0.175 0.209 0.131 0.133 0.056 0.081 0.093], Final Value = \$1565412.39, Sharpe Ratio = -18.63

Simulation Run = 3716

Weights = [0.098 0.101 0.117 0.093 0.135 0.083 0.169 0.11 0.094], Final Value = \$1517790.63, Sharpe Ratio = -17.12

Simulation Run = 3717

Weights = [0.09 0.154 0.046 0.129 0.19 0.09 0.215 0.02 0.065], Final Value = \$1575876.84, Sharpe Ratio = -16.27

Simulation Run = 3718

Weights = [0.01 0.025 0.102 0.059 0.118 0.092 0.273 0.005 0.316], Final Value = \$1317474.54, Sharpe Ratio = -14.57

Simulation Run = 3719
Weights = [0.033 0.035 0.012 0.197 0.186 0.029 0.174 0.164 0.17], Final Value =
\$1517415.73, Sharpe Ratio = -19.14

Simulation Run = 3720
Weights = [0.154 0.14 0.1 0.094 0.133 0.156 0.026 0.141 0.055], Final Value =
\$1594526.03, Sharpe Ratio = -20.62

Simulation Run = 3721
Weights = [0.077 0.183 0.111 0.111 0.044 0.173 0.035 0.082 0.183], Final Value =
\$1438651.15, Sharpe Ratio = -21.87

Simulation Run = 3722
Weights = [0.05 0.049 0.111 0.169 0.102 0.163 0.094 0.074 0.188], Final Value =
\$1485012.10, Sharpe Ratio = -19.16

Simulation Run = 3723
Weights = [0.143 0.086 0.094 0.068 0.211 0.11 0.152 0.046 0.09], Final Value =
\$1566735.27, Sharpe Ratio = -17.62

Simulation Run = 3724
Weights = [0.105 0.071 0.155 0.039 0.16 0.006 0.194 0.092 0.179], Final Value =
\$1400877.67, Sharpe Ratio = -17.27

Simulation Run = 3725
Weights = [0.052 0.164 0.158 0.189 0.01 0.077 0.146 0.003 0.2], Final Value =
\$1368887.14, Sharpe Ratio = -18.53

Simulation Run = 3726
Weights = [0.096 0.223 0.091 0.002 0.064 0.016 0.046 0.249 0.213], Final Value =
\$1338516.86, Sharpe Ratio = -27.11

Simulation Run = 3727
Weights = [0.145 0.078 0.105 0.137 0.047 0.083 0.126 0.184 0.095], Final Value =
\$1528431.58, Sharpe Ratio = -17.66

Simulation Run = 3728
Weights = [0.079 0.044 0.217 0.086 0.203 0.164 0.054 0.016 0.136], Final Value =

\$1502205.11, Sharpe Ratio = -19.15

Simulation Run = 3729

Weights = [0.171 0.097 0.131 0.013 0.052 0.139 0.117 0.189 0.091], Final Value = \$1516108.35, Sharpe Ratio = -16.73

Simulation Run = 3730

Weights = [0.076 0.181 0.053 0.127 0.111 0.152 0.196 0.027 0.076], Final Value = \$1557858.88, Sharpe Ratio = -15.98

Simulation Run = 3731

Weights = [0.102 0.133 0.017 0.221 0.021 0.046 0.228 0.109 0.123], Final Value = \$1507419.51, Sharpe Ratio = -15.69

Simulation Run = 3732

Weights = [0.01 0.183 0.044 0.164 0.178 0.136 0.026 0.119 0.139], Final Value = \$1525947.37, Sharpe Ratio = -25.80

Simulation Run = 3733

Weights = [0.088 0.07 0.114 0.182 0.214 0.053 0.008 0.134 0.138], Final Value = \$1525032.71, Sharpe Ratio = -25.23

Simulation Run = 3734

Weights = [0.078 0.189 0.152 0.146 0.088 0.179 0.012 0.056 0.1], Final Value = \$1514133.56, Sharpe Ratio = -21.22

Simulation Run = 3735

Weights = [0.136 0.153 0.111 0.108 0.142 0.092 0.044 0.074 0.141], Final Value = \$1486376.35, Sharpe Ratio = -23.61

Simulation Run = 3736

Weights = [0.123 0.135 0.131 0.156 0.077 0.108 0.06 0.075 0.136], Final Value = \$1484798.97, Sharpe Ratio = -21.19

Simulation Run = 3737

Weights = [0.02 0.262 0.143 0.211 0.114 0.001 0.039 0.068 0.141], Final Value = \$1404511.48, Sharpe Ratio = -26.74

Simulation Run = 3738
Weights = [0.004 0.081 0.22 0.174 0.108 0.095 0.134 0.042 0.143], Final Value =
\$1437581.46, Sharpe Ratio = -17.60

Simulation Run = 3739
Weights = [0.096 0.162 0.131 0.163 0.01 0.207 0.063 0.15 0.018], Final Value =
\$1599327.23, Sharpe Ratio = -17.02

Simulation Run = 3740
Weights = [0.07 0.199 0.042 0.216 0.177 0.053 0.11 0.121 0.011], Final Value =
\$1619205.21, Sharpe Ratio = -21.15

Simulation Run = 3741
Weights = [0.014 0.146 0.03 0.115 0.101 0.193 0.083 0.16 0.159], Final Value =
\$1513486.17, Sharpe Ratio = -20.35

Simulation Run = 3742
Weights = [0.096 0.176 0.016 0.212 0.211 0.121 0.076 0.022 0.07], Final Value =
\$1622549.06, Sharpe Ratio = -22.50

Simulation Run = 3743
Weights = [0.065 0.281 0.031 0.044 0.035 0.245 0.179 0.034 0.087], Final Value =
\$1527616.24, Sharpe Ratio = -15.25

Simulation Run = 3744
Weights = [0.137 0.131 0.028 0.171 0.107 0.112 0.09 0.143 0.082], Final Value =
\$1590076.29, Sharpe Ratio = -20.29

Simulation Run = 3745
Weights = [0.144 0.166 0.12 0.05 0.123 0.102 0.104 0.126 0.063], Final Value =
\$1533615.53, Sharpe Ratio = -19.21

Simulation Run = 3746
Weights = [0.011 0.152 0.166 0.142 0.071 0.143 0.101 0.095 0.119], Final Value =
\$1467503.70, Sharpe Ratio = -18.81

Simulation Run = 3747
Weights = [0.04 0.028 0.117 0.106 0.15 0.115 0.167 0.098 0.178], Final Value =
\$1472806.17, Sharpe Ratio = -17.24

Simulation Run = 3748
Weights = [0.047 0.112 0.115 0.119 0.1 0.145 0.183 0.028 0.151], Final Value =
\$1474387.00, Sharpe Ratio = -16.37

Simulation Run = 3749
Weights = [0.194 0.138 0.107 0.11 0.105 0.02 0.068 0.082 0.175], Final Value =
\$1435427.95, Sharpe Ratio = -23.41

Simulation Run = 3750
Weights = [0.2 0.163 0.131 0.001 0.163 0.064 0.1 0.175 0.003], Final Value =
\$1578122.09, Sharpe Ratio = -18.87

Simulation Run = 3751
Weights = [0.153 0.063 0.158 0.111 0.143 0.018 0.159 0.056 0.139], Final Value =
\$1462201.81, Sharpe Ratio = -17.83

Simulation Run = 3752
Weights = [0.143 0.014 0.093 0.127 0.083 0.09 0.214 0.171 0.065], Final Value =
\$1580694.61, Sharpe Ratio = -14.27

Simulation Run = 3753
Weights = [0.195 0.081 0.009 0.162 0.198 0.045 0.074 0.082 0.154], Final Value =
\$1553661.38, Sharpe Ratio = -23.47

Simulation Run = 3754
Weights = [0.158 0.042 0.16 0.169 0.035 0.149 0.205 0.061 0.021], Final Value =
\$1603940.62, Sharpe Ratio = -13.18

Simulation Run = 3755
Weights = [0.14 0.046 0.126 0.153 0.113 0.102 0.044 0.108 0.167], Final Value =
\$1494787.07, Sharpe Ratio = -21.42

Simulation Run = 3756
Weights = [0.059 0.173 0.062 0.112 0.132 0.16 0.057 0.062 0.183], Final Value =
\$1473412.42, Sharpe Ratio = -23.15

Simulation Run = 3757

Weights = [0.06 0.05 0.111 0.072 0.056 0.129 0.222 0.102 0.198], Final Value = \$1425422.31, Sharpe Ratio = -14.82

Simulation Run = 3758

Weights = [0.02 0.067 0.155 0.188 0.079 0.048 0.224 0.187 0.032], Final Value = \$1543796.34, Sharpe Ratio = -14.42

Simulation Run = 3759

Weights = [0.187 0.156 0.112 0.175 0.075 0.034 0.102 0.027 0.133], Final Value = \$1472519.49, Sharpe Ratio = -20.80

Simulation Run = 3760

Weights = [0.004 0.259 0.041 0.278 0.043 0.077 0.14 0.06 0.098], Final Value = \$1501574.20, Sharpe Ratio = -20.17

Simulation Run = 3761

Weights = [0.176 0.045 0.258 0.049 0.041 0.136 0.055 0.169 0.073], Final Value = \$1502038.53, Sharpe Ratio = -16.53

Simulation Run = 3762

Weights = [0.101 0.145 0.112 0.138 0.037 0.097 0.124 0.163 0.083], Final Value = \$1512289.50, Sharpe Ratio = -18.15

Simulation Run = 3763

Weights = [0.14 0.191 0.133 0.187 0.075 0.072 0.066 0.133 0.003], Final Value = \$1581971.14, Sharpe Ratio = -19.97

Simulation Run = 3764

Weights = [0.153 0.149 0.046 0.053 0.156 0.04 0.11 0.173 0.12], Final Value = \$1506047.74, Sharpe Ratio = -21.63

Simulation Run = 3765

Weights = [0.134 0.139 0.127 0.057 0.138 0.077 0.107 0.096 0.127], Final Value = \$1475244.98, Sharpe Ratio = -20.28

Simulation Run = 3766

Weights = [0.167 0.072 0.182 0.02 0.102 0.183 0.099 0.042 0.133], Final Value = \$1493086.96, Sharpe Ratio = -16.83

Simulation Run = 3767
Weights = [0.069 0.081 0.087 0.018 0.085 0.219 0.107 0.212 0.122], Final Value =
\$1534006.61, Sharpe Ratio = -16.81

Simulation Run = 3768
Weights = [0.051 0.246 0.024 0.07 0.11 0.075 0.218 0.031 0.175], Final Value =
\$1418654.20, Sharpe Ratio = -17.52

Simulation Run = 3769
Weights = [0.065 0.062 0.062 0.137 0.212 0.129 0.151 0.141 0.042], Final Value =
\$1638735.67, Sharpe Ratio = -17.23

Simulation Run = 3770
Weights = [0.193 0.086 0.003 0.091 0.162 0.148 0.096 0.181 0.041], Final Value =
\$1667849.67, Sharpe Ratio = -18.25

Simulation Run = 3771
Weights = [0.174 0.109 0.047 0.099 0.142 0.088 0.11 0.122 0.109], Final Value =
\$1553015.00, Sharpe Ratio = -19.90

Simulation Run = 3772
Weights = [0.01 0.195 0.056 0.166 0.159 0.196 0.075 0.051 0.091], Final Value =
\$1572789.76, Sharpe Ratio = -20.73

Simulation Run = 3773
Weights = [0.119 0.139 0.018 0.164 0.171 0.117 0.057 0.04 0.173], Final Value =
\$1524422.98, Sharpe Ratio = -24.26

Simulation Run = 3774
Weights = [0.119 0.075 0.227 0.092 0.223 0.157 0.032 0.074 0.001], Final Value =
\$1621610.21, Sharpe Ratio = -18.15

Simulation Run = 3775
Weights = [0.1 0.033 0.114 0.149 0.151 0.141 0.125 0.148 0.038], Final Value =
\$1628002.75, Sharpe Ratio = -16.65

Simulation Run = 3776
Weights = [0.178 0.159 0.092 0.011 0.119 0.141 0.042 0.125 0.133], Final Value =

\$1499234.58, Sharpe Ratio = -21.55

Simulation Run = 3777

Weights = [0.102 0.123 0.19 0.166 0.021 0.02 0.153 0.093 0.132], Final Value = \$1413599.91, Sharpe Ratio = -17.43

Simulation Run = 3778

Weights = [0.091 0.041 0.13 0.201 0.082 0.019 0.222 0.038 0.175], Final Value = \$1437573.00, Sharpe Ratio = -15.67

Simulation Run = 3779

Weights = [0.161 0.064 0.126 0.154 0.102 0.158 0.155 0.016 0.064], Final Value = \$1593331.58, Sharpe Ratio = -15.47

Simulation Run = 3780

Weights = [0.15 0.093 0.042 0.095 0.254 0.125 0.169 0.039 0.032], Final Value = \$1658415.13, Sharpe Ratio = -16.72

Simulation Run = 3781

Weights = [0.131 0.072 0.028 0.054 0.138 0.162 0.247 0.036 0.132], Final Value = \$1549755.69, Sharpe Ratio = -13.90

Simulation Run = 3782

Weights = [0.058 0.213 0.035 0.151 0.085 0.204 0.063 0.116 0.074], Final Value = \$1583537.45, Sharpe Ratio = -20.05

Simulation Run = 3783

Weights = [0.068 0.025 0.227 0.219 0.054 0.229 0.03 0.133 0.014], Final Value = \$1628702.66, Sharpe Ratio = -15.47

Simulation Run = 3784

Weights = [0.032 0.076 0.295 0.214 0.04 0.025 0.088 0.219 0.011], Final Value = \$1500516.47, Sharpe Ratio = -16.37

Simulation Run = 3785

Weights = [0.194 0.083 0.019 0.173 0.082 0.186 0.071 0.037 0.155], Final Value = \$1573474.38, Sharpe Ratio = -19.08

Simulation Run = 3786
Weights = [0.133 0.123 0.046 0.141 0.123 0.168 0.113 0.135 0.017], Final Value =
\$1657680.20, Sharpe Ratio = -17.31

Simulation Run = 3787
Weights = [0.106 0.109 0.069 0.177 0.061 0.135 0.134 0.063 0.147], Final Value =
\$1510839.31, Sharpe Ratio = -18.09

Simulation Run = 3788
Weights = [0.239 0.022 0.034 0.141 0.057 0.109 0.128 0.219 0.052], Final Value =
\$1640330.29, Sharpe Ratio = -16.18

Simulation Run = 3789
Weights = [0.174 0.195 0.074 0.016 0.031 0.085 0.072 0.197 0.156], Final Value =
\$1434964.35, Sharpe Ratio = -21.64

Simulation Run = 3790
Weights = [0.05 0.24 0.123 0.169 0.218 0.008 0.059 0.055 0.077], Final Value =
\$1498685.48, Sharpe Ratio = -25.61

Simulation Run = 3791
Weights = [0.048 0.039 0.054 0.186 0.16 0.219 0.031 0.213 0.051], Final Value =
\$1676545.88, Sharpe Ratio = -18.73

Simulation Run = 3792
Weights = [0.087 0.036 0.093 0.073 0.209 0.157 0.176 0.155 0.013], Final Value =
\$1656741.80, Sharpe Ratio = -15.14

Simulation Run = 3793
Weights = [0.074 0.125 0.048 0.003 0.137 0.069 0.214 0.121 0.209], Final Value =
\$1408123.43, Sharpe Ratio = -16.99

Simulation Run = 3794
Weights = [0.011 0.208 0.077 0.116 0.022 0.262 0.025 0.035 0.245], Final Value =
\$1407726.26, Sharpe Ratio = -20.73

Simulation Run = 3795
Weights = [0.151 0.021 0.164 0.021 0.247 0.206 0.059 0.131 0.001], Final Value =
\$1676284.61, Sharpe Ratio = -16.67

Simulation Run = 3796
Weights = [0.018 0.176 0.198 0.017 0.071 0.187 0.113 0.01 0.211], Final Value =
\$1355386.39, Sharpe Ratio = -18.21

Simulation Run = 3797
Weights = [0.078 0.144 0.03 0.129 0.166 0.148 0.053 0.099 0.153], Final Value =
\$1532472.37, Sharpe Ratio = -23.36

Simulation Run = 3798
Weights = [0.145 0.012 0.171 0.204 0.034 0.178 0.099 0.1 0.057], Final Value =
\$1598715.45, Sharpe Ratio = -15.36

Simulation Run = 3799
Weights = [0.123 0.182 0.159 0.154 0.024 0.213 0.074 0.057 0.015], Final Value =
\$1590431.52, Sharpe Ratio = -16.58

Simulation Run = 3800
Weights = [0.176 0.099 0.122 0.119 0.212 0.18 0.024 0.043 0.026], Final Value =
\$1658620.16, Sharpe Ratio = -19.43

Simulation Run = 3801
Weights = [0.066 0.128 0.006 0.155 0.079 0.183 0.239 0.108 0.038], Final Value =
\$1632724.58, Sharpe Ratio = -13.67

Simulation Run = 3802
Weights = [0.209 0.004 0.147 0.098 0.038 0.18 0.073 0.19 0.06], Final Value =
\$1601164.78, Sharpe Ratio = -15.77

Simulation Run = 3803
Weights = [0.219 0.146 0.031 0.196 0.112 0.018 0.202 0.064 0.012], Final Value =
\$1623761.23, Sharpe Ratio = -16.04

Simulation Run = 3804
Weights = [0.143 0.145 0.104 0.023 0.135 0.027 0.092 0.147 0.186], Final Value =
\$1407857.12, Sharpe Ratio = -22.97

Simulation Run = 3805

Weights = [0.009 0.105 0.052 0.189 0.031 0.16 0.183 0.168 0.104], Final Value = \$1543403.45, Sharpe Ratio = -15.68

Simulation Run = 3806

Weights = [0.193 0.066 0.162 0.015 0.051 0.187 0.091 0.103 0.132], Final Value = \$1497891.55, Sharpe Ratio = -16.51

Simulation Run = 3807

Weights = [0.088 0.078 0.01 0.041 0.194 0.164 0.176 0.102 0.148], Final Value = \$1552466.81, Sharpe Ratio = -16.82

Simulation Run = 3808

Weights = [0.145 0.059 0.029 0.066 0.076 0.14 0.18 0.135 0.17], Final Value = \$1507815.27, Sharpe Ratio = -16.04

Simulation Run = 3809

Weights = [0.165 0.161 0.022 0.039 0.138 0.133 0.099 0.089 0.153], Final Value = \$1512066.04, Sharpe Ratio = -20.57

Simulation Run = 3810

Weights = [0.148 0.122 0.102 0.138 0.175 0.02 0.129 0.047 0.12], Final Value = \$1502204.85, Sharpe Ratio = -20.41

Simulation Run = 3811

Weights = [0.072 0.052 0.194 0.115 0.066 0.017 0.236 0.151 0.098], Final Value = \$1451192.85, Sharpe Ratio = -14.27

Simulation Run = 3812

Weights = [0.17 0.038 0.128 0.004 0.14 0.129 0.204 0.161 0.026], Final Value = \$1600331.92, Sharpe Ratio = -13.94

Simulation Run = 3813

Weights = [0.099 0.063 0.146 0.193 0.091 0.169 0.03 0.133 0.075], Final Value = \$1584157.91, Sharpe Ratio = -18.88

Simulation Run = 3814

Weights = [0.128 0.021 0.036 0.168 0.182 0.132 0.066 0.084 0.183], Final Value = \$1551430.87, Sharpe Ratio = -21.59

Simulation Run = 3815
Weights = [0.132 0.055 0.058 0.126 0.137 0.142 0.136 0.137 0.076], Final Value =
\$1608668.76, Sharpe Ratio = -17.07

Simulation Run = 3816
Weights = [0.041 0.189 0.12 0.113 0.138 0.133 0.161 0.089 0.014], Final Value =
\$1576656.85, Sharpe Ratio = -16.82

Simulation Run = 3817
Weights = [0.279 0.03 0.184 0.082 0.002 0.028 0.036 0.283 0.077], Final Value =
\$1511218.62, Sharpe Ratio = -18.17

Simulation Run = 3818
Weights = [0.009 0.062 0.084 0.151 0.196 0.009 0.132 0.164 0.193], Final Value =
\$1443374.57, Sharpe Ratio = -21.73

Simulation Run = 3819
Weights = [0.146 0.18 0.112 0.012 0.038 0.119 0.097 0.132 0.164], Final Value =
\$1421619.32, Sharpe Ratio = -19.67

Simulation Run = 3820
Weights = [0.237 0.09 0.151 0.043 0.137 0.081 0.112 0.022 0.126], Final Value =
\$1493828.29, Sharpe Ratio = -18.41

Simulation Run = 3821
Weights = [0.127 0.176 0.054 0.058 0.135 0.048 0.13 0.022 0.252], Final Value =
\$1369251.88, Sharpe Ratio = -22.34

Simulation Run = 3822
Weights = [0.206 0.059 0.162 0.345 0.054 0.092 0.02 0.059 0.004], Final Value =
\$1654303.59, Sharpe Ratio = -17.83

Simulation Run = 3823
Weights = [0.14 0.19 0.039 0.069 0.143 0.001 0.148 0.097 0.173], Final Value =
\$1430602.64, Sharpe Ratio = -21.41

Simulation Run = 3824
Weights = [0.13 0.121 0.094 0.133 0.142 0.202 0.038 0.126 0.015], Final Value =

\$1659992.95, Sharpe Ratio = -18.61

Simulation Run = 3825

Weights = [0.127 0.014 0.07 0.017 0.105 0.192 0.228 0.106 0.141], Final Value = \$1538032.59, Sharpe Ratio = -13.48

Simulation Run = 3826

Weights = [0.103 0.113 0.091 0.145 0.047 0.137 0.166 0.042 0.157], Final Value = \$1478847.48, Sharpe Ratio = -16.70

Simulation Run = 3827

Weights = [0.152 0.124 0.09 0.055 0.184 0.07 0.042 0.137 0.145], Final Value = \$1494142.61, Sharpe Ratio = -24.35

Simulation Run = 3828

Weights = [0.075 0.029 0.108 0.197 0.195 0.008 0.046 0.225 0.117], Final Value = \$1535886.34, Sharpe Ratio = -23.32

Simulation Run = 3829

Weights = [0.035 0.156 0.103 0.079 0.106 0.072 0.121 0.162 0.165], Final Value = \$1424837.83, Sharpe Ratio = -20.98

Simulation Run = 3830

Weights = [0.132 0.232 0.073 0.126 0.047 0.123 0.11 0.068 0.088], Final Value = \$1513992.46, Sharpe Ratio = -19.49

Simulation Run = 3831

Weights = [0.099 0.039 0.144 0.133 0.182 0.067 0.136 0.117 0.083], Final Value = \$1549683.40, Sharpe Ratio = -17.91

Simulation Run = 3832

Weights = [0.012 0.166 0.136 0.155 0.146 0.166 0.022 0.084 0.112], Final Value = \$1516895.14, Sharpe Ratio = -22.37

Simulation Run = 3833

Weights = [0.187 0.039 0.086 0.161 0.076 0.116 0.18 0.154 0.001], Final Value = \$1657549.30, Sharpe Ratio = -14.44

Simulation Run = 3834
Weights = [0.155 0.136 0.187 0.033 0.166 0.082 0.118 0.032 0.09], Final Value =
\$1488383.16, Sharpe Ratio = -18.59

Simulation Run = 3835
Weights = [0.032 0.218 0.1 0.088 0.05 0.184 0.1 0.005 0.224], Final Value =
\$1384125.24, Sharpe Ratio = -20.27

Simulation Run = 3836
Weights = [0.017 0.172 0.183 0.137 0.088 0.051 0.095 0.121 0.136], Final Value =
\$1410912.35, Sharpe Ratio = -21.07

Simulation Run = 3837
Weights = [0.175 0.114 0.147 0.121 0.169 0.071 0.041 0.036 0.126], Final Value =
\$1503397.00, Sharpe Ratio = -22.65

Simulation Run = 3838
Weights = [0.329 0.185 0.07 0.039 0.276 0.011 0.003 0.041 0.045], Final Value =
\$1602983.21, Sharpe Ratio = -24.37

Simulation Run = 3839
Weights = [0.174 0.034 0.05 0.161 0.057 0.098 0.22 0.058 0.148], Final Value =
\$1526184.44, Sharpe Ratio = -14.76

Simulation Run = 3840
Weights = [0.162 0.126 0.115 0.022 0.102 0.123 0.051 0.139 0.16], Final Value =
\$1464215.65, Sharpe Ratio = -21.39

Simulation Run = 3841
Weights = [0.175 0.086 0.217 0.132 0.082 0.115 0.032 0.122 0.038], Final Value =
\$1558717.11, Sharpe Ratio = -18.27

Simulation Run = 3842
Weights = [0.129 0.043 0.033 0.032 0.066 0.051 0.089 0.26 0.296], Final Value =
\$1361672.23, Sharpe Ratio = -22.59

Simulation Run = 3843
Weights = [0.174 0.173 0.041 0.109 0.034 0.165 0.099 0.062 0.142], Final Value =
\$1511902.63, Sharpe Ratio = -18.82

Simulation Run = 3844
Weights = [0.107 0.158 0.087 0.081 0.15 0.075 0.18 0.035 0.127], Final Value =
\$1482736.59, Sharpe Ratio = -17.88

Simulation Run = 3845
Weights = [0.014 0.149 0.057 0.244 0.168 0.046 0.043 0.222 0.057], Final Value =
\$1584291.35, Sharpe Ratio = -24.46

Simulation Run = 3846
Weights = [0.089 0.088 0.168 0.174 0.004 0.129 0.155 0.021 0.172], Final Value =
\$1430696.28, Sharpe Ratio = -16.28

Simulation Run = 3847
Weights = [0.08 0.204 0.012 0.125 0.198 0.016 0.065 0.17 0.129], Final Value =
\$1503998.93, Sharpe Ratio = -27.51

Simulation Run = 3848
Weights = [0.092 0.138 0.052 0.05 0.174 0.087 0.115 0.149 0.143], Final Value =
\$1496414.62, Sharpe Ratio = -21.21

Simulation Run = 3849
Weights = [0.081 0.175 0.066 0.14 0.082 0.02 0.194 0.038 0.203], Final Value =
\$1390395.11, Sharpe Ratio = -18.58

Simulation Run = 3850
Weights = [0.01 0.041 0.25 0.075 0.235 0.08 0.003 0.086 0.218], Final Value =
\$1383904.60, Sharpe Ratio = -23.28

Simulation Run = 3851
Weights = [0.193 0.062 0.108 0.145 0.112 0.108 0.048 0.027 0.197], Final Value =
\$1478520.43, Sharpe Ratio = -21.72

Simulation Run = 3852
Weights = [0.158 0.193 0.019 0.173 0.12 0.198 0.011 0.12 0.009], Final Value =
\$1684112.27, Sharpe Ratio = -20.36

Simulation Run = 3853

Weights = [0.121 0.132 0.18 0.01 0.191 0.04 0.127 0.186 0.011], Final Value = \$1544412.53, Sharpe Ratio = -18.13

Simulation Run = 3854

Weights = [0.121 0.016 0.155 0.206 0.182 0.108 0.015 0.017 0.179], Final Value = \$1507138.17, Sharpe Ratio = -22.24

Simulation Run = 3855

Weights = [0.009 0.222 0.113 0.046 0.035 0.087 0.224 0.167 0.096], Final Value = \$1433733.15, Sharpe Ratio = -15.53

Simulation Run = 3856

Weights = [0.156 0.034 0.051 0.097 0.063 0.197 0.129 0.097 0.174], Final Value = \$1530156.85, Sharpe Ratio = -16.44

Simulation Run = 3857

Weights = [0.041 0.103 0.136 0.042 0.139 0.154 0.154 0.143 0.088], Final Value = \$1522153.59, Sharpe Ratio = -16.61

Simulation Run = 3858

Weights = [0.052 0.196 0.063 0.089 0.231 0.048 0.222 0.058 0.04], Final Value = \$1559479.18, Sharpe Ratio = -16.70

Simulation Run = 3859

Weights = [0.019 0.16 0.169 0.065 0.111 0.153 0.126 0.176 0.021], Final Value = \$1549391.45, Sharpe Ratio = -16.94

Simulation Run = 3860

Weights = [0.182 0.171 0.213 0.102 0.094 0.048 0.119 0.027 0.045], Final Value = \$1496556.84, Sharpe Ratio = -17.81

Simulation Run = 3861

Weights = [0.174 0.229 0.048 0.102 0.142 0.019 0.128 0.121 0.038], Final Value = \$1556808.29, Sharpe Ratio = -20.61

Simulation Run = 3862

Weights = [0.103 0.179 0.046 0.081 0.123 0.11 0.205 0.117 0.038], Final Value = \$1578380.08, Sharpe Ratio = -15.84

Simulation Run = 3863
Weights = [0.109 0.001 0.214 0.243 0.08 0.013 0.148 0. 0.191], Final Value =
\$1414033.57, Sharpe Ratio = -17.15

Simulation Run = 3864
Weights = [0.257 0.123 0.211 0.004 0.004 0.074 0.009 0.059 0.259], Final Value =
\$1309156.06, Sharpe Ratio = -21.61

Simulation Run = 3865
Weights = [0.087 0.114 0.167 0.107 0.143 0.135 0.059 0.107 0.081], Final Value =
\$1534246.85, Sharpe Ratio = -19.87

Simulation Run = 3866
Weights = [0.028 0.193 0.187 0.036 0.151 0.096 0.149 0.084 0.076], Final Value =
\$1464286.96, Sharpe Ratio = -17.98

Simulation Run = 3867
Weights = [0.115 0.103 0.129 0.129 0.082 0.025 0.132 0.126 0.16], Final Value =
\$1433311.27, Sharpe Ratio = -19.55

Simulation Run = 3868
Weights = [0.254 0.034 0.08 0.095 0.027 0.07 0.038 0.225 0.176], Final Value =
\$1485341.88, Sharpe Ratio = -20.68

Simulation Run = 3869
Weights = [0.092 0.038 0.013 0.164 0.153 0.198 0.157 0.136 0.049], Final Value =
\$1680440.90, Sharpe Ratio = -15.55

Simulation Run = 3870
Weights = [0.063 0.035 0.178 0.144 0.123 0.211 0.075 0.065 0.105], Final Value =
\$1555178.10, Sharpe Ratio = -17.10

Simulation Run = 3871
Weights = [0.125 0.134 0.054 0.158 0.149 0.095 0.114 0.085 0.086], Final Value =
\$1571238.70, Sharpe Ratio = -20.00

Simulation Run = 3872
Weights = [0.049 0.215 0.06 0.208 0.054 0.054 0.052 0.111 0.198], Final Value =

\$1411286.31, Sharpe Ratio = -26.56

Simulation Run = 3873

Weights = [0.109 0.032 0.115 0.131 0.063 0.137 0.14 0.139 0.133], Final Value = \$1518097.25, Sharpe Ratio = -16.56

Simulation Run = 3874

Weights = [0.05 0.14 0.085 0.055 0.161 0.033 0.227 0.194 0.054], Final Value = \$1524854.54, Sharpe Ratio = -15.92

Simulation Run = 3875

Weights = [0.129 0.139 0.032 0.135 0.127 0.135 0.017 0.155 0.131], Final Value = \$1551833.24, Sharpe Ratio = -23.79

Simulation Run = 3876

Weights = [0.12 0.093 0.084 0.185 0.163 0.131 0.084 0.021 0.119], Final Value = \$1563610.76, Sharpe Ratio = -20.35

Simulation Run = 3877

Weights = [0.001 0.015 0.217 0.196 0.081 0.183 0.056 0.038 0.214], Final Value = \$1428475.40, Sharpe Ratio = -18.53

Simulation Run = 3878

Weights = [0.076 0.237 0.012 0.162 0.155 0.047 0.011 0.126 0.173], Final Value = \$1466712.22, Sharpe Ratio = -31.23

Simulation Run = 3879

Weights = [0.031 0.043 0.176 0.1 0.074 0.165 0.174 0.07 0.166], Final Value = \$1449833.22, Sharpe Ratio = -15.38

Simulation Run = 3880

Weights = [0.103 0.004 0.057 0.167 0.183 0.049 0.159 0.064 0.215], Final Value = \$1479070.76, Sharpe Ratio = -19.11

Simulation Run = 3881

Weights = [0.071 0.171 0.137 0.148 0.183 0.064 0.066 0.042 0.118], Final Value = \$1486002.96, Sharpe Ratio = -23.52

Simulation Run = 3882
Weights = [0.023 0.089 0.055 0.178 0.09 0.198 0.2 0.123 0.044], Final Value =
\$1626362.86, Sharpe Ratio = -14.37

Simulation Run = 3883
Weights = [0.152 0.103 0.101 0.106 0.105 0.011 0.01 0.257 0.156], Final Value =
\$1459884.44, Sharpe Ratio = -25.66

Simulation Run = 3884
Weights = [0.23 0.198 0.015 0.001 0.054 0.211 0.084 0.082 0.125], Final Value =
\$1541565.34, Sharpe Ratio = -17.83

Simulation Run = 3885
Weights = [0.134 0.159 0.12 0.138 0.153 0.168 0.019 0.106 0.003], Final Value =
\$1641400.01, Sharpe Ratio = -20.02

Simulation Run = 3886
Weights = [0.063 0.206 0.12 0.184 0.027 0.017 0.146 0.13 0.108], Final Value =
\$1439203.61, Sharpe Ratio = -19.26

Simulation Run = 3887
Weights = [0.199 0.03 0.196 0.041 0.056 0.136 0.091 0.186 0.066], Final Value =
\$1541501.08, Sharpe Ratio = -16.08

Simulation Run = 3888
Weights = [0.239 0.068 0.147 0.086 0.131 0.037 0.047 0.158 0.088], Final Value =
\$1532553.06, Sharpe Ratio = -20.61

Simulation Run = 3889
Weights = [0.017 0.08 0.062 0.063 0.256 0.183 0.119 0.073 0.146], Final Value =
\$1549682.26, Sharpe Ratio = -19.19

Simulation Run = 3890
Weights = [0.023 0.199 0.065 0.13 0.062 0.158 0.182 0.124 0.057], Final Value =
\$1548961.25, Sharpe Ratio = -16.10

Simulation Run = 3891
Weights = [0.184 0.049 0.1 0.147 0.131 0.15 0.035 0.138 0.067], Final Value =
\$1621917.27, Sharpe Ratio = -19.28

Simulation Run = 3892
Weights = [0.091 0.134 0.063 0.086 0.189 0.012 0.173 0.057 0.196], Final Value =
\$1424096.31, Sharpe Ratio = -20.06

Simulation Run = 3893
Weights = [0.17 0.077 0.147 0.079 0.18 0.01 0.164 0.043 0.131], Final Value =
\$1471724.45, Sharpe Ratio = -18.01

Simulation Run = 3894
Weights = [0.036 0.158 0.134 0.192 0.107 0.081 0.069 0.13 0.093], Final Value =
\$1505936.38, Sharpe Ratio = -21.68

Simulation Run = 3895
Weights = [0.102 0.083 0.126 0.174 0.029 0.04 0.118 0.185 0.142], Final Value =
\$1457278.92, Sharpe Ratio = -19.04

Simulation Run = 3896
Weights = [0.07 0.128 0.069 0.162 0.175 0.083 0.162 0.103 0.049], Final Value =
\$1590396.35, Sharpe Ratio = -17.92

Simulation Run = 3897
Weights = [0.196 0.052 0.134 0.144 0.23 0.088 0.041 0.112 0.004], Final Value =
\$1665008.64, Sharpe Ratio = -19.70

Simulation Run = 3898
Weights = [0.007 0.06 0.039 0.149 0.238 0.118 0.103 0.073 0.213], Final Value =
\$1495381.48, Sharpe Ratio = -22.41

Simulation Run = 3899
Weights = [0.07 0.012 0.145 0.243 0.138 0.15 0.06 0.005 0.176], Final Value =
\$1515743.38, Sharpe Ratio = -19.75

Simulation Run = 3900
Weights = [0.027 0.046 0.092 0.152 0.056 0.202 0.144 0.211 0.07], Final Value =
\$1592758.76, Sharpe Ratio = -15.34

Simulation Run = 3901

Weights = [0.155 0.061 0.134 0.116 0.103 0.067 0.107 0.08 0.177], Final Value = \$1452789.34, Sharpe Ratio = -19.67

Simulation Run = 3902

Weights = [0.164 0.02 0.136 0.14 0.138 0.159 0.09 0.121 0.032], Final Value = \$1642490.10, Sharpe Ratio = -16.63

Simulation Run = 3903

Weights = [0.093 0.086 0.2 0.14 0.033 0.067 0.107 0.183 0.09], Final Value = \$1473793.89, Sharpe Ratio = -17.67

Simulation Run = 3904

Weights = [0.154 0.05 0.096 0.046 0.119 0.013 0.174 0.178 0.17], Final Value = \$1443684.97, Sharpe Ratio = -17.71

Simulation Run = 3905

Weights = [0.046 0.177 0.136 0.01 0.086 0.037 0.185 0.14 0.183], Final Value = \$1354229.62, Sharpe Ratio = -18.07

Simulation Run = 3906

Weights = [0.066 0.054 0.234 0.186 0.053 0.123 0.011 0.088 0.185], Final Value = \$1419744.26, Sharpe Ratio = -20.18

Simulation Run = 3907

Weights = [0.07 0.029 0.175 0.183 0.094 0.027 0.127 0.137 0.158], Final Value = \$1443771.03, Sharpe Ratio = -18.55

Simulation Run = 3908

Weights = [0.1 0.081 0.198 0.042 0.105 0.103 0.114 0.089 0.169], Final Value = \$1415768.21, Sharpe Ratio = -18.42

Simulation Run = 3909

Weights = [0.337 0.15 0.225 0.021 0.066 0.053 0.06 0.057 0.031], Final Value = \$1518759.25, Sharpe Ratio = -17.74

Simulation Run = 3910

Weights = [0.112 0.014 0.13 0.194 0.027 0.062 0.185 0.174 0.102], Final Value = \$1518745.03, Sharpe Ratio = -15.25

Simulation Run = 3911
Weights = [0.156 0.001 0.026 0.19 0.085 0.009 0.186 0.197 0.15], Final Value =
\$1524769.30, Sharpe Ratio = -16.96

Simulation Run = 3912
Weights = [0.06 0.166 0.025 0.214 0.158 0.201 0.019 0.101 0.057], Final Value =
\$1649235.27, Sharpe Ratio = -21.50

Simulation Run = 3913
Weights = [0.137 0.12 0.049 0.059 0.105 0.129 0.179 0.064 0.158], Final Value =
\$1491818.42, Sharpe Ratio = -16.79

Simulation Run = 3914
Weights = [0.193 0.075 0.136 0.033 0.14 0.094 0.181 0.014 0.135], Final Value =
\$1487126.41, Sharpe Ratio = -16.11

Simulation Run = 3915
Weights = [0.132 0.142 0.123 0.043 0.073 0.157 0.098 0.159 0.072], Final Value =
\$1535940.83, Sharpe Ratio = -17.79

Simulation Run = 3916
Weights = [0.172 0.082 0.085 0.149 0.104 0.191 0.071 0.01 0.136], Final Value =
\$1560443.77, Sharpe Ratio = -18.65

Simulation Run = 3917
Weights = [0.173 0.064 0.164 0.038 0.205 0.113 0.068 0.166 0.009], Final Value =
\$1620255.41, Sharpe Ratio = -18.31

Simulation Run = 3918
Weights = [0.045 0.096 0.19 0.173 0.065 0.182 0.074 0.138 0.038], Final Value =
\$1572558.61, Sharpe Ratio = -16.88

Simulation Run = 3919
Weights = [0.126 0.055 0.126 0.03 0.194 0.067 0.121 0.141 0.14], Final Value =
\$1489462.38, Sharpe Ratio = -19.48

Simulation Run = 3920
Weights = [0.012 0.137 0.104 0.119 0.154 0.157 0.078 0.126 0.113], Final Value =

\$1525111.81, Sharpe Ratio = -20.74

Simulation Run = 3921

Weights = [0.142 0.055 0.176 0.189 0.17 0.11 0.036 0.064 0.059], Final Value = \$1590996.21, Sharpe Ratio = -19.62

Simulation Run = 3922

Weights = [0.103 0.171 0.239 0.246 0.017 0.032 0.04 0.13 0.022], Final Value = \$1505155.04, Sharpe Ratio = -19.00

Simulation Run = 3923

Weights = [0.169 0.016 0.168 0.085 0.166 0.124 0.158 0.07 0.042], Final Value = \$1599215.28, Sharpe Ratio = -15.23

Simulation Run = 3924

Weights = [0.242 0.093 0.107 0.221 0.083 0.052 0.149 0.035 0.017], Final Value = \$1619730.61, Sharpe Ratio = -16.32

Simulation Run = 3925

Weights = [0.088 0.136 0.12 0.141 0.129 0.062 0.163 0.075 0.085], Final Value = \$1513674.75, Sharpe Ratio = -17.84

Simulation Run = 3926

Weights = [0.145 0.052 0.053 0.061 0.183 0.089 0.176 0.126 0.115], Final Value = \$1554610.18, Sharpe Ratio = -16.98

Simulation Run = 3927

Weights = [0.211 0.029 0.116 0.021 0.138 0.101 0.211 0.006 0.167], Final Value = \$1480971.94, Sharpe Ratio = -14.95

Simulation Run = 3928

Weights = [0.056 0.003 0.148 0.119 0.195 0.207 0.049 0.119 0.104], Final Value = \$1590201.57, Sharpe Ratio = -18.33

Simulation Run = 3929

Weights = [0.136 0.029 0.147 0.136 0.065 0.164 0.072 0.169 0.081], Final Value = \$1571596.53, Sharpe Ratio = -17.17

Simulation Run = 3930
Weights = [0.21 0.03 0.054 0.041 0.231 0.211 0.207 0.015 0.001], Final Value =
\$1720485.94, Sharpe Ratio = -13.33

Simulation Run = 3931
Weights = [0.077 0.11 0.154 0.18 0.114 0.045 0.081 0.176 0.064], Final Value =
\$1528276.93, Sharpe Ratio = -20.26

Simulation Run = 3932
Weights = [0.042 0.192 0.013 0.007 0.066 0.216 0.198 0.24 0.025], Final Value =
\$1601775.42, Sharpe Ratio = -14.38

Simulation Run = 3933
Weights = [0.148 0.108 0.024 0.222 0.02 0.048 0.1 0.205 0.125], Final Value =
\$1528234.15, Sharpe Ratio = -20.35

Simulation Run = 3934
Weights = [0.075 0.197 0.163 0.043 0.019 0.183 0.002 0.178 0.139], Final Value =
\$1437639.94, Sharpe Ratio = -20.92

Simulation Run = 3935
Weights = [0.076 0.179 0.194 0.001 0.172 0.037 0.105 0.105 0.132], Final Value =
\$1403490.27, Sharpe Ratio = -21.15

Simulation Run = 3936
Weights = [0.114 0.099 0.033 0.086 0.103 0.21 0.004 0.181 0.17], Final Value =
\$1538241.87, Sharpe Ratio = -21.36

Simulation Run = 3937
Weights = [0.12 0.081 0.037 0.15 0.088 0.113 0.12 0.154 0.136], Final Value =
\$1538649.79, Sharpe Ratio = -19.00

Simulation Run = 3938
Weights = [0.091 0.166 0.06 0.036 0.154 0.169 0.037 0.192 0.095], Final Value =
\$1555789.20, Sharpe Ratio = -21.86

Simulation Run = 3939
Weights = [0.085 0.059 0.14 0.161 0.129 0.067 0.207 0.117 0.036], Final Value =
\$1573560.91, Sharpe Ratio = -14.96

Simulation Run = 3940
Weights = [0.062 0.122 0.167 0.143 0.114 0.157 0.048 0.096 0.091], Final Value =
\$1527761.38, Sharpe Ratio = -19.82

Simulation Run = 3941
Weights = [0.137 0.002 0.172 0.069 0.116 0.067 0.123 0.102 0.212], Final Value =
\$1412459.98, Sharpe Ratio = -18.47

Simulation Run = 3942
Weights = [0.151 0.201 0.131 0.116 0.028 0.115 0.049 0.042 0.166], Final Value =
\$1426445.63, Sharpe Ratio = -21.99

Simulation Run = 3943
Weights = [0.175 0.256 0.09 0.004 0.137 0.019 0.152 0.122 0.045], Final Value =
\$1501773.12, Sharpe Ratio = -19.18

Simulation Run = 3944
Weights = [0.14 0.175 0.158 0.155 0.071 0.072 0.038 0.076 0.115], Final Value =
\$1470331.80, Sharpe Ratio = -22.36

Simulation Run = 3945
Weights = [0.166 0.074 0.1 0.154 0.045 0.027 0.057 0.154 0.222], Final Value =
\$1409246.42, Sharpe Ratio = -23.09

Simulation Run = 3946
Weights = [0.052 0.078 0.14 0.082 0.094 0.062 0.066 0.201 0.226], Final Value =
\$1378364.21, Sharpe Ratio = -22.96

Simulation Run = 3947
Weights = [0.13 0.18 0.063 0.082 0.161 0.182 0.116 0.016 0.07], Final Value =
\$1587618.09, Sharpe Ratio = -18.28

Simulation Run = 3948
Weights = [0.18 0.039 0.075 0.154 0.155 0.184 0.038 0.151 0.024], Final Value =
\$1692039.04, Sharpe Ratio = -18.13

Simulation Run = 3949

Weights = [0.022 0.014 0.066 0.015 0.125 0.238 0.12 0.194 0.206], Final Value = \$1494381.98, Sharpe Ratio = -16.81

Simulation Run = 3950

Weights = [0.05 0.044 0.042 0.171 0.171 0.015 0.173 0.182 0.151], Final Value = \$1507211.31, Sharpe Ratio = -18.90

Simulation Run = 3951

Weights = [0.144 0.007 0.255 0.011 0.018 0.071 0.131 0.168 0.195], Final Value = \$1357772.06, Sharpe Ratio = -16.20

Simulation Run = 3952

Weights = [0.05 0.206 0.143 0.01 0.142 0.084 0.131 0.131 0.102], Final Value = \$1449496.85, Sharpe Ratio = -19.70

Simulation Run = 3953

Weights = [0.047 0.001 0.025 0.075 0.199 0.062 0.145 0.16 0.286], Final Value = \$1412155.49, Sharpe Ratio = -20.89

Simulation Run = 3954

Weights = [0.11 0.137 0.183 0.021 0.083 0.024 0.1 0.153 0.189], Final Value = \$1353462.19, Sharpe Ratio = -20.98

Simulation Run = 3955

Weights = [0.118 0.054 0.238 0.169 0.006 0.054 0.061 0.177 0.124], Final Value = \$1439441.58, Sharpe Ratio = -18.34

Simulation Run = 3956

Weights = [0.001 0.155 0.147 0.15 0.154 0.133 0.016 0.099 0.146], Final Value = \$1472516.31, Sharpe Ratio = -23.96

Simulation Run = 3957

Weights = [0.153 0.136 0.041 0.101 0.152 0.155 0.092 0.084 0.086], Final Value = \$1593445.59, Sharpe Ratio = -19.49

Simulation Run = 3958

Weights = [0.109 0.083 0.071 0.112 0.102 0.146 0.174 0.072 0.132], Final Value = \$1528525.73, Sharpe Ratio = -16.27

Simulation Run = 3959
Weights = [0.088 0.141 0.143 0.142 0.112 0.105 0.111 0.117 0.042], Final Value =
\$1557626.77, Sharpe Ratio = -18.38

Simulation Run = 3960
Weights = [0.037 0.126 0.194 0.193 0.051 0.153 0.087 0.143 0.016], Final Value =
\$1569389.41, Sharpe Ratio = -16.90

Simulation Run = 3961
Weights = [0.007 0.161 0.192 0.146 0.001 0.194 0.047 0.097 0.156], Final Value =
\$1426296.65, Sharpe Ratio = -18.98

Simulation Run = 3962
Weights = [0.028 0.089 0.048 0.179 0.175 0.113 0.154 0.19 0.023], Final Value =
\$1642138.40, Sharpe Ratio = -17.39

Simulation Run = 3963
Weights = [0.146 0.016 0.118 0.006 0.116 0.101 0.09 0.24 0.167], Final Value =
\$1475294.77, Sharpe Ratio = -19.16

Simulation Run = 3964
Weights = [0.117 0.147 0.123 0.057 0.006 0.202 0.054 0.233 0.062], Final Value =
\$1548591.98, Sharpe Ratio = -17.54

Simulation Run = 3965
Weights = [0.192 0.111 0.127 0.026 0.065 0.05 0.084 0.176 0.17], Final Value =
\$1423000.68, Sharpe Ratio = -20.67

Simulation Run = 3966
Weights = [0.136 0.134 0.101 0.105 0.14 0.117 0.027 0.121 0.119], Final Value =
\$1525182.05, Sharpe Ratio = -22.95

Simulation Run = 3967
Weights = [0.031 0.035 0.036 0.098 0.042 0.225 0.213 0.097 0.223], Final Value =
\$1472828.00, Sharpe Ratio = -14.24

Simulation Run = 3968
Weights = [0.113 0.071 0.059 0.028 0.152 0.147 0.151 0.141 0.139], Final Value =

\$1528956.49, Sharpe Ratio = -17.28

Simulation Run = 3969

Weights = [0.019 0.087 0.184 0.011 0.178 0.179 0.155 0.044 0.142], Final Value = \$1466085.64, Sharpe Ratio = -16.45

Simulation Run = 3970

Weights = [0.165 0.061 0.158 0.028 0.069 0.047 0.174 0.143 0.155], Final Value = \$1426324.50, Sharpe Ratio = -16.38

Simulation Run = 3971

Weights = [0.191 0.082 0.11 0.101 0.037 0.031 0.121 0.148 0.178], Final Value = \$1430817.29, Sharpe Ratio = -19.18

Simulation Run = 3972

Weights = [0.111 0.045 0.019 0.145 0.143 0.043 0.238 0.094 0.163], Final Value = \$1508974.11, Sharpe Ratio = -15.69

Simulation Run = 3973

Weights = [0.072 0.084 0.14 0.067 0.17 0.008 0.042 0.201 0.216], Final Value = \$1385931.78, Sharpe Ratio = -25.94

Simulation Run = 3974

Weights = [0.208 0.034 0.102 0.072 0.112 0.179 0.197 0.049 0.047], Final Value = \$1625528.10, Sharpe Ratio = -13.63

Simulation Run = 3975

Weights = [0.121 0.185 0.088 0.144 0.103 0.041 0.167 0.037 0.114], Final Value = \$1479148.68, Sharpe Ratio = -18.66

Simulation Run = 3976

Weights = [0.171 0.142 0.142 0.037 0.169 0.153 0.093 0.08 0.013], Final Value = \$1607176.65, Sharpe Ratio = -17.72

Simulation Run = 3977

Weights = [0.159 0.026 0.059 0.096 0.132 0.122 0.179 0.039 0.188], Final Value = \$1502848.33, Sharpe Ratio = -16.51

Simulation Run = 3978
Weights = [0.152 0.157 0.027 0.133 0.155 0.117 0.153 0.09 0.016], Final Value =
\$1644370.14, Sharpe Ratio = -17.34

Simulation Run = 3979
Weights = [0.153 0.156 0.126 0.073 0.151 0.122 0.136 0.036 0.047], Final Value =
\$1564505.06, Sharpe Ratio = -17.52

Simulation Run = 3980
Weights = [0.028 0.177 0.087 0.18 0.015 0.136 0.04 0.199 0.139], Final Value =
\$1475610.37, Sharpe Ratio = -22.13

Simulation Run = 3981
Weights = [0.272 0.026 0.083 0.136 0.045 0.004 0.222 0.072 0.14], Final Value =
\$1495316.22, Sharpe Ratio = -14.78

Simulation Run = 3982
Weights = [0.218 0.161 0.031 0.013 0.209 0.2 0. 0.004 0.163], Final Value =
\$1549573.94, Sharpe Ratio = -22.33

Simulation Run = 3983
Weights = [0.03 0.116 0.005 0.108 0.245 0.095 0.241 0.084 0.076], Final Value =
\$1594521.63, Sharpe Ratio = -15.63

Simulation Run = 3984
Weights = [0.162 0.087 0.106 0.162 0.152 0.03 0.031 0.119 0.15], Final Value =
\$1496643.62, Sharpe Ratio = -24.43

Simulation Run = 3985
Weights = [0.085 0.001 0.119 0.248 0.105 0.204 0.002 0.093 0.142], Final Value =
\$1580969.77, Sharpe Ratio = -19.29

Simulation Run = 3986
Weights = [0.153 0.185 0.075 0.152 0.093 0.111 0.197 0.009 0.026], Final Value =
\$1590231.74, Sharpe Ratio = -15.58

Simulation Run = 3987
Weights = [0.157 0.16 0.132 0.031 0.108 0.126 0.092 0.143 0.051], Final Value =
\$1545199.89, Sharpe Ratio = -18.57

Simulation Run = 3988
Weights = [0.038 0.324 0.087 0.089 0.023 0.037 0.378 0.002 0.023], Final Value =
\$1460753.85, Sharpe Ratio = -11.59

Simulation Run = 3989
Weights = [0.056 0.064 0.133 0.196 0.036 0.066 0.152 0.181 0.116], Final Value =
\$1488667.84, Sharpe Ratio = -17.07

Simulation Run = 3990
Weights = [0.042 0.069 0.114 0.073 0.144 0.188 0.022 0.205 0.145], Final Value =
\$1521230.09, Sharpe Ratio = -20.96

Simulation Run = 3991
Weights = [0.153 0.016 0.097 0.167 0.056 0.179 0.065 0.161 0.107], Final Value =
\$1586943.80, Sharpe Ratio = -17.49

Simulation Run = 3992
Weights = [0.108 0.184 0.02 0.018 0.06 0.122 0.191 0.206 0.091], Final Value =
\$1519886.81, Sharpe Ratio = -16.15

Simulation Run = 3993
Weights = [0.052 0.129 0.022 0.205 0.15 0.177 0.147 0.102 0.017], Final Value =
\$1672646.86, Sharpe Ratio = -16.80

Simulation Run = 3994
Weights = [0.103 0.057 0.009 0.212 0.15 0.08 0.164 0.053 0.173], Final Value =
\$1533301.41, Sharpe Ratio = -18.67

Simulation Run = 3995
Weights = [0.029 0.12 0.168 0.223 0.084 0.006 0.139 0.124 0.105], Final Value =
\$1458395.85, Sharpe Ratio = -18.68

Simulation Run = 3996
Weights = [0.122 0.057 0.013 0.119 0.153 0.105 0.143 0.145 0.144], Final Value =
\$1553172.45, Sharpe Ratio = -18.62

Simulation Run = 3997

Weights = [0.2 0.144 0.14 0.053 0.036 0.044 0.178 0.075 0.13], Final Value = \$1433295.89, Sharpe Ratio = -16.54

Simulation Run = 3998

Weights = [0.083 0.109 0.08 0.098 0.202 0.208 0.08 0.023 0.118], Final Value = \$1574894.87, Sharpe Ratio = -19.34

Simulation Run = 3999

Weights = [0.031 0.139 0.152 0.016 0.161 0.162 0.141 0.172 0.026], Final Value = \$1562606.80, Sharpe Ratio = -16.61

Simulation Run = 4000

Weights = [0.101 0.036 0.001 0.11 0.158 0.132 0.168 0.112 0.183], Final Value = \$1533540.75, Sharpe Ratio = -17.52

Simulation Run = 4001

Weights = [0.061 0.188 0.042 0.018 0.156 0.214 0.02 0.068 0.231], Final Value = \$1443541.31, Sharpe Ratio = -23.44

Simulation Run = 4002

Weights = [0.098 0.159 0.163 0.186 0.057 0.01 0.151 0.051 0.124], Final Value = \$1430120.89, Sharpe Ratio = -18.47

Simulation Run = 4003

Weights = [0.071 0.078 0.135 0.125 0.041 0.11 0.11 0.01 0.32], Final Value = \$1309042.68, Sharpe Ratio = -20.40

Simulation Run = 4004

Weights = [0.154 0.019 0.128 0.185 0.179 0.015 0.061 0.171 0.089], Final Value = \$1562938.18, Sharpe Ratio = -21.03

Simulation Run = 4005

Weights = [0.165 0.105 0.126 0.063 0.166 0.066 0.105 0.105 0.098], Final Value = \$1519495.14, Sharpe Ratio = -19.80

Simulation Run = 4006

Weights = [0.062 0.222 0.207 0.017 0.029 0.081 0.023 0.127 0.232], Final Value = \$1285820.02, Sharpe Ratio = -24.12

Simulation Run = 4007
Weights = [0.011 0.164 0.082 0.155 0.126 0.033 0.161 0.128 0.139], Final Value =
\$1453904.30, Sharpe Ratio = -19.82

Simulation Run = 4008
Weights = [0.036 0.115 0.184 0.114 0.032 0.172 0.144 0.056 0.147], Final Value =
\$1440825.21, Sharpe Ratio = -16.23

Simulation Run = 4009
Weights = [0.055 0.172 0.178 0.129 0.052 0.124 0.044 0.24 0.007], Final Value =
\$1554917.36, Sharpe Ratio = -19.13

Simulation Run = 4010
Weights = [0.074 0.175 0.063 0.093 0.078 0.174 0.026 0.142 0.175], Final Value =
\$1473264.38, Sharpe Ratio = -22.95

Simulation Run = 4011
Weights = [0.114 0.062 0.153 0.189 0.174 0.102 0.021 0.01 0.175], Final Value =
\$1489497.90, Sharpe Ratio = -23.00

Simulation Run = 4012
Weights = [0.144 0.059 0.126 0.224 0.056 0.204 0.023 0.115 0.049], Final Value =
\$1635281.81, Sharpe Ratio = -17.55

Simulation Run = 4013
Weights = [0.113 0.183 0.067 0.113 0.079 0.043 0.214 0.145 0.042], Final Value =
\$1537678.38, Sharpe Ratio = -15.95

Simulation Run = 4014
Weights = [0.063 0.192 0.073 0.099 0.114 0.145 0.008 0.135 0.171], Final Value =
\$1466791.22, Sharpe Ratio = -25.34

Simulation Run = 4015
Weights = [0.004 0.21 0.083 0.111 0.161 0.037 0.125 0.195 0.074], Final Value =
\$1501461.70, Sharpe Ratio = -21.64

Simulation Run = 4016
Weights = [0.071 0.117 0.057 0.039 0.061 0.043 0.133 0.352 0.127], Final Value =

\$1466806.68, Sharpe Ratio = -19.57

Simulation Run = 4017

Weights = [0.037 0.17 0.027 0.14 0.141 0.222 0.217 0.019 0.027], Final Value = \$1643329.74, Sharpe Ratio = -14.27

Simulation Run = 4018

Weights = [0.169 0.071 0.174 0.18 0.127 0.139 0.091 0.014 0.036], Final Value = \$1606987.92, Sharpe Ratio = -17.07

Simulation Run = 4019

Weights = [0.046 0.163 0.103 0.13 0.135 0.084 0.086 0.088 0.164], Final Value = \$1448666.91, Sharpe Ratio = -22.98

Simulation Run = 4020

Weights = [0.11 0.154 0.083 0.127 0.153 0.158 0.175 0.005 0.035], Final Value = \$1609344.63, Sharpe Ratio = -16.03

Simulation Run = 4021

Weights = [0.101 0.045 0.203 0.041 0.077 0.163 0.063 0.248 0.059], Final Value = \$1541829.02, Sharpe Ratio = -16.97

Simulation Run = 4022

Weights = [0.082 0.149 0.209 0.103 0.091 0. 0.13 0.107 0.128], Final Value = \$1396962.21, Sharpe Ratio = -19.15

Simulation Run = 4023

Weights = [0.145 0.171 0.142 0.041 0.119 0.1 0.036 0.104 0.142], Final Value = \$1452971.45, Sharpe Ratio = -23.01

Simulation Run = 4024

Weights = [0.047 0.172 0.009 0.132 0.065 0.08 0.129 0.216 0.15], Final Value = \$1480001.24, Sharpe Ratio = -20.77

Simulation Run = 4025

Weights = [0.124 0.064 0.161 0.14 0.08 0.14 0.124 0.095 0.071], Final Value = \$1554773.54, Sharpe Ratio = -16.40

Simulation Run = 4026
Weights = [0.077 0.092 0.1 0.032 0.147 0.166 0.175 0.157 0.054], Final Value =
\$1580220.30, Sharpe Ratio = -15.48

Simulation Run = 4027
Weights = [0.178 0.144 0.146 0.157 0.128 0.03 0.153 0.044 0.021], Final Value =
\$1564358.58, Sharpe Ratio = -17.27

Simulation Run = 4028
Weights = [0.102 0.177 0.062 0.153 0.101 0.161 0.058 0.004 0.183], Final Value =
\$1480079.75, Sharpe Ratio = -22.48

Simulation Run = 4029
Weights = [0.112 0.051 0. 0.254 0.052 0.184 0.006 0.11 0.231], Final Value =
\$1523695.49, Sharpe Ratio = -22.14

Simulation Run = 4030
Weights = [0.04 0.157 0.131 0.201 0.027 0.163 0.013 0.13 0.138], Final Value =
\$1483674.56, Sharpe Ratio = -21.44

Simulation Run = 4031
Weights = [0.105 0.124 0.176 0.136 0.133 0.166 0.028 0.129 0.004], Final Value =
\$1616713.48, Sharpe Ratio = -18.71

Simulation Run = 4032
Weights = [0.058 0.051 0.11 0.181 0.117 0.005 0.204 0.109 0.166], Final Value =
\$1447847.69, Sharpe Ratio = -16.94

Simulation Run = 4033
Weights = [0.106 0. 0.114 0.182 0.172 0.094 0.104 0.154 0.074], Final Value =
\$1602435.69, Sharpe Ratio = -18.29

Simulation Run = 4034
Weights = [0.183 0.053 0.115 0.203 0.001 0.053 0.066 0.141 0.185], Final Value =
\$1452924.26, Sharpe Ratio = -20.35

Simulation Run = 4035
Weights = [0.145 0.144 0.044 0.18 0.112 0.117 0.118 0.006 0.134], Final Value =
\$1536207.01, Sharpe Ratio = -19.77

Simulation Run = 4036
Weights = [0.103 0.022 0.159 0.083 0.156 0.069 0.173 0.106 0.129], Final Value =
\$1489755.87, Sharpe Ratio = -16.54

Simulation Run = 4037
Weights = [0.094 0.146 0.182 0.205 0.038 0.03 0.114 0.156 0.035], Final Value =
\$1513925.80, Sharpe Ratio = -18.01

Simulation Run = 4038
Weights = [0.026 0.174 0.06 0.015 0.151 0.063 0.154 0.179 0.178], Final Value =
\$1416437.98, Sharpe Ratio = -20.42

Simulation Run = 4039
Weights = [0.067 0.097 0.072 0.128 0.143 0.124 0.118 0.135 0.116], Final Value =
\$1541200.38, Sharpe Ratio = -19.30

Simulation Run = 4040
Weights = [0.288 0.134 0.276 0.06 0.017 0.054 0.024 0.103 0.045], Final Value =
\$1480949.89, Sharpe Ratio = -17.82

Simulation Run = 4041
Weights = [0.121 0.049 0.156 0.058 0.028 0.143 0.119 0.14 0.186], Final Value =
\$1431021.84, Sharpe Ratio = -17.08

Simulation Run = 4042
Weights = [0.201 0.16 0.086 0.053 0.151 0.051 0.153 0.122 0.024], Final Value =
\$1578980.81, Sharpe Ratio = -17.64

Simulation Run = 4043
Weights = [0.049 0.192 0.203 0.119 0.229 0.028 0.09 0.036 0.056], Final Value =
\$1494420.96, Sharpe Ratio = -21.35

Simulation Run = 4044
Weights = [0.066 0.044 0.116 0.097 0.163 0.199 0.123 0.003 0.189], Final Value =
\$1496445.14, Sharpe Ratio = -17.67

Simulation Run = 4045

Weights = [0.031 0.026 0.153 0.104 0.038 0.251 0.225 0.099 0.073], Final Value = \$1567207.25, Sharpe Ratio = -12.32

Simulation Run = 4046

Weights = [0.033 0.194 0.169 0.174 0.174 0.062 0.018 0.145 0.031], Final Value = \$1543913.60, Sharpe Ratio = -23.29

Simulation Run = 4047

Weights = [0.234 0.014 0.182 0.019 0.031 0.092 0.239 0.14 0.051], Final Value = \$1534257.42, Sharpe Ratio = -12.51

Simulation Run = 4048

Weights = [0.079 0.142 0.055 0.079 0.192 0.053 0.222 0.086 0.091], Final Value = \$1528063.31, Sharpe Ratio = -16.47

Simulation Run = 4049

Weights = [0.177 0.183 0.126 0.034 0.123 0.061 0.132 0.155 0.009], Final Value = \$1559604.67, Sharpe Ratio = -17.96

Simulation Run = 4050

Weights = [0.13 0.103 0.106 0.008 0.002 0.175 0.153 0.143 0.179], Final Value = \$1436982.44, Sharpe Ratio = -15.84

Simulation Run = 4051

Weights = [0.076 0.191 0.069 0.064 0.204 0.176 0.114 0.052 0.054], Final Value = \$1592312.41, Sharpe Ratio = -18.93

Simulation Run = 4052

Weights = [0.065 0.098 0.002 0.008 0.308 0.084 0.212 0.007 0.215], Final Value = \$1473872.63, Sharpe Ratio = -17.77

Simulation Run = 4053

Weights = [0.194 0.06 0.071 0.351 0.03 0.047 0.208 0.013 0.027], Final Value = \$1636146.07, Sharpe Ratio = -14.41

Simulation Run = 4054

Weights = [0.161 0.058 0.182 0.18 0.075 0.047 0.021 0.138 0.138], Final Value = \$1474540.04, Sharpe Ratio = -21.34

Simulation Run = 4055
Weights = [0.089 0.085 0.04 0.178 0.181 0.057 0.165 0.184 0.022], Final Value =
\$1637796.41, Sharpe Ratio = -17.54

Simulation Run = 4056
Weights = [0.181 0.178 0.083 0.146 0.045 0.012 0.138 0.151 0.067], Final Value =
\$1514387.50, Sharpe Ratio = -18.85

Simulation Run = 4057
Weights = [0.123 0.078 0.212 0.066 0.165 0.185 0.117 0.035 0.019], Final Value =
\$1596014.71, Sharpe Ratio = -15.65

Simulation Run = 4058
Weights = [0.187 0.159 0.016 0.001 0.162 0.019 0.192 0.161 0.103], Final Value =
\$1513728.52, Sharpe Ratio = -17.62

Simulation Run = 4059
Weights = [0.005 0.195 0.096 0.066 0.054 0.228 0.084 0.086 0.185], Final Value =
\$1437405.27, Sharpe Ratio = -19.17

Simulation Run = 4060
Weights = [0.134 0.145 0.147 0.131 0.063 0.074 0.132 0.019 0.154], Final Value =
\$1434033.64, Sharpe Ratio = -18.80

Simulation Run = 4061
Weights = [0.084 0.165 0.017 0.09 0.098 0.185 0.202 0.119 0.041], Final Value =
\$1612375.76, Sharpe Ratio = -14.89

Simulation Run = 4062
Weights = [0.152 0.174 0.045 0.124 0.191 0.021 0.136 0.089 0.068], Final Value =
\$1558637.01, Sharpe Ratio = -20.62

Simulation Run = 4063
Weights = [0.21 0.058 0.136 0.056 0.058 0.092 0.024 0.211 0.156], Final Value =
\$1474034.96, Sharpe Ratio = -20.84

Simulation Run = 4064
Weights = [0.202 0.088 0.034 0.158 0.104 0.192 0.169 0.021 0.033], Final Value =

\$1672485.95, Sharpe Ratio = -14.78

Simulation Run = 4065

Weights = [0.19 0.225 0.277 0.015 0.05 0.182 0.026 0.013 0.021], Final Value = \$1503455.00, Sharpe Ratio = -17.30

Simulation Run = 4066

Weights = [0.155 0.159 0.062 0.039 0.096 0.134 0.033 0.164 0.158], Final Value = \$1484900.78, Sharpe Ratio = -22.83

Simulation Run = 4067

Weights = [0.013 0.101 0.21 0.141 0.008 0.165 0.098 0.14 0.124], Final Value = \$1452523.77, Sharpe Ratio = -16.95

Simulation Run = 4068

Weights = [0.015 0.055 0.178 0.041 0.117 0.174 0.1 0.143 0.177], Final Value = \$1440768.70, Sharpe Ratio = -18.12

Simulation Run = 4069

Weights = [0.156 0.178 0.022 0.083 0.084 0.07 0.233 0.048 0.128], Final Value = \$1491285.13, Sharpe Ratio = -15.64

Simulation Run = 4070

Weights = [0.083 0.023 0.1 0.083 0.175 0.044 0.16 0.169 0.162], Final Value = \$1479563.59, Sharpe Ratio = -18.39

Simulation Run = 4071

Weights = [0.191 0.044 0.074 0.188 0.054 0.086 0.203 0.144 0.016], Final Value = \$1636387.70, Sharpe Ratio = -14.20

Simulation Run = 4072

Weights = [0.072 0.076 0.21 0.09 0.11 0.192 0.041 0.141 0.068], Final Value = \$1546219.57, Sharpe Ratio = -17.78

Simulation Run = 4073

Weights = [0.082 0.085 0.007 0.054 0.111 0.117 0.167 0.191 0.186], Final Value = \$1484056.36, Sharpe Ratio = -17.87

Simulation Run = 4074
Weights = [0.085 0.097 0.113 0.154 0.04 0.137 0.077 0.153 0.143], Final Value =
\$1491707.46, Sharpe Ratio = -19.45

Simulation Run = 4075
Weights = [0.182 0.181 0.154 0.152 0.159 0.075 0.04 0.038 0.02], Final Value =
\$1581827.13, Sharpe Ratio = -21.33

Simulation Run = 4076
Weights = [0.021 0.125 0.013 0.01 0.202 0.131 0.103 0.157 0.239], Final Value =
\$1434759.22, Sharpe Ratio = -22.64

Simulation Run = 4077
Weights = [0.172 0.08 0.03 0.239 0.054 0.046 0.186 0.089 0.104], Final Value =
\$1559807.48, Sharpe Ratio = -16.51

Simulation Run = 4078
Weights = [0.154 0.101 0.133 0.124 0.058 0.132 0.018 0.14 0.141], Final Value =
\$1495050.69, Sharpe Ratio = -21.12

Simulation Run = 4079
Weights = [0.01 0.032 0.217 0.007 0.204 0.097 0.087 0.191 0.155], Final Value =
\$1436608.55, Sharpe Ratio = -19.63

Simulation Run = 4080
Weights = [0.148 0.018 0.185 0.018 0.095 0.069 0.11 0.067 0.289], Final Value =
\$1320251.93, Sharpe Ratio = -19.43

Simulation Run = 4081
Weights = [0.047 0.138 0.201 0.192 0.101 0.011 0.171 0.003 0.137], Final Value =
\$1410693.15, Sharpe Ratio = -17.62

Simulation Run = 4082
Weights = [0.114 0.218 0.036 0.077 0.027 0.176 0.15 0.13 0.072], Final Value =
\$1547006.92, Sharpe Ratio = -16.64

Simulation Run = 4083
Weights = [0.191 0.068 0.185 0.061 0.096 0.129 0.235 0.002 0.032], Final Value =
\$1564177.77, Sharpe Ratio = -12.94

Simulation Run = 4084
Weights = [0.186 0.002 0.019 0.16 0.153 0.076 0.097 0.143 0.163], Final Value =
\$1561469.84, Sharpe Ratio = -20.28

Simulation Run = 4085
Weights = [0.128 0.069 0.05 0.113 0.19 0.086 0.137 0.137 0.091], Final Value =
\$1584237.21, Sharpe Ratio = -18.76

Simulation Run = 4086
Weights = [0.159 0.06 0.069 0.068 0.183 0.106 0.019 0.162 0.174], Final Value =
\$1514860.85, Sharpe Ratio = -23.86

Simulation Run = 4087
Weights = [0.208 0.231 0.082 0.088 0.166 0.144 0.001 0.052 0.027], Final Value =
\$1612568.16, Sharpe Ratio = -22.53

Simulation Run = 4088
Weights = [0.145 0.152 0.139 0.067 0.086 0.096 0.168 0.078 0.071], Final Value =
\$1509918.97, Sharpe Ratio = -16.46

Simulation Run = 4089
Weights = [0.213 0.015 0.232 0.014 0.134 0.055 0.17 0.08 0.087], Final Value =
\$1491946.83, Sharpe Ratio = -15.08

Simulation Run = 4090
Weights = [0.116 0.066 0.018 0.298 0.239 0.013 0.091 0.156 0.003], Final Value =
\$1701340.39, Sharpe Ratio = -20.71

Simulation Run = 4091
Weights = [0.122 0.008 0.105 0.16 0.057 0.213 0.01 0.172 0.154], Final Value =
\$1553550.52, Sharpe Ratio = -18.70

Simulation Run = 4092
Weights = [0.162 0.17 0.134 0.09 0.052 0.022 0.168 0.145 0.057], Final Value =
\$1492225.57, Sharpe Ratio = -17.01

Simulation Run = 4093

Weights = [0.081 0.13 0.086 0.019 0.14 0.136 0.145 0.106 0.157], Final Value = \$1470929.36, Sharpe Ratio = -18.36

Simulation Run = 4094

Weights = [0.108 0.125 0.049 0.151 0.055 0.006 0.162 0.134 0.211], Final Value = \$1403460.19, Sharpe Ratio = -19.77

Simulation Run = 4095

Weights = [0.124 0.154 0.177 0.115 0.004 0.125 0.134 0.016 0.151], Final Value = \$1421453.09, Sharpe Ratio = -17.16

Simulation Run = 4096

Weights = [0.081 0.104 0.072 0.063 0.089 0.203 0.08 0.133 0.175], Final Value = \$1492989.80, Sharpe Ratio = -19.09

Simulation Run = 4097

Weights = [0.203 0.062 0.033 0.03 0.144 0.187 0.106 0.083 0.152], Final Value = \$1560953.75, Sharpe Ratio = -17.69

Simulation Run = 4098

Weights = [0.023 0.151 0.147 0.092 0.059 0.102 0.165 0.078 0.184], Final Value = \$1387513.73, Sharpe Ratio = -17.77

Simulation Run = 4099

Weights = [0.182 0.032 0.169 0.017 0.146 0.096 0.125 0.143 0.088], Final Value = \$1529494.56, Sharpe Ratio = -16.88

Simulation Run = 4100

Weights = [0.028 0.205 0.186 0.14 0.082 0.016 0.149 0.041 0.155], Final Value = \$1367577.54, Sharpe Ratio = -19.49

Simulation Run = 4101

Weights = [0.056 0.013 0.051 0.122 0.007 0.197 0.231 0.054 0.267], Final Value = \$1421419.67, Sharpe Ratio = -13.95

Simulation Run = 4102

Weights = [0.119 0.055 0.119 0.107 0.112 0.071 0.083 0.126 0.209], Final Value = \$1430285.84, Sharpe Ratio = -21.54

Simulation Run = 4103
Weights = [0.043 0.2 0.137 0.146 0.196 0.069 0.199 0.002 0.008], Final Value =
\$1565447.40, Sharpe Ratio = -16.51

Simulation Run = 4104
Weights = [0.157 0.204 0.218 0.023 0.155 0.002 0.119 0.069 0.053], Final Value =
\$1455790.27, Sharpe Ratio = -19.21

Simulation Run = 4105
Weights = [0.114 0.135 0.076 0.081 0.116 0.149 0.153 0.089 0.086], Final Value =
\$1553325.94, Sharpe Ratio = -16.98

Simulation Run = 4106
Weights = [0.104 0.096 0.069 0.165 0.148 0.097 0.086 0.178 0.057], Final Value =
\$1602662.04, Sharpe Ratio = -20.17

Simulation Run = 4107
Weights = [0.137 0.285 0.073 0.108 0.108 0.067 0.064 0.068 0.09], Final Value =
\$1491288.68, Sharpe Ratio = -24.46

Simulation Run = 4108
Weights = [0.115 0.13 0.048 0.146 0.144 0.141 0.082 0.11 0.084], Final Value =
\$1589751.50, Sharpe Ratio = -20.31

Simulation Run = 4109
Weights = [0.121 0.207 0.13 0.125 0.084 0.067 0.034 0.178 0.054], Final Value =
\$1520375.49, Sharpe Ratio = -22.77

Simulation Run = 4110
Weights = [0.062 0.11 0.13 0.088 0.046 0.182 0.172 0.029 0.181], Final Value =
\$1438879.96, Sharpe Ratio = -15.85

Simulation Run = 4111
Weights = [0.17 0.162 0.139 0.146 0.024 0.134 0.04 0.132 0.054], Final Value =
\$1550323.52, Sharpe Ratio = -19.30

Simulation Run = 4112
Weights = [0.017 0.273 0.047 0.02 0.098 0.059 0.278 0.157 0.051], Final Value =

\$1483733.07, Sharpe Ratio = -14.51

Simulation Run = 4113

Weights = [0. 0.005 0.026 0.198 0.106 0.18 0.169 0.223 0.092], Final Value = \$1620351.09, Sharpe Ratio = -15.55

Simulation Run = 4114

Weights = [0.127 0.024 0.135 0.226 0.071 0.011 0.093 0.219 0.095], Final Value = \$1528397.07, Sharpe Ratio = -19.06

Simulation Run = 4115

Weights = [0.096 0.118 0.185 0.09 0.072 0.086 0.001 0.172 0.179], Final Value = \$1406563.62, Sharpe Ratio = -23.32

Simulation Run = 4116

Weights = [0.001 0.114 0.132 0.065 0.035 0.117 0.265 0.185 0.085], Final Value = \$1476480.83, Sharpe Ratio = -13.25

Simulation Run = 4117

Weights = [0.119 0.097 0.056 0.155 0.1 0.128 0.097 0.156 0.09], Final Value = \$1577803.41, Sharpe Ratio = -19.15

Simulation Run = 4118

Weights = [0.154 0.094 0.201 0.053 0.023 0.177 0.058 0.106 0.135], Final Value = \$1463641.48, Sharpe Ratio = -17.55

Simulation Run = 4119

Weights = [0.068 0.141 0.099 0.101 0.026 0.09 0.102 0.24 0.134], Final Value = \$1458192.16, Sharpe Ratio = -19.89

Simulation Run = 4120

Weights = [0.115 0.04 0.049 0.194 0.15 0.113 0.096 0.12 0.122], Final Value = \$1582783.46, Sharpe Ratio = -19.79

Simulation Run = 4121

Weights = [0.189 0.027 0.062 0.135 0.16 0.11 0.2 0.039 0.078], Final Value = \$1612557.10, Sharpe Ratio = -15.08

Simulation Run = 4122
Weights = [0.057 0.128 0.08 0.148 0.125 0.057 0.196 0.077 0.132], Final Value =
\$1482870.98, Sharpe Ratio = -17.38

Simulation Run = 4123
Weights = [0.101 0.067 0.107 0.069 0.137 0.151 0.177 0.157 0.033], Final Value =
\$1606103.10, Sharpe Ratio = -15.09

Simulation Run = 4124
Weights = [0.045 0.229 0.11 0.141 0.212 0.117 0.054 0.069 0.023], Final Value =
\$1586732.20, Sharpe Ratio = -22.71

Simulation Run = 4125
Weights = [0.187 0.052 0.126 0.132 0.161 0.025 0.026 0.072 0.22], Final Value =
\$1433268.91, Sharpe Ratio = -24.94

Simulation Run = 4126
Weights = [0.113 0.145 0.174 0.146 0.069 0.179 0.052 0.067 0.054], Final Value =
\$1557170.15, Sharpe Ratio = -18.21

Simulation Run = 4127
Weights = [0.221 0.08 0.036 0.11 0.213 0.047 0.051 0.201 0.041], Final Value =
\$1643961.14, Sharpe Ratio = -21.85

Simulation Run = 4128
Weights = [0.052 0.291 0.045 0.148 0.051 0.048 0.014 0.175 0.176], Final Value =
\$1403732.81, Sharpe Ratio = -30.11

Simulation Run = 4129
Weights = [0.083 0.202 0.187 0.021 0.027 0.144 0.211 0.087 0.038], Final Value =
\$1484965.11, Sharpe Ratio = -14.08

Simulation Run = 4130
Weights = [0.054 0.004 0.277 0.222 0.091 0.142 0.181 0.016 0.014], Final Value =
\$1577216.52, Sharpe Ratio = -13.26

Simulation Run = 4131
Weights = [0.199 0.214 0.109 0.024 0.121 0.104 0.082 0.135 0.013], Final Value =
\$1574262.07, Sharpe Ratio = -19.50

Simulation Run = 4132
Weights = [0.087 0.041 0.131 0.126 0.102 0.008 0.186 0.165 0.154], Final Value =
\$1444487.18, Sharpe Ratio = -17.05

Simulation Run = 4133
Weights = [0.067 0.096 0.188 0.118 0.068 0.067 0.158 0.17 0.068], Final Value =
\$1491877.21, Sharpe Ratio = -16.37

Simulation Run = 4134
Weights = [0.12 0.137 0.202 0.189 0.028 0.108 0.073 0.056 0.087], Final Value =
\$1491067.91, Sharpe Ratio = -18.45

Simulation Run = 4135
Weights = [0.171 0.069 0.106 0.113 0.072 0.09 0.099 0.137 0.142], Final Value =
\$1497351.95, Sharpe Ratio = -19.10

Simulation Run = 4136
Weights = [0.097 0.056 0.118 0.119 0.13 0.151 0.108 0.083 0.139], Final Value =
\$1522286.20, Sharpe Ratio = -18.35

Simulation Run = 4137
Weights = [0.182 0.126 0.169 0.135 0.053 0.092 0.104 0.009 0.13], Final Value =
\$1466278.75, Sharpe Ratio = -18.53

Simulation Run = 4138
Weights = [0.032 0.245 0.08 0.044 0.07 0.072 0.182 0.034 0.242], Final Value =
\$1318833.63, Sharpe Ratio = -19.18

Simulation Run = 4139
Weights = [0.143 0.027 0.135 0.072 0.153 0.124 0.105 0.117 0.123], Final Value =
\$1531948.74, Sharpe Ratio = -18.13

Simulation Run = 4140
Weights = [0.128 0.12 0.133 0.077 0.135 0.154 0.053 0.147 0.053], Final Value =
\$1577671.32, Sharpe Ratio = -19.38

Simulation Run = 4141

Weights = [0.166 0.078 0.051 0.092 0.094 0.032 0.169 0.165 0.155], Final Value = \$1481582.00, Sharpe Ratio = -17.97

Simulation Run = 4142

Weights = [0.148 0.207 0.224 0.109 0.08 0.033 0.158 0.032 0.009], Final Value = \$1498341.20, Sharpe Ratio = -16.49

Simulation Run = 4143

Weights = [0.217 0.091 0.013 0.151 0.071 0.016 0.097 0.229 0.115], Final Value = \$1544612.48, Sharpe Ratio = -20.74

Simulation Run = 4144

Weights = [0.125 0.037 0.034 0.158 0.154 0.08 0.158 0.064 0.191], Final Value = \$1506904.69, Sharpe Ratio = -18.63

Simulation Run = 4145

Weights = [0.368 0.067 0.099 0.001 0.164 0.182 0.005 0.091 0.024], Final Value = \$1676853.12, Sharpe Ratio = -17.45

Simulation Run = 4146

Weights = [0.164 0.183 0.017 0.023 0.225 0.057 0.081 0.199 0.05], Final Value = \$1591613.37, Sharpe Ratio = -22.65

Simulation Run = 4147

Weights = [0.183 0.07 0.057 0.167 0.054 0.188 0.201 0.074 0.006], Final Value = \$1675978.82, Sharpe Ratio = -13.39

Simulation Run = 4148

Weights = [0.172 0.037 0.063 0.136 0.146 0.102 0.145 0.105 0.093], Final Value = \$1591645.01, Sharpe Ratio = -17.23

Simulation Run = 4149

Weights = [0.09 0.059 0.197 0.024 0.154 0.173 0.193 0.042 0.067], Final Value = \$1538525.44, Sharpe Ratio = -14.21

Simulation Run = 4150

Weights = [0.175 0.023 0.084 0.085 0.105 0.181 0.101 0.122 0.123], Final Value = \$1572878.41, Sharpe Ratio = -17.01

Simulation Run = 4151
Weights = [0.149 0.047 0.166 0.104 0.021 0.116 0.116 0.141 0.14], Final Value =
\$1471074.56, Sharpe Ratio = -16.88

Simulation Run = 4152
Weights = [0.011 0.14 0.137 0.116 0.089 0.134 0.106 0.136 0.131], Final Value =
\$1468041.30, Sharpe Ratio = -19.35

Simulation Run = 4153
Weights = [0.081 0.158 0.02 0.214 0.118 0.092 0.13 0.07 0.117], Final Value =
\$1545916.33, Sharpe Ratio = -20.25

Simulation Run = 4154
Weights = [0.083 0.091 0.102 0.14 0.232 0.019 0.087 0.131 0.115], Final Value =
\$1522050.92, Sharpe Ratio = -22.89

Simulation Run = 4155
Weights = [0.111 0.071 0.136 0.152 0.063 0.114 0.07 0.109 0.174], Final Value =
\$1462303.71, Sharpe Ratio = -20.20

Simulation Run = 4156
Weights = [0.166 0.024 0.007 0.135 0.174 0.071 0.1 0.173 0.15], Final Value =
\$1566668.25, Sharpe Ratio = -20.76

Simulation Run = 4157
Weights = [0.146 0.106 0.065 0.136 0.088 0.181 0.05 0.119 0.11], Final Value =
\$1573441.47, Sharpe Ratio = -19.61

Simulation Run = 4158
Weights = [0.101 0.043 0.033 0.231 0.249 0.232 0.075 0.013 0.022], Final Value =
\$1749632.97, Sharpe Ratio = -17.50

Simulation Run = 4159
Weights = [0.038 0.136 0.193 0.232 0.009 0.077 0.198 0.105 0.012], Final Value =
\$1533301.54, Sharpe Ratio = -14.44

Simulation Run = 4160
Weights = [0.216 0.177 0.163 0.021 0.125 0.022 0.126 0.048 0.101], Final Value =

\$1452299.21, Sharpe Ratio = -19.18

Simulation Run = 4161

Weights = [0.077 0.002 0.122 0.142 0.162 0.132 0.139 0.133 0.092], Final Value = \$1578741.47, Sharpe Ratio = -16.78

Simulation Run = 4162

Weights = [0.196 0.14 0.078 0.008 0.074 0.093 0.031 0.154 0.226], Final Value = \$1404113.15, Sharpe Ratio = -23.85

Simulation Run = 4163

Weights = [0.171 0.172 0.037 0.152 0.038 0.168 0.125 0.085 0.053], Final Value = \$1602618.38, Sharpe Ratio = -16.98

Simulation Run = 4164

Weights = [0.232 0.097 0.056 0.175 0.205 0.105 0.018 0.075 0.037], Final Value = \$1669303.23, Sharpe Ratio = -21.64

Simulation Run = 4165

Weights = [0.101 0.167 0.207 0.02 0.011 0.147 0.013 0.183 0.151], Final Value = \$1400989.96, Sharpe Ratio = -20.42

Simulation Run = 4166

Weights = [0.059 0.118 0.145 0.147 0.152 0.16 0.072 0.089 0.058], Final Value = \$1575889.56, Sharpe Ratio = -19.13

Simulation Run = 4167

Weights = [0.069 0.149 0.169 0.016 0.174 0.127 0.027 0.105 0.164], Final Value = \$1434631.45, Sharpe Ratio = -23.32

Simulation Run = 4168

Weights = [0.07 0.075 0.124 0.091 0.177 0.16 0.166 0.127 0.01], Final Value = \$1630659.17, Sharpe Ratio = -15.41

Simulation Run = 4169

Weights = [0.102 0.159 0.01 0.184 0.111 0.064 0.104 0.051 0.214], Final Value = \$1451038.28, Sharpe Ratio = -23.55

Simulation Run = 4170
Weights = [0.025 0.074 0.047 0.091 0.191 0.176 0.16 0.107 0.129], Final Value =
\$1559147.55, Sharpe Ratio = -17.20

Simulation Run = 4171
Weights = [0.024 0.076 0.226 0.057 0.255 0.078 0.009 0.074 0.201], Final Value =
\$1401563.87, Sharpe Ratio = -24.19

Simulation Run = 4172
Weights = [0.167 0.128 0.143 0.046 0.188 0.048 0.006 0.091 0.182], Final Value =
\$1434078.18, Sharpe Ratio = -26.02

Simulation Run = 4173
Weights = [0.005 0.18 0.123 0.226 0.056 0.041 0.014 0.236 0.12], Final Value =
\$1459595.38, Sharpe Ratio = -25.02

Simulation Run = 4174
Weights = [0.138 0.149 0.11 0.154 0.096 0.058 0.092 0.083 0.121], Final Value =
\$1489044.55, Sharpe Ratio = -21.18

Simulation Run = 4175
Weights = [0.077 0.089 0.14 0.102 0.168 0.158 0.065 0.121 0.08], Final Value =
\$1564703.68, Sharpe Ratio = -19.45

Simulation Run = 4176
Weights = [0.094 0.029 0.174 0.076 0.184 0.188 0.065 0.145 0.046], Final Value =
\$1609799.88, Sharpe Ratio = -17.35

Simulation Run = 4177
Weights = [0.129 0.066 0.183 0.133 0.111 0.042 0.174 0.051 0.111], Final Value =
\$1476115.91, Sharpe Ratio = -16.42

Simulation Run = 4178
Weights = [0.175 0.19 0.002 0.096 0.104 0.168 0.061 0.061 0.143], Final Value =
\$1541329.90, Sharpe Ratio = -21.36

Simulation Run = 4179
Weights = [0. 0.043 0.133 0.188 0.132 0.228 0.109 0.044 0.122], Final Value =
\$1562096.81, Sharpe Ratio = -16.74

Simulation Run = 4180
Weights = [0.117 0.146 0.122 0.091 0.011 0.067 0.126 0.098 0.221], Final Value =
\$1360154.76, Sharpe Ratio = -19.69

Simulation Run = 4181
Weights = [0.052 0.135 0.077 0.159 0.049 0.089 0.161 0.078 0.199], Final Value =
\$1420008.04, Sharpe Ratio = -18.59

Simulation Run = 4182
Weights = [0.057 0.078 0.038 0.126 0.16 0.09 0.15 0.18 0.119], Final Value =
\$1546503.39, Sharpe Ratio = -18.76

Simulation Run = 4183
Weights = [0.053 0.22 0.056 0.022 0.048 0.154 0.201 0.207 0.039], Final Value =
\$1540622.08, Sharpe Ratio = -15.22

Simulation Run = 4184
Weights = [0.206 0.214 0.086 0.129 0.061 0.064 0.066 0.017 0.158], Final Value =
\$1449248.73, Sharpe Ratio = -23.15

Simulation Run = 4185
Weights = [0.09 0.077 0.175 0.198 0.102 0.13 0.022 0.172 0.034], Final Value =
\$1593540.55, Sharpe Ratio = -19.15

Simulation Run = 4186
Weights = [0.152 0.025 0.083 0.108 0.186 0.059 0.127 0.176 0.085], Final Value =
\$1580692.29, Sharpe Ratio = -18.55

Simulation Run = 4187
Weights = [0.152 0.082 0.078 0.071 0.036 0.145 0.15 0.1 0.185], Final Value =
\$1463261.21, Sharpe Ratio = -16.78

Simulation Run = 4188
Weights = [0.012 0.067 0.25 0.105 0.074 0.113 0.1 0.011 0.269], Final Value =
\$1304276.38, Sharpe Ratio = -19.04

Simulation Run = 4189

Weights = [0.153 0.149 0.144 0.027 0.076 0.127 0.134 0.173 0.016], Final Value = \$1562595.91, Sharpe Ratio = -16.33

Simulation Run = 4190

Weights = [0.14 0.077 0.013 0.203 0.018 0.109 0.123 0.212 0.103], Final Value = \$1575976.84, Sharpe Ratio = -17.82

Simulation Run = 4191

Weights = [0.041 0.171 0.03 0.126 0.054 0.179 0.193 0.095 0.112], Final Value = \$1530000.71, Sharpe Ratio = -15.74

Simulation Run = 4192

Weights = [0.027 0.018 0.199 0.186 0.077 0.046 0.188 0.165 0.093], Final Value = \$1487458.16, Sharpe Ratio = -15.25

Simulation Run = 4193

Weights = [0.162 0.177 0.027 0.234 0.038 0.022 0.042 0.066 0.231], Final Value = \$1415125.81, Sharpe Ratio = -26.89

Simulation Run = 4194

Weights = [0.209 0.003 0.033 0.178 0.137 0.121 0.135 0.008 0.176], Final Value = \$1559631.27, Sharpe Ratio = -17.82

Simulation Run = 4195

Weights = [0.116 0.077 0.142 0.088 0.177 0.016 0.153 0.07 0.162], Final Value = \$1442183.29, Sharpe Ratio = -19.06

Simulation Run = 4196

Weights = [0.202 0.204 0.137 0.03 0.082 0.087 0.006 0.078 0.175], Final Value = \$1412034.33, Sharpe Ratio = -24.52

Simulation Run = 4197

Weights = [0.1 0.084 0.19 0.187 0.173 0.106 0.024 0.069 0.066], Final Value = \$1563423.53, Sharpe Ratio = -20.58

Simulation Run = 4198

Weights = [0.15 0.12 0.153 0.101 0.068 0.028 0.055 0.166 0.159], Final Value = \$1422551.35, Sharpe Ratio = -22.42

Simulation Run = 4199
Weights = [0.007 0.189 0.208 0.168 0.097 0.042 0.032 0.15 0.107], Final Value =
\$1429773.13, Sharpe Ratio = -22.96

Simulation Run = 4200
Weights = [0.179 0.108 0.074 0.061 0.279 0.026 0.08 0.119 0.073], Final Value =
\$1578628.11, Sharpe Ratio = -22.50

Simulation Run = 4201
Weights = [0.049 0.242 0.045 0.114 0.051 0.034 0.108 0.174 0.181], Final Value =
\$1394454.28, Sharpe Ratio = -23.74

Simulation Run = 4202
Weights = [0.048 0.1 0.083 0.19 0.043 0.122 0.024 0.194 0.197], Final Value =
\$1456095.77, Sharpe Ratio = -23.29

Simulation Run = 4203
Weights = [0.252 0.134 0.131 0.002 0.19 0.11 0.005 0.052 0.124], Final Value =
\$1515798.43, Sharpe Ratio = -22.59

Simulation Run = 4204
Weights = [0.08 0.107 0.076 0.22 0.076 0.154 0.026 0.136 0.125], Final Value =
\$1551509.10, Sharpe Ratio = -21.48

Simulation Run = 4205
Weights = [0.173 0.054 0.016 0.226 0.132 0.101 0.181 0. 0.118], Final Value =
\$1595537.84, Sharpe Ratio = -16.60

Simulation Run = 4206
Weights = [0.184 0.037 0.131 0.113 0.15 0.062 0.1 0.113 0.11], Final Value =
\$1535121.41, Sharpe Ratio = -19.08

Simulation Run = 4207
Weights = [0.091 0.155 0.07 0.154 0.181 0.019 0.097 0.064 0.17], Final Value =
\$1458604.91, Sharpe Ratio = -24.30

Simulation Run = 4208
Weights = [0.164 0.095 0.088 0.139 0.015 0.017 0.186 0.138 0.158], Final Value =

\$1442614.13, Sharpe Ratio = -16.83

Simulation Run = 4209

Weights = [0.11 0.015 0.228 0.042 0.179 0.002 0.121 0.258 0.045], Final Value = \$1516788.11, Sharpe Ratio = -17.32

Simulation Run = 4210

Weights = [0.18 0.18 0.181 0.09 0.103 0.009 0.089 0.147 0.022], Final Value = \$1516801.43, Sharpe Ratio = -19.63

Simulation Run = 4211

Weights = [0.204 0.075 0.076 0.103 0.151 0.134 0.117 0.066 0.074], Final Value = \$1605120.84, Sharpe Ratio = -17.61

Simulation Run = 4212

Weights = [0.137 0.087 0.161 0.116 0.108 0.038 0.151 0.097 0.104], Final Value = \$1483882.41, Sharpe Ratio = -17.56

Simulation Run = 4213

Weights = [0.152 0.097 0.123 0.097 0.095 0.121 0.075 0.147 0.093], Final Value = \$1537968.28, Sharpe Ratio = -19.25

Simulation Run = 4214

Weights = [0.077 0.031 0.06 0.208 0.072 0.23 0.225 0.083 0.014], Final Value = \$1687060.18, Sharpe Ratio = -12.62

Simulation Run = 4215

Weights = [0.144 0.012 0.112 0.229 0.001 0.304 0.153 0.027 0.017], Final Value = \$1697716.44, Sharpe Ratio = -12.45

Simulation Run = 4216

Weights = [0.159 0.213 0.043 0.205 0.021 0.145 0.074 0.007 0.133], Final Value = \$1516942.46, Sharpe Ratio = -20.72

Simulation Run = 4217

Weights = [0.045 0.173 0.082 0.078 0.002 0.177 0.149 0.133 0.16], Final Value = \$1445211.46, Sharpe Ratio = -16.97

Simulation Run = 4218
Weights = [0.218 0.063 0.02 0.238 0.017 0.201 0.171 0.029 0.042], Final Value =
\$1678515.74, Sharpe Ratio = -14.01

Simulation Run = 4219
Weights = [0.056 0.052 0.147 0.116 0.158 0.094 0.154 0.104 0.118], Final Value =
\$1505596.91, Sharpe Ratio = -17.39

Simulation Run = 4220
Weights = [0.051 0.159 0.023 0.128 0.059 0.168 0.167 0.169 0.075], Final Value =
\$1570944.27, Sharpe Ratio = -16.39

Simulation Run = 4221
Weights = [0.33 0.028 0.022 0.034 0.046 0.027 0.176 0.139 0.198], Final Value =
\$1470440.83, Sharpe Ratio = -16.25

Simulation Run = 4222
Weights = [0.079 0.025 0.042 0.1 0.276 0.128 0.112 0.073 0.165], Final Value =
\$1560019.94, Sharpe Ratio = -20.38

Simulation Run = 4223
Weights = [0.168 0.193 0.119 0.082 0.058 0.138 0.042 0.102 0.097], Final Value =
\$1508154.45, Sharpe Ratio = -20.80

Simulation Run = 4224
Weights = [0.124 0.197 0.156 0.03 0.145 0.124 0.178 0.005 0.041], Final Value =
\$1527855.81, Sharpe Ratio = -16.10

Simulation Run = 4225
Weights = [0.04 0.166 0.116 0.122 0.145 0.142 0.109 0.117 0.042], Final Value =
\$1570733.76, Sharpe Ratio = -18.82

Simulation Run = 4226
Weights = [0.12 0.033 0.172 0.12 0.053 0.117 0.098 0.128 0.158], Final Value =
\$1463978.27, Sharpe Ratio = -17.90

Simulation Run = 4227
Weights = [0.049 0.006 0.034 0.196 0.026 0.253 0.141 0.263 0.033], Final Value =
\$1686653.90, Sharpe Ratio = -14.01

Simulation Run = 4228
Weights = [0.027 0.16 0.216 0.128 0.133 0.038 0.053 0.025 0.221], Final Value =
\$1332734.87, Sharpe Ratio = -24.00

Simulation Run = 4229
Weights = [0.083 0.105 0.133 0.084 0.037 0.199 0.103 0.199 0.056], Final Value =
\$1563411.30, Sharpe Ratio = -16.22

Simulation Run = 4230
Weights = [0.111 0.096 0.201 0.107 0.091 0.182 0.045 0.156 0.012], Final Value =
\$1596006.82, Sharpe Ratio = -17.13

Simulation Run = 4231
Weights = [0.008 0.125 0.31 0.102 0.037 0.128 0.024 0.079 0.187], Final Value =
\$1336580.12, Sharpe Ratio = -19.33

Simulation Run = 4232
Weights = [0.057 0.045 0.138 0.241 0.063 0.248 0.151 0.044 0.014], Final Value =
\$1663187.90, Sharpe Ratio = -13.77

Simulation Run = 4233
Weights = [0.161 0.095 0.147 0.06 0.001 0.026 0.165 0.162 0.182], Final Value =
\$1380453.54, Sharpe Ratio = -17.08

Simulation Run = 4234
Weights = [0.201 0.043 0.054 0.037 0.185 0.167 0.029 0.202 0.082], Final Value =
\$1630056.76, Sharpe Ratio = -19.66

Simulation Run = 4235
Weights = [0.079 0.18 0.153 0.123 0.125 0.12 0.154 0.027 0.039], Final Value =
\$1543232.80, Sharpe Ratio = -17.00

Simulation Run = 4236
Weights = [0.127 0.108 0.222 0.196 0.093 0.019 0.012 0.016 0.207], Final Value =
\$1373634.65, Sharpe Ratio = -23.41

Simulation Run = 4237

Weights = [0.119 0.029 0.172 0.19 0.114 0.249 0.009 0.051 0.065], Final Value = \$1629972.87, Sharpe Ratio = -16.97

Simulation Run = 4238

Weights = [0.074 0.084 0.096 0.202 0.152 0.181 0.055 0.106 0.049], Final Value = \$1637334.78, Sharpe Ratio = -19.01

Simulation Run = 4239

Weights = [0.009 0.143 0.12 0.001 0.088 0.267 0.13 0.209 0.033], Final Value = \$1584476.89, Sharpe Ratio = -15.00

Simulation Run = 4240

Weights = [0.199 0.225 0.014 0.225 0.16 0.07 0.038 0.012 0.056], Final Value = \$1613246.17, Sharpe Ratio = -24.60

Simulation Run = 4241

Weights = [0.117 0.035 0.048 0.114 0.15 0.076 0.182 0.126 0.152], Final Value = \$1521310.03, Sharpe Ratio = -17.17

Simulation Run = 4242

Weights = [0.044 0.096 0.145 0.084 0.101 0.133 0.246 0.068 0.084], Final Value = \$1509839.91, Sharpe Ratio = -13.72

Simulation Run = 4243

Weights = [0.004 0.24 0.262 0.13 0.082 0.135 0.057 0.061 0.03], Final Value = \$1479959.88, Sharpe Ratio = -18.84

Simulation Run = 4244

Weights = [0.034 0.035 0.213 0.223 0.058 0.243 0.03 0.085 0.08], Final Value = \$1573750.78, Sharpe Ratio = -16.33

Simulation Run = 4245

Weights = [0.216 0.259 0.079 0.019 0.024 0.087 0.218 0.062 0.037], Final Value = \$1514896.61, Sharpe Ratio = -14.84

Simulation Run = 4246

Weights = [0.137 0.115 0.13 0.111 0.144 0.145 0.111 0.027 0.08], Final Value = \$1558568.76, Sharpe Ratio = -18.06

Simulation Run = 4247
Weights = [0.186 0.273 0.062 0.004 0.12 0.016 0.212 0.058 0.068], Final Value =
\$1480327.82, Sharpe Ratio = -16.89

Simulation Run = 4248
Weights = [0.131 0.058 0.152 0.08 0.155 0.151 0.108 0.056 0.109], Final Value =
\$1537987.19, Sharpe Ratio = -17.69

Simulation Run = 4249
Weights = [0.066 0.106 0.114 0.178 0.151 0.183 0.148 0.018 0.037], Final Value =
\$1621789.54, Sharpe Ratio = -16.11

Simulation Run = 4250
Weights = [0.058 0.124 0.076 0.155 0.065 0.056 0.151 0.141 0.173], Final Value =
\$1439848.08, Sharpe Ratio = -19.30

Simulation Run = 4251
Weights = [0.065 0.098 0.139 0.199 0.21 0.047 0.213 0.009 0.02], Final Value =
\$1592537.02, Sharpe Ratio = -15.54

Simulation Run = 4252
Weights = [0.246 0.024 0.061 0.158 0.104 0.039 0.292 0.052 0.024], Final Value =
\$1630688.31, Sharpe Ratio = -12.38

Simulation Run = 4253
Weights = [0.15 0.125 0.052 0.188 0.13 0.199 0.01 0.064 0.082], Final Value =
\$1628422.17, Sharpe Ratio = -20.63

Simulation Run = 4254
Weights = [0.128 0.165 0.094 0.053 0.139 0.045 0.044 0.19 0.142], Final Value =
\$1460608.04, Sharpe Ratio = -25.16

Simulation Run = 4255
Weights = [0.138 0.042 0.177 0.172 0.116 0.046 0.068 0.145 0.095], Final Value =
\$1521104.18, Sharpe Ratio = -19.62

Simulation Run = 4256
Weights = [0.212 0.04 0.226 0.002 0.109 0.12 0.008 0.191 0.092], Final Value =

\$1510278.55, Sharpe Ratio = -18.71

Simulation Run = 4257

Weights = [0.135 0.16 0.061 0.014 0.091 0.219 0.258 0.007 0.055], Final Value = \$1581162.79, Sharpe Ratio = -12.66

Simulation Run = 4258

Weights = [0.025 0.269 0.085 0.196 0.207 0.002 0.053 0.019 0.145], Final Value = \$1442924.20, Sharpe Ratio = -28.73

Simulation Run = 4259

Weights = [0.091 0.02 0.163 0.217 0.073 0.147 0.1 0.006 0.183], Final Value = \$1478003.56, Sharpe Ratio = -17.84

Simulation Run = 4260

Weights = [0.086 0.094 0.159 0.156 0. 0.127 0.125 0.126 0.126], Final Value = \$1471126.77, Sharpe Ratio = -16.91

Simulation Run = 4261

Weights = [0.198 0.218 0.013 0.235 0.016 0.17 0.052 0.084 0.015], Final Value = \$1654983.44, Sharpe Ratio = -19.04

Simulation Run = 4262

Weights = [0.148 0.089 0.143 0.134 0.188 0.011 0.092 0.176 0.018], Final Value = \$1587192.21, Sharpe Ratio = -19.71

Simulation Run = 4263

Weights = [0.193 0.106 0.013 0.078 0.065 0.137 0.255 0.011 0.143], Final Value = \$1525163.49, Sharpe Ratio = -13.69

Simulation Run = 4264

Weights = [0.04 0.014 0.177 0.04 0.15 0.192 0.078 0.198 0.111], Final Value = \$1531890.13, Sharpe Ratio = -17.43

Simulation Run = 4265

Weights = [0.097 0.046 0.004 0.117 0.087 0.192 0.143 0.07 0.244], Final Value = \$1482053.13, Sharpe Ratio = -17.49

Simulation Run = 4266
Weights = [0.004 0.252 0.139 0.031 0.212 0.201 0.016 0.046 0.101], Final Value =
\$1502790.88, Sharpe Ratio = -22.93

Simulation Run = 4267
Weights = [0.014 0.105 0.159 0.142 0.11 0.122 0.156 0.116 0.077], Final Value =
\$1519718.69, Sharpe Ratio = -16.66

Simulation Run = 4268
Weights = [0.048 0.116 0.038 0.127 0.053 0.114 0.124 0.178 0.202], Final Value =
\$1445338.89, Sharpe Ratio = -20.01

Simulation Run = 4269
Weights = [0.224 0.089 0.105 0.04 0.191 0.213 0.051 0.034 0.054], Final Value =
\$1639194.76, Sharpe Ratio = -17.83

Simulation Run = 4270
Weights = [0.074 0.144 0.037 0.201 0.184 0.026 0.203 0.085 0.045], Final Value =
\$1589385.25, Sharpe Ratio = -17.27

Simulation Run = 4271
Weights = [0.208 0.213 0.145 0.095 0.048 0.056 0.188 0.033 0.013], Final Value =
\$1531774.86, Sharpe Ratio = -15.61

Simulation Run = 4272
Weights = [0.148 0.071 0.151 0.124 0.138 0.099 0.111 0.085 0.071], Final Value =
\$1556807.69, Sharpe Ratio = -17.92

Simulation Run = 4273
Weights = [0.14 0.121 0.165 0.042 0.131 0.156 0.095 0.107 0.044], Final Value =
\$1563684.08, Sharpe Ratio = -17.48

Simulation Run = 4274
Weights = [0.048 0.092 0.161 0.168 0.159 0.119 0.033 0.092 0.129], Final Value =
\$1506633.95, Sharpe Ratio = -21.96

Simulation Run = 4275
Weights = [0.06 0.193 0.134 0.001 0.317 0.035 0.213 0.004 0.043], Final Value =
\$1526270.21, Sharpe Ratio = -16.93

Simulation Run = 4276
Weights = [0.034 0.158 0.204 0.148 0.056 0.121 0.143 0.006 0.129], Final Value =
\$1430065.74, Sharpe Ratio = -17.20

Simulation Run = 4277
Weights = [0.18 0.181 0.059 0.085 0.02 0.029 0.113 0.154 0.18], Final Value =
\$1412492.16, Sharpe Ratio = -21.14

Simulation Run = 4278
Weights = [0.129 0.146 0.163 0.161 0.068 0.075 0.162 0.051 0.044], Final Value =
\$1529668.51, Sharpe Ratio = -16.37

Simulation Run = 4279
Weights = [0.032 0.125 0.18 0.163 0.131 0. 0.022 0.179 0.168], Final Value =
\$1402516.48, Sharpe Ratio = -25.17

Simulation Run = 4280
Weights = [0.237 0.032 0.184 0.156 0.003 0.044 0.115 0.052 0.177], Final Value =
\$1428106.13, Sharpe Ratio = -17.33

Simulation Run = 4281
Weights = [0.181 0.096 0.177 0.14 0.09 0.191 0.024 0.076 0.026], Final Value =
\$1615682.16, Sharpe Ratio = -17.56

Simulation Run = 4282
Weights = [0.113 0.137 0.114 0.103 0.061 0.057 0.132 0.133 0.15], Final Value =
\$1439105.68, Sharpe Ratio = -19.34

Simulation Run = 4283
Weights = [0.036 0.026 0.224 0.038 0.111 0.217 0.13 0.037 0.181], Final Value =
\$1439401.73, Sharpe Ratio = -15.70

Simulation Run = 4284
Weights = [0.135 0.106 0.06 0.042 0.069 0.119 0.217 0.194 0.058], Final Value =
\$1562704.50, Sharpe Ratio = -14.42

Simulation Run = 4285

Weights = [0.198 0.066 0.057 0.178 0.167 0.127 0.04 0.15 0.016], Final Value = \$1689424.79, Sharpe Ratio = -19.62

Simulation Run = 4286

Weights = [0.052 0.116 0.023 0.196 0.022 0.224 0.138 0.026 0.204], Final Value = \$1494858.55, Sharpe Ratio = -16.99

Simulation Run = 4287

Weights = [0.22 0.12 0.101 0.003 0.065 0.036 0.243 0.16 0.053], Final Value = \$1518302.68, Sharpe Ratio = -13.97

Simulation Run = 4288

Weights = [0.139 0.172 0.116 0.176 0.08 0.054 0.104 0.079 0.08], Final Value = \$1515044.09, Sharpe Ratio = -20.12

Simulation Run = 4289

Weights = [0.044 0.072 0.191 0.167 0.048 0.173 0.113 0.099 0.094], Final Value = \$1516331.54, Sharpe Ratio = -16.28

Simulation Run = 4290

Weights = [0.19 0.122 0.117 0.16 0.074 0.007 0.012 0.159 0.159], Final Value = \$1452854.32, Sharpe Ratio = -24.87

Simulation Run = 4291

Weights = [0.016 0.17 0.008 0.119 0.084 0.22 0.046 0.123 0.214], Final Value = \$1475750.17, Sharpe Ratio = -21.87

Simulation Run = 4292

Weights = [0.15 0.22 0.015 0.079 0.218 0.066 0.138 0.103 0.012], Final Value = \$1621125.55, Sharpe Ratio = -19.85

Simulation Run = 4293

Weights = [0.223 0.037 0.018 0.17 0.124 0.157 0.211 0.001 0.061], Final Value = \$1663766.30, Sharpe Ratio = -14.04

Simulation Run = 4294

Weights = [0.165 0.157 0.069 0.138 0.081 0.132 0.046 0.129 0.083], Final Value = \$1565655.67, Sharpe Ratio = -21.01

Simulation Run = 4295
Weights = [0.004 0.168 0.075 0.131 0.133 0.121 0.156 0.135 0.076], Final Value =
\$1539142.76, Sharpe Ratio = -18.15

Simulation Run = 4296
Weights = [0.06 0.006 0.165 0.128 0.046 0.018 0.164 0.215 0.198], Final Value =
\$1389542.44, Sharpe Ratio = -17.22

Simulation Run = 4297
Weights = [0.127 0.101 0.144 0.066 0.072 0.114 0.158 0.151 0.065], Final Value =
\$1528900.03, Sharpe Ratio = -15.95

Simulation Run = 4298
Weights = [0.139 0.064 0.166 0.096 0.165 0.092 0.158 0.064 0.056], Final Value =
\$1559296.18, Sharpe Ratio = -16.28

Simulation Run = 4299
Weights = [0.022 0.095 0.206 0.142 0.147 0.005 0.224 0.145 0.012], Final Value =
\$1523419.79, Sharpe Ratio = -14.70

Simulation Run = 4300
Weights = [0.039 0.071 0.158 0.046 0.114 0.216 0.037 0.12 0.2], Final Value =
\$1447888.78, Sharpe Ratio = -19.71

Simulation Run = 4301
Weights = [0.099 0.181 0.142 0.137 0.058 0.113 0.006 0.081 0.183], Final Value =
\$1417659.59, Sharpe Ratio = -24.28

Simulation Run = 4302
Weights = [0.03 0.018 0.127 0.19 0.11 0.188 0.015 0.123 0.198], Final Value =
\$1496489.95, Sharpe Ratio = -20.75

Simulation Run = 4303
Weights = [0.142 0.061 0.136 0.151 0.129 0.115 0.095 0.05 0.12], Final Value =
\$1531954.40, Sharpe Ratio = -18.89

Simulation Run = 4304
Weights = [0.088 0.129 0.098 0.241 0.104 0.07 0.08 0.156 0.033], Final Value =

\$1595704.99, Sharpe Ratio = -20.14

Simulation Run = 4305

Weights = [0.143 0.1 0.228 0.117 0.077 0.008 0.145 0.18 0.002], Final Value = \$1526191.71, Sharpe Ratio = -16.06

Simulation Run = 4306

Weights = [0.234 0.098 0.178 0.064 0.111 0.219 0.001 0.095], Final Value = \$1483822.30, Sharpe Ratio = -13.75

Simulation Run = 4307

Weights = [0.158 0.028 0.016 0.198 0.269 0.149 0.063 0.025 0.094], Final Value = \$1675035.40, Sharpe Ratio = -20.53

Simulation Run = 4308

Weights = [0.057 0.102 0.196 0.149 0.134 0.024 0.165 0.003 0.169], Final Value = \$1399622.47, Sharpe Ratio = -18.09

Simulation Run = 4309

Weights = [0.264 0.138 0.165 0.022 0.156 0.057 0.067 0.019 0.112], Final Value = \$1485331.66, Sharpe Ratio = -20.61

Simulation Run = 4310

Weights = [0.08 0.153 0.065 0.159 0.075 0.108 0.187 0.005 0.168], Final Value = \$1462003.08, Sharpe Ratio = -17.28

Simulation Run = 4311

Weights = [0.146 0.089 0.047 0.202 0.037 0.031 0.113 0.038 0.299], Final Value = \$1359974.86, Sharpe Ratio = -22.17

Simulation Run = 4312

Weights = [0.079 0.076 0.18 0.139 0.128 0.111 0.069 0.199 0.019], Final Value = \$1587952.06, Sharpe Ratio = -18.31

Simulation Run = 4313

Weights = [0.008 0.051 0.025 0.143 0.165 0.194 0.197 0.1 0.115], Final Value = \$1592834.44, Sharpe Ratio = -15.38

Simulation Run = 4314
Weights = [0.125 0.149 0.003 0.003 0.157 0.101 0.155 0.152 0.155], Final Value =
\$1497497.47, Sharpe Ratio = -18.91

Simulation Run = 4315
Weights = [0.138 0.096 0.125 0.142 0.15 0.085 0.085 0.1 0.08], Final Value =
\$1554493.08, Sharpe Ratio = -20.03

Simulation Run = 4316
Weights = [0.094 0.19 0.114 0.027 0.074 0.231 0.114 0.09 0.067], Final Value =
\$1546787.99, Sharpe Ratio = -16.47

Simulation Run = 4317
Weights = [0.109 0.091 0.152 0.146 0.127 0.145 0.182 0.045 0.002], Final Value =
\$1619623.26, Sharpe Ratio = -14.65

Simulation Run = 4318
Weights = [0.173 0.157 0.107 0.087 0.174 0.009 0.088 0.049 0.156], Final Value =
\$1450072.89, Sharpe Ratio = -23.41

Simulation Run = 4319
Weights = [0.072 0.194 0.047 0.176 0.083 0.097 0.031 0.109 0.192], Final Value =
\$1448952.16, Sharpe Ratio = -26.51

Simulation Run = 4320
Weights = [0.043 0.129 0.013 0.165 0.028 0.198 0.175 0.081 0.167], Final Value =
\$1510183.36, Sharpe Ratio = -16.08

Simulation Run = 4321
Weights = [0.143 0.14 0.148 0.079 0.122 0.08 0.135 0.111 0.042], Final Value =
\$1542896.38, Sharpe Ratio = -17.60

Simulation Run = 4322
Weights = [0.076 0.034 0.125 0.175 0.141 0.205 0.117 0.101 0.025], Final Value =
\$1657510.73, Sharpe Ratio = -15.71

Simulation Run = 4323
Weights = [0.155 0.048 0.05 0.14 0.144 0.098 0.079 0.168 0.117], Final Value =
\$1574071.58, Sharpe Ratio = -20.48

Simulation Run = 4324
Weights = [0.072 0.223 0.161 0.071 0.167 0.018 0.169 0.102 0.016], Final Value =
\$1509080.82, Sharpe Ratio = -17.95

Simulation Run = 4325
Weights = [0.045 0.17 0.08 0.148 0.046 0.167 0.025 0.147 0.171], Final Value =
\$1467107.57, Sharpe Ratio = -22.69

Simulation Run = 4326
Weights = [0.133 0.026 0.198 0.195 0.19 0.162 0.033 0.049 0.014], Final Value =
\$1653391.05, Sharpe Ratio = -17.66

Simulation Run = 4327
Weights = [0.035 0.156 0.153 0.151 0.105 0.187 0.102 0.026 0.085], Final Value =
\$1530765.03, Sharpe Ratio = -17.94

Simulation Run = 4328
Weights = [0.128 0.155 0.152 0.076 0.068 0.109 0.087 0.073 0.152], Final Value =
\$1436508.57, Sharpe Ratio = -20.10

Simulation Run = 4329
Weights = [0.097 0.006 0.193 0.099 0.092 0.278 0.196 0.029 0.009], Final Value =
\$1646643.78, Sharpe Ratio = -12.08

Simulation Run = 4330
Weights = [0.155 0.103 0.115 0.123 0.055 0.022 0.077 0.184 0.166], Final Value =
\$1435755.04, Sharpe Ratio = -21.84

Simulation Run = 4331
Weights = [0.048 0.23 0.28 0.035 0.006 0.065 0.196 0.034 0.105], Final Value =
\$1342277.83, Sharpe Ratio = -15.18

Simulation Run = 4332
Weights = [0.031 0.092 0.054 0.119 0.179 0.19 0.192 0.021 0.122], Final Value =
\$1563374.30, Sharpe Ratio = -15.83

Simulation Run = 4333

Weights = [0.041 0.168 0.19 0.127 0.025 0.134 0.178 0.031 0.106], Final Value = \$1445559.07, Sharpe Ratio = -15.62

Simulation Run = 4334

Weights = [0.038 0.152 0.155 0.059 0.118 0.145 0.107 0.045 0.181], Final Value = \$1416037.51, Sharpe Ratio = -19.72

Simulation Run = 4335

Weights = [0.173 0.037 0.129 0.102 0.057 0.122 0.195 0.031 0.154], Final Value = \$1484904.48, Sharpe Ratio = -14.91

Simulation Run = 4336

Weights = [0.063 0.084 0.154 0.163 0.068 0.116 0.078 0.191 0.084], Final Value = \$1527527.42, Sharpe Ratio = -18.77

Simulation Run = 4337

Weights = [0.07 0.089 0.135 0.077 0.127 0.082 0.221 0.08 0.119], Final Value = \$1477515.68, Sharpe Ratio = -15.30

Simulation Run = 4338

Weights = [0.158 0.052 0.191 0.192 0.013 0.123 0.122 0.021 0.126], Final Value = \$1489452.97, Sharpe Ratio = -16.21

Simulation Run = 4339

Weights = [0.136 0.075 0.052 0.002 0.303 0.263 0.022 0.13 0.017], Final Value = \$1723934.57, Sharpe Ratio = -18.03

Simulation Run = 4340

Weights = [0.131 0.032 0.023 0.172 0.009 0.102 0.18 0.174 0.176], Final Value = \$1502699.54, Sharpe Ratio = -16.12

Simulation Run = 4341

Weights = [0.149 0.15 0.023 0.196 0.064 0.187 0.079 0.111 0.039], Final Value = \$1648720.19, Sharpe Ratio = -18.15

Simulation Run = 4342

Weights = [0.095 0.148 0.056 0.124 0.14 0.097 0.115 0.06 0.164], Final Value = \$1483719.32, Sharpe Ratio = -21.24

Simulation Run = 4343
Weights = [0.093 0.124 0.151 0.097 0.068 0.119 0.059 0.123 0.167], Final Value =
\$1437200.37, Sharpe Ratio = -21.06

Simulation Run = 4344
Weights = [0.046 0.023 0.232 0.097 0.162 0.118 0.078 0.145 0.098], Final Value =
\$1505940.31, Sharpe Ratio = -18.11

Simulation Run = 4345
Weights = [0.143 0.179 0.046 0.158 0.099 0.037 0.176 0.023 0.139], Final Value =
\$1480463.52, Sharpe Ratio = -18.66

Simulation Run = 4346
Weights = [0.189 0.065 0.16 0.138 0.06 0.119 0.118 0.062 0.089], Final Value =
\$1537047.53, Sharpe Ratio = -16.65

Simulation Run = 4347
Weights = [0.129 0.124 0.135 0.088 0.195 0.126 0.025 0.043 0.135], Final Value =
\$1510934.39, Sharpe Ratio = -23.05

Simulation Run = 4348
Weights = [0.15 0.092 0.151 0.144 0.066 0.117 0.191 0.062 0.03], Final Value =
\$1575758.30, Sharpe Ratio = -14.50

Simulation Run = 4349
Weights = [0.182 0.05 0.132 0.108 0.115 0.147 0.151 0.04 0.074], Final Value =
\$1579353.32, Sharpe Ratio = -15.63

Simulation Run = 4350
Weights = [0.049 0.022 0.173 0.105 0.165 0.176 0.135 0.159 0.016], Final Value =
\$1624311.15, Sharpe Ratio = -15.32

Simulation Run = 4351
Weights = [0.087 0.133 0.074 0.127 0.159 0.109 0.019 0.147 0.147], Final Value =
\$1511601.82, Sharpe Ratio = -25.12

Simulation Run = 4352
Weights = [0.193 0.149 0.116 0.188 0.11 0.062 0.026 0.1 0.057], Final Value =

\$1569256.10, Sharpe Ratio = -22.18

Simulation Run = 4353

Weights = [0.064 0.105 0.087 0.161 0.04 0.116 0.168 0.057 0.201], Final Value = \$1431433.95, Sharpe Ratio = -17.44

Simulation Run = 4354

Weights = [0.002 0.136 0.014 0.267 0.164 0.131 0.207 0.046 0.032], Final Value = \$1647420.26, Sharpe Ratio = -15.87

Simulation Run = 4355

Weights = [0.018 0.11 0.125 0.178 0.112 0.046 0.105 0.127 0.179], Final Value = \$1425969.01, Sharpe Ratio = -21.69

Simulation Run = 4356

Weights = [0.039 0.167 0.082 0.16 0.19 0.044 0.136 0.031 0.15], Final Value = \$1468622.20, Sharpe Ratio = -21.61

Simulation Run = 4357

Weights = [0.009 0.173 0.157 0.089 0.159 0.07 0.129 0.166 0.046], Final Value = \$1512166.78, Sharpe Ratio = -19.11

Simulation Run = 4358

Weights = [0.164 0.221 0.037 0.137 0.1 0.04 0.108 0.066 0.128], Final Value = \$1487888.54, Sharpe Ratio = -22.45

Simulation Run = 4359

Weights = [0.034 0.08 0.15 0.179 0.17 0.05 0.086 0.115 0.135], Final Value = \$1482736.37, Sharpe Ratio = -21.50

Simulation Run = 4360

Weights = [0.066 0.172 0.167 0.026 0.085 0.202 0.055 0.166 0.062], Final Value = \$1525658.69, Sharpe Ratio = -18.36

Simulation Run = 4361

Weights = [0.034 0.09 0.13 0.091 0.115 0.11 0.134 0.138 0.158], Final Value = \$1455571.10, Sharpe Ratio = -18.64

Simulation Run = 4362
Weights = [0.212 0.058 0.063 0.013 0.191 0.062 0.086 0.196 0.119], Final Value =
\$1545138.54, Sharpe Ratio = -20.62

Simulation Run = 4363
Weights = [0.044 0.064 0.03 0.072 0.174 0.186 0.182 0.146 0.103], Final Value =
\$1589942.91, Sharpe Ratio = -15.79

Simulation Run = 4364
Weights = [0.02 0.126 0.14 0.014 0.07 0.091 0.247 0.13 0.162], Final Value =
\$1394108.26, Sharpe Ratio = -14.63

Simulation Run = 4365
Weights = [0.074 0.117 0.031 0.167 0.113 0.158 0.178 0.087 0.074], Final Value =
\$1600127.46, Sharpe Ratio = -16.15

Simulation Run = 4366
Weights = [0.022 0.138 0.194 0.077 0.099 0.099 0.073 0.152 0.146], Final Value =
\$1417047.77, Sharpe Ratio = -20.81

Simulation Run = 4367
Weights = [0.078 0.021 0.148 0.174 0.106 0.084 0.179 0.171 0.04], Final Value =
\$1582407.61, Sharpe Ratio = -15.20

Simulation Run = 4368
Weights = [0.09 0.12 0.002 0.15 0.12 0.143 0.072 0.163 0.139], Final Value =
\$1557148.00, Sharpe Ratio = -21.64

Simulation Run = 4369
Weights = [0.134 0.157 0.089 0.114 0.108 0.037 0.147 0.052 0.162], Final Value =
\$1441624.44, Sharpe Ratio = -19.88

Simulation Run = 4370
Weights = [0.12 0.213 0.001 0.079 0.175 0.173 0.101 0.08 0.06], Final Value =
\$1613129.58, Sharpe Ratio = -19.75

Simulation Run = 4371
Weights = [0.155 0.124 0.148 0.143 0.08 0.104 0.141 0.081 0.026], Final Value =
\$1574402.59, Sharpe Ratio = -16.42

Simulation Run = 4372
Weights = [0. 0.161 0.09 0.059 0.203 0.175 0.013 0.133 0.166], Final Value =
\$1485913.69, Sharpe Ratio = -24.53

Simulation Run = 4373
Weights = [0.14 0.254 0.139 0.021 0.049 0.004 0.04 0.252 0.102], Final Value =
\$1411935.97, Sharpe Ratio = -24.43

Simulation Run = 4374
Weights = [0.154 0.023 0.096 0.105 0.172 0.16 0.076 0.076 0.139], Final Value =
\$1563551.72, Sharpe Ratio = -19.10

Simulation Run = 4375
Weights = [0.052 0.14 0.059 0.038 0.179 0.058 0.258 0.051 0.164], Final Value =
\$1443929.00, Sharpe Ratio = -15.50

Simulation Run = 4376
Weights = [0.126 0.142 0.058 0. 0.154 0.147 0.151 0.097 0.124], Final Value =
\$1518608.51, Sharpe Ratio = -17.64

Simulation Run = 4377
Weights = [0.015 0.163 0.079 0.018 0.182 0.011 0.164 0.221 0.148], Final Value =
\$1426019.50, Sharpe Ratio = -20.34

Simulation Run = 4378
Weights = [0.077 0.172 0.217 0.085 0.164 0.031 0.187 0.014 0.053], Final Value =
\$1472455.70, Sharpe Ratio = -16.50

Simulation Run = 4379
Weights = [0.076 0.118 0.138 0.123 0.167 0.043 0.082 0.113 0.139], Final Value =
\$1465643.88, Sharpe Ratio = -22.51

Simulation Run = 4380
Weights = [0.21 0.002 0.116 0.109 0.12 0.087 0.211 0.109 0.035], Final Value =
\$1614886.93, Sharpe Ratio = -13.92

Simulation Run = 4381

Weights = [0.204 0.071 0.122 0.116 0.047 0.191 0.068 0.164 0.016], Final Value = \$1641186.77, Sharpe Ratio = -16.16

Simulation Run = 4382

Weights = [0.062 0.106 0.183 0.131 0.048 0.182 0.057 0.054 0.177], Final Value = \$1438926.53, Sharpe Ratio = -19.09

Simulation Run = 4383

Weights = [0.017 0.178 0.065 0.109 0.164 0.123 0.124 0.157 0.063], Final Value = \$1560490.12, Sharpe Ratio = -19.70

Simulation Run = 4384

Weights = [0.021 0.096 0.129 0.008 0.214 0.195 0.212 0.017 0.109], Final Value = \$1526241.42, Sharpe Ratio = -14.75

Simulation Run = 4385

Weights = [0.184 0.116 0.03 0.145 0.143 0.037 0.128 0.185 0.032], Final Value = \$1618666.20, Sharpe Ratio = -19.05

Simulation Run = 4386

Weights = [0.141 0.155 0.016 0.135 0.157 0.191 0.099 0.055 0.051], Final Value = \$1648322.54, Sharpe Ratio = -18.43

Simulation Run = 4387

Weights = [0.021 0.153 0.2 0.051 0.014 0.104 0.123 0.199 0.136], Final Value = \$1392532.51, Sharpe Ratio = -17.84

Simulation Run = 4388

Weights = [0.031 0.055 0.066 0.19 0.052 0.001 0.239 0.193 0.174], Final Value = \$1436842.10, Sharpe Ratio = -15.70

Simulation Run = 4389

Weights = [0.019 0.184 0.081 0.107 0.122 0.061 0.062 0.21 0.153], Final Value = \$1444827.92, Sharpe Ratio = -25.40

Simulation Run = 4390

Weights = [0.212 0.234 0.211 0.02 0.007 0.013 0.036 0.234 0.032], Final Value = \$1453854.35, Sharpe Ratio = -20.35

Simulation Run = 4391
Weights = [0.098 0.153 0.151 0.066 0.07 0.005 0.157 0.16 0.14], Final Value =
\$1399724.83, Sharpe Ratio = -18.61

Simulation Run = 4392
Weights = [0.023 0.077 0.09 0.176 0.174 0.163 0.099 0.074 0.125], Final Value =
\$1556059.78, Sharpe Ratio = -19.46

Simulation Run = 4393
Weights = [0.087 0.023 0.149 0.124 0.154 0.16 0.095 0.057 0.152], Final Value =
\$1516513.51, Sharpe Ratio = -18.36

Simulation Run = 4394
Weights = [0.109 0.154 0.082 0.18 0.18 0.127 0.043 0.054 0.072], Final Value =
\$1592056.34, Sharpe Ratio = -22.42

Simulation Run = 4395
Weights = [0.188 0.014 0.181 0.125 0.113 0.052 0.169 0.015 0.143], Final Value =
\$1475930.07, Sharpe Ratio = -16.12

Simulation Run = 4396
Weights = [0.242 0.008 0.002 0.078 0.008 0.25 0.054 0.24 0.118], Final Value =
\$1631573.73, Sharpe Ratio = -15.76

Simulation Run = 4397
Weights = [0.149 0.106 0.164 0.123 0.066 0.183 0.003 0.166 0.04], Final Value =
\$1591142.11, Sharpe Ratio = -18.50

Simulation Run = 4398
Weights = [0.035 0.101 0.029 0.194 0.119 0.148 0.203 0.137 0.032], Final Value =
\$1637939.02, Sharpe Ratio = -15.14

Simulation Run = 4399
Weights = [0.144 0.076 0.089 0.131 0.049 0.156 0.172 0.125 0.059], Final Value =
\$1589100.00, Sharpe Ratio = -14.93

Simulation Run = 4400
Weights = [0.143 0.029 0.195 0.021 0.17 0.109 0.172 0.055 0.107], Final Value =

\$1503004.74, Sharpe Ratio = -15.56

Simulation Run = 4401

Weights = [0.135 0.005 0.014 0.186 0.147 0.049 0.193 0.089 0.181], Final Value = \$1524745.82, Sharpe Ratio = -17.19

Simulation Run = 4402

Weights = [0.046 0.161 0.06 0.22 0.002 0.212 0.184 0.107 0.009], Final Value = \$1632491.49, Sharpe Ratio = -14.20

Simulation Run = 4403

Weights = [0.157 0.092 0.116 0.158 0.174 0.081 0.031 0.075 0.116], Final Value = \$1541709.73, Sharpe Ratio = -22.92

Simulation Run = 4404

Weights = [0.063 0.067 0.005 0.138 0.273 0.005 0.065 0.095 0.29], Final Value = \$1416142.16, Sharpe Ratio = -28.79

Simulation Run = 4405

Weights = [0.131 0.179 0.103 0.067 0.157 0.114 0.115 0.097 0.036], Final Value = \$1573065.40, Sharpe Ratio = -18.91

Simulation Run = 4406

Weights = [0.118 0.214 0.127 0.071 0.036 0.199 0.058 0.083 0.095], Final Value = \$1505018.31, Sharpe Ratio = -18.96

Simulation Run = 4407

Weights = [0.059 0.08 0.137 0.244 0.026 0.005 0.233 0.215 0.001], Final Value = \$1564778.89, Sharpe Ratio = -13.99

Simulation Run = 4408

Weights = [0.176 0.123 0.109 0.123 0.019 0.139 0.179 0.049 0.082], Final Value = \$1535989.40, Sharpe Ratio = -15.05

Simulation Run = 4409

Weights = [0.177 0.16 0.051 0.046 0.176 0.214 0.012 0.073 0.091], Final Value = \$1602578.06, Sharpe Ratio = -20.71

Simulation Run = 4410
Weights = [0.049 0.177 0.003 0.094 0.119 0.173 0.165 0.107 0.114], Final Value =
\$1548334.06, Sharpe Ratio = -17.38

Simulation Run = 4411
Weights = [0.114 0.018 0.293 0.168 0.185 0.009 0.027 0.116 0.07], Final Value =
\$1501052.78, Sharpe Ratio = -19.00

Simulation Run = 4412
Weights = [0.12 0.117 0.206 0.042 0.113 0.032 0.126 0.043 0.201], Final Value =
\$1351762.28, Sharpe Ratio = -19.56

Simulation Run = 4413
Weights = [0.021 0.099 0.095 0.024 0.13 0.263 0.025 0.338 0.005], Final Value =
\$1655984.11, Sharpe Ratio = -17.28

Simulation Run = 4414
Weights = [0.149 0.028 0.007 0.126 0.087 0.166 0.093 0.12 0.225], Final Value =
\$1508181.64, Sharpe Ratio = -19.26

Simulation Run = 4415
Weights = [0.142 0.102 0.042 0.148 0.066 0.078 0.163 0.091 0.168], Final Value =
\$1484277.79, Sharpe Ratio = -17.99

Simulation Run = 4416
Weights = [0.098 0.042 0.073 0.121 0.143 0.03 0.28 0.201 0.011], Final Value =
\$1609180.95, Sharpe Ratio = -13.22

Simulation Run = 4417
Weights = [0.153 0.11 0.054 0.125 0.215 0.098 0.091 0.05 0.103], Final Value =
\$1579214.03, Sharpe Ratio = -21.25

Simulation Run = 4418
Weights = [0.019 0.026 0.044 0.004 0.143 0.196 0.255 0.076 0.237], Final Value =
\$1447356.01, Sharpe Ratio = -13.83

Simulation Run = 4419
Weights = [0.112 0.195 0.011 0.038 0.199 0.177 0.049 0.168 0.051], Final Value =
\$1623682.11, Sharpe Ratio = -21.38

Simulation Run = 4420
Weights = [0.169 0.124 0.058 0.012 0.181 0.018 0.184 0.164 0.09], Final Value =
\$1521905.33, Sharpe Ratio = -17.64

Simulation Run = 4421
Weights = [0.07 0.021 0.208 0.114 0.059 0.073 0.158 0.134 0.163], Final Value =
\$1419720.94, Sharpe Ratio = -16.33

Simulation Run = 4422
Weights = [0.119 0.235 0.035 0.088 0.207 0.216 0.02 0.061 0.021], Final Value =
\$1656960.70, Sharpe Ratio = -21.17

Simulation Run = 4423
Weights = [0.15 0.129 0.008 0.102 0.033 0.204 0.118 0.164 0.092], Final Value =
\$1591547.06, Sharpe Ratio = -16.62

Simulation Run = 4424
Weights = [0.188 0.073 0.197 0.051 0.094 0.226 0.097 0.067 0.006], Final Value =
\$1622657.39, Sharpe Ratio = -14.75

Simulation Run = 4425
Weights = [0.044 0.185 0.23 0.179 0.209 0.07 0.046 0.002 0.034], Final Value =
\$1528544.14, Sharpe Ratio = -21.07

Simulation Run = 4426
Weights = [0.098 0.003 0.104 0.025 0.107 0.19 0.042 0.208 0.224], Final Value =
\$1463609.41, Sharpe Ratio = -19.75

Simulation Run = 4427
Weights = [0.141 0.104 0.012 0.154 0.135 0.186 0.099 0.004 0.164], Final Value =
\$1559751.11, Sharpe Ratio = -19.29

Simulation Run = 4428
Weights = [0.05 0.061 0.074 0.144 0.163 0.123 0.086 0.166 0.133], Final Value =
\$1543137.35, Sharpe Ratio = -20.74

Simulation Run = 4429

Weights = [0.131 0.208 0.197 0.027 0.01 0.194 0.068 0.103 0.063], Final Value = \$1490586.83, Sharpe Ratio = -17.24

Simulation Run = 4430

Weights = [0.035 0.175 0.063 0.138 0.118 0.014 0.137 0.154 0.165], Final Value = \$1428940.44, Sharpe Ratio = -21.92

Simulation Run = 4431

Weights = [0.027 0.249 0.039 0.12 0.03 0.046 0.15 0.109 0.231], Final Value = \$1343969.47, Sharpe Ratio = -21.47

Simulation Run = 4432

Weights = [0.092 0.021 0.201 0.06 0.192 0.109 0.184 0.042 0.099], Final Value = \$1514017.65, Sharpe Ratio = -15.36

Simulation Run = 4433

Weights = [0.065 0.19 0.234 0.089 0.182 0.118 0.002 0.038 0.082], Final Value = \$1482704.18, Sharpe Ratio = -22.21

Simulation Run = 4434

Weights = [0.168 0.093 0.051 0.113 0.025 0.207 0.045 0.099 0.198], Final Value = \$1498525.68, Sharpe Ratio = -19.26

Simulation Run = 4435

Weights = [0.166 0.133 0.198 0.109 0.04 0.021 0.075 0.117 0.141], Final Value = \$1408494.39, Sharpe Ratio = -20.38

Simulation Run = 4436

Weights = [0.033 0.054 0.133 0.022 0.111 0.14 0.184 0.188 0.135], Final Value = \$1477126.64, Sharpe Ratio = -15.65

Simulation Run = 4437

Weights = [0.169 0.081 0.114 0.065 0.036 0.176 0.119 0.173 0.067], Final Value = \$1568655.59, Sharpe Ratio = -15.80

Simulation Run = 4438

Weights = [0.165 0.119 0.208 0.045 0.05 0.197 0.139 0.054 0.024], Final Value = \$1560866.44, Sharpe Ratio = -14.41

Simulation Run = 4439
Weights = [0.219 0.095 0.186 0.024 0.244 0.083 0.023 0.038 0.088], Final Value =
\$1536877.51, Sharpe Ratio = -21.51

Simulation Run = 4440
Weights = [0.157 0.055 0.048 0.096 0.093 0.205 0.167 0.087 0.092], Final Value =
\$1606372.51, Sharpe Ratio = -14.87

Simulation Run = 4441
Weights = [0.118 0.071 0.177 0.063 0.154 0.013 0.036 0.203 0.164], Final Value =
\$1425176.35, Sharpe Ratio = -23.50

Simulation Run = 4442
Weights = [0.013 0.067 0.195 0.052 0.194 0.181 0.096 0.085 0.118], Final Value =
\$1505391.38, Sharpe Ratio = -18.01

Simulation Run = 4443
Weights = [0.153 0.172 0.117 0.112 0.093 0.152 0.043 0.101 0.058], Final Value =
\$1566187.85, Sharpe Ratio = -20.14

Simulation Run = 4444
Weights = [0.002 0.203 0.064 0.142 0.177 0.044 0.197 0.083 0.087], Final Value =
\$1505996.80, Sharpe Ratio = -18.24

Simulation Run = 4445
Weights = [0.05 0.089 0.133 0.139 0.146 0.097 0.142 0.076 0.127], Final Value =
\$1496299.59, Sharpe Ratio = -18.36

Simulation Run = 4446
Weights = [0.217 0.164 0.087 0.138 0.036 0.084 0.035 0.043 0.198], Final Value =
\$1434414.56, Sharpe Ratio = -23.45

Simulation Run = 4447
Weights = [0.282 0.226 0.019 0.013 0.02 0.1 0.186 0.128 0.026], Final Value =
\$1575693.82, Sharpe Ratio = -15.22

Simulation Run = 4448
Weights = [0.102 0.203 0.101 0.03 0.159 0.093 0.084 0.078 0.15], Final Value =

\$1448992.87, Sharpe Ratio = -22.89

Simulation Run = 4449

Weights = [0.102 0.174 0.033 0.127 0.184 0.027 0.191 0.145 0.016], Final Value = \$1599802.06, Sharpe Ratio = -17.56

Simulation Run = 4450

Weights = [0.045 0.054 0.181 0.107 0.187 0.118 0.148 0.019 0.142], Final Value = \$1481444.71, Sharpe Ratio = -17.44

Simulation Run = 4451

Weights = [0.178 0.111 0.055 0.132 0.155 0.04 0.175 0.127 0.028], Final Value = \$1610318.37, Sharpe Ratio = -17.01

Simulation Run = 4452

Weights = [0.013 0.126 0.084 0.3 0.138 0.023 0.125 0.102 0.088], Final Value = \$1540897.40, Sharpe Ratio = -20.31

Simulation Run = 4453

Weights = [0.115 0.025 0.051 0.148 0.128 0.068 0.122 0.17 0.173], Final Value = \$1508066.61, Sharpe Ratio = -19.82

Simulation Run = 4454

Weights = [0.138 0.173 0.049 0.06 0.211 0.058 0.019 0.031 0.261], Final Value = \$1396292.22, Sharpe Ratio = -29.93

Simulation Run = 4455

Weights = [0.166 0.088 0.215 0.064 0.179 0.055 0.143 0.06 0.03], Final Value = \$1543682.75, Sharpe Ratio = -16.63

Simulation Run = 4456

Weights = [0.033 0.163 0.153 0.186 0.169 0.16 0.074 0.061 0.002], Final Value = \$1617114.99, Sharpe Ratio = -18.84

Simulation Run = 4457

Weights = [0.059 0.088 0.168 0.06 0.11 0.14 0.122 0.138 0.115], Final Value = \$1486645.35, Sharpe Ratio = -17.51

Simulation Run = 4458
Weights = [0.199 0.064 0.251 0.071 0.033 0.182 0.062 0.092 0.046], Final Value =
\$1545219.44, Sharpe Ratio = -15.53

Simulation Run = 4459
Weights = [0.007 0.193 0.189 0.113 0.038 0.017 0.085 0.125 0.234], Final Value =
\$1285311.94, Sharpe Ratio = -22.98

Simulation Run = 4460
Weights = [0.004 0.188 0.083 0.105 0.137 0.212 0.188 0.083 0.002], Final Value =
\$1622477.36, Sharpe Ratio = -14.99

Simulation Run = 4461
Weights = [0.168 0.17 0.065 0.158 0.053 0.123 0.116 0.005 0.144], Final Value =
\$1498771.40, Sharpe Ratio = -19.24

Simulation Run = 4462
Weights = [0.014 0.229 0.148 0.067 0.119 0.024 0.051 0.263 0.086], Final Value =
\$1441305.09, Sharpe Ratio = -24.70

Simulation Run = 4463
Weights = [0.187 0.165 0.1 0.068 0.089 0.188 0.021 0.169 0.015], Final Value =
\$1624388.16, Sharpe Ratio = -18.92

Simulation Run = 4464
Weights = [0.02 0.194 0.205 0.055 0.061 0.192 0.113 0.047 0.114], Final Value =
\$1441537.24, Sharpe Ratio = -17.23

Simulation Run = 4465
Weights = [0.186 0.131 0.008 0.04 0.182 0.177 0.001 0.041 0.235], Final Value =
\$1490568.44, Sharpe Ratio = -24.12

Simulation Run = 4466
Weights = [0.039 0.116 0.078 0.039 0.154 0.006 0.113 0.228 0.227], Final Value =
\$1373479.51, Sharpe Ratio = -23.63

Simulation Run = 4467
Weights = [0.177 0.039 0.119 0.029 0.164 0.041 0.091 0.196 0.143], Final Value =
\$1488470.21, Sharpe Ratio = -20.44

Simulation Run = 4468
Weights = [0.123 0.023 0.189 0.159 0.151 0.148 0.017 0.176 0.013], Final Value =
\$1637827.83, Sharpe Ratio = -18.05

Simulation Run = 4469
Weights = [0.17 0.049 0.054 0.098 0.131 0.137 0.051 0.202 0.107], Final Value =
\$1588124.57, Sharpe Ratio = -20.12

Simulation Run = 4470
Weights = [0.145 0.112 0.094 0.111 0.137 0.004 0.18 0.211 0.006], Final Value =
\$1586426.95, Sharpe Ratio = -16.70

Simulation Run = 4471
Weights = [0.072 0.055 0.11 0.191 0.122 0.179 0.09 0.026 0.155], Final Value =
\$1531702.51, Sharpe Ratio = -18.72

Simulation Run = 4472
Weights = [0.032 0.18 0.15 0.006 0.207 0.183 0.126 0.004 0.114], Final Value =
\$1490067.95, Sharpe Ratio = -18.39

Simulation Run = 4473
Weights = [0.002 0.103 0.106 0.14 0.168 0.074 0.12 0.13 0.158], Final Value =
\$1467632.27, Sharpe Ratio = -21.01

Simulation Run = 4474
Weights = [0.091 0.127 0.002 0.103 0.184 0.111 0.09 0.115 0.179], Final Value =
\$1512341.73, Sharpe Ratio = -22.96

Simulation Run = 4475
Weights = [0.127 0.103 0.147 0.157 0.122 0.08 0.052 0.108 0.103], Final Value =
\$1518669.94, Sharpe Ratio = -21.29

Simulation Run = 4476
Weights = [0.161 0.16 0.06 0.02 0.174 0.127 0.172 0.082 0.044], Final Value =
\$1590142.08, Sharpe Ratio = -16.55

Simulation Run = 4477

Weights = [0.055 0.205 0. 0.148 0.069 0.061 0.19 0.089 0.183], Final Value = \$1437942.60, Sharpe Ratio = -18.74

Simulation Run = 4478

Weights = [0.203 0.013 0.065 0.079 0.033 0.186 0.129 0.116 0.176], Final Value = \$1522469.38, Sharpe Ratio = -15.89

Simulation Run = 4479

Weights = [0.059 0.094 0.171 0.086 0.073 0.045 0.197 0.126 0.148], Final Value = \$1410582.54, Sharpe Ratio = -16.21

Simulation Run = 4480

Weights = [0.137 0.164 0.18 0.152 0.047 0.133 0.079 0.046 0.062], Final Value = \$1523622.46, Sharpe Ratio = -18.23

Simulation Run = 4481

Weights = [0.085 0.138 0.045 0.159 0.177 0.043 0.01 0.175 0.169], Final Value = \$1490355.12, Sharpe Ratio = -28.81

Simulation Run = 4482

Weights = [0.126 0.242 0.034 0.029 0.108 0.072 0.245 0.045 0.099], Final Value = \$1483629.05, Sharpe Ratio = -15.48

Simulation Run = 4483

Weights = [0.194 0.166 0.108 0.005 0.015 0.142 0.128 0.174 0.068], Final Value = \$1519841.99, Sharpe Ratio = -16.44

Simulation Run = 4484

Weights = [0.115 0.108 0.111 0.158 0.102 0.111 0.112 0.16 0.023], Final Value = \$1604868.63, Sharpe Ratio = -17.73

Simulation Run = 4485

Weights = [0.127 0.064 0.078 0.154 0.119 0.204 0.076 0.079 0.099], Final Value = \$1603250.38, Sharpe Ratio = -17.98

Simulation Run = 4486

Weights = [0.129 0.144 0.103 0.09 0.11 0.059 0.143 0.164 0.058], Final Value = \$1535714.60, Sharpe Ratio = -18.23

Simulation Run = 4487
Weights = [0.084 0.137 0.2 0.07 0.129 0.041 0.165 0.108 0.066], Final Value =
\$1474060.80, Sharpe Ratio = -16.99

Simulation Run = 4488
Weights = [0.016 0.167 0.085 0.175 0.158 0.08 0.171 0.056 0.091], Final Value =
\$1522351.87, Sharpe Ratio = -18.43

Simulation Run = 4489
Weights = [0.059 0.148 0.066 0.122 0.068 0.157 0.119 0.164 0.097], Final Value =
\$1538007.33, Sharpe Ratio = -18.31

Simulation Run = 4490
Weights = [0.12 0.032 0.193 0.197 0.17 0.016 0.036 0.093 0.142], Final Value =
\$1481285.55, Sharpe Ratio = -21.90

Simulation Run = 4491
Weights = [0.018 0.087 0.015 0.165 0.142 0.013 0.263 0.145 0.153], Final Value =
\$1484536.94, Sharpe Ratio = -15.51

Simulation Run = 4492
Weights = [0.243 0.054 0.027 0.014 0.219 0.226 0.126 0.018 0.073], Final Value =
\$1669541.86, Sharpe Ratio = -15.71

Simulation Run = 4493
Weights = [0.186 0.09 0.055 0.14 0.101 0.172 0.057 0.09 0.11], Final Value =
\$1588560.99, Sharpe Ratio = -19.38

Simulation Run = 4494
Weights = [0.108 0.101 0.214 0.084 0.045 0.083 0.16 0.186 0.019], Final Value =
\$1522992.31, Sharpe Ratio = -15.16

Simulation Run = 4495
Weights = [0.015 0.009 0.144 0.215 0.087 0.191 0.155 0.048 0.136], Final Value =
\$1534701.02, Sharpe Ratio = -15.45

Simulation Run = 4496
Weights = [0.136 0.146 0.087 0.089 0.13 0.166 0.028 0.195 0.023], Final Value =

\$1626204.66, Sharpe Ratio = -20.05

Simulation Run = 4497

Weights = [0.127 0.118 0.126 0.061 0.133 0.107 0.075 0.11 0.142], Final Value = \$1479229.54, Sharpe Ratio = -21.03

Simulation Run = 4498

Weights = [0.137 0.155 0.141 0.049 0.089 0.094 0.131 0.095 0.109], Final Value = \$1471496.24, Sharpe Ratio = -18.28

Simulation Run = 4499

Weights = [0.012 0.153 0.1 0.09 0.118 0.183 0.161 0.166 0.019], Final Value = \$1595891.91, Sharpe Ratio = -15.90

Simulation Run = 4500

Weights = [0.04 0.061 0.105 0.238 0.211 0.082 0.043 0.015 0.205], Final Value = \$1482021.90, Sharpe Ratio = -24.66

Simulation Run = 4501

Weights = [0.009 0.218 0.194 0.007 0.115 0.041 0.178 0.103 0.135], Final Value = \$1363009.44, Sharpe Ratio = -17.94

Simulation Run = 4502

Weights = [0.105 0.169 0.043 0.012 0.173 0.074 0.157 0.085 0.183], Final Value = \$1441284.05, Sharpe Ratio = -19.93

Simulation Run = 4503

Weights = [0.292 0.199 0.019 0.057 0.232 0.022 0.057 0.022 0.1], Final Value = \$1558608.61, Sharpe Ratio = -24.31

Simulation Run = 4504

Weights = [0.113 0.02 0.075 0.17 0.153 0.183 0.006 0.166 0.114], Final Value = \$1612135.23, Sharpe Ratio = -20.41

Simulation Run = 4505

Weights = [0.12 0.074 0.164 0.1 0.074 0.064 0.104 0.145 0.155], Final Value = \$1440117.36, Sharpe Ratio = -19.22

Simulation Run = 4506
Weights = [0.101 0.079 0.069 0.182 0.184 0.164 0.03 0.187 0.003], Final Value =
\$1695749.55, Sharpe Ratio = -19.67

Simulation Run = 4507
Weights = [0.039 0.144 0.097 0.149 0.022 0.165 0.137 0.121 0.125], Final Value =
\$1493053.79, Sharpe Ratio = -17.20

Simulation Run = 4508
Weights = [0.14 0.09 0.15 0.008 0.197 0.028 0.198 0.048 0.14], Final Value =
\$1447379.87, Sharpe Ratio = -16.78

Simulation Run = 4509
Weights = [0.112 0.023 0.046 0.192 0.07 0.172 0.151 0.156 0.079], Final Value =
\$1625060.86, Sharpe Ratio = -15.54

Simulation Run = 4510
Weights = [0.044 0.025 0.076 0.282 0.024 0.182 0.055 0.125 0.187], Final Value =
\$1521948.27, Sharpe Ratio = -19.12

Simulation Run = 4511
Weights = [0.12 0.143 0.142 0.1 0.118 0.084 0.139 0.131 0.024], Final Value =
\$1560971.70, Sharpe Ratio = -17.39

Simulation Run = 4512
Weights = [0.176 0.11 0.012 0.101 0.173 0.144 0.119 0.08 0.085], Final Value =
\$1616134.55, Sharpe Ratio = -18.54

Simulation Run = 4513
Weights = [0.123 0.08 0.188 0.019 0.217 0.001 0.216 0.149 0.008], Final Value =
\$1546508.70, Sharpe Ratio = -15.04

Simulation Run = 4514
Weights = [0.023 0.168 0.188 0.042 0.113 0.106 0.107 0.123 0.131], Final Value =
\$1420735.40, Sharpe Ratio = -19.64

Simulation Run = 4515
Weights = [0.023 0.113 0.179 0.03 0.192 0.207 0.141 0.114 0.001], Final Value =
\$1606053.10, Sharpe Ratio = -15.45

Simulation Run = 4516
Weights = [0.208 0.063 0.118 0.134 0.111 0.028 0.236 0.034 0.068], Final Value =
\$1546875.10, Sharpe Ratio = -14.34

Simulation Run = 4517
Weights = [0.166 0.16 0.046 0.028 0.144 0.009 0.145 0.181 0.12], Final Value =
\$1483523.90, Sharpe Ratio = -20.09

Simulation Run = 4518
Weights = [0.112 0.047 0.04 0.206 0.091 0.078 0.18 0.193 0.054], Final Value =
\$1614679.71, Sharpe Ratio = -16.05

Simulation Run = 4519
Weights = [0.036 0.048 0.129 0.135 0.094 0.063 0.167 0.092 0.235], Final Value =
\$1384055.02, Sharpe Ratio = -18.19

Simulation Run = 4520
Weights = [0.093 0.151 0.059 0.04 0.181 0.145 0.063 0.065 0.203], Final Value =
\$1459985.35, Sharpe Ratio = -23.36

Simulation Run = 4521
Weights = [0.153 0.132 0.122 0.059 0.105 0.115 0.174 0.058 0.083], Final Value =
\$1522048.86, Sharpe Ratio = -16.15

Simulation Run = 4522
Weights = [0.174 0.078 0.005 0.056 0.122 0.162 0.221 0.145 0.037], Final Value =
\$1650135.23, Sharpe Ratio = -13.84

Simulation Run = 4523
Weights = [0.08 0.081 0.117 0.118 0.064 0.129 0.159 0.135 0.118], Final Value =
\$1505209.37, Sharpe Ratio = -16.45

Simulation Run = 4524
Weights = [0.182 0.004 0.03 0.006 0.037 0.15 0.235 0.092 0.266], Final Value =
\$1420937.04, Sharpe Ratio = -13.94

Simulation Run = 4525

Weights = [0.142 0.022 0.177 0.199 0.127 0.062 0.072 0.053 0.146], Final Value = \$1494871.09, Sharpe Ratio = -19.81

Simulation Run = 4526

Weights = [0.093 0.042 0.165 0.123 0.165 0.045 0.034 0.17 0.163], Final Value = \$1461733.79, Sharpe Ratio = -23.07

Simulation Run = 4527

Weights = [0.061 0.086 0.177 0.11 0.135 0.048 0.186 0.139 0.06], Final Value = \$1510995.90, Sharpe Ratio = -16.07

Simulation Run = 4528

Weights = [0.201 0.158 0.066 0.079 0.067 0.166 0.046 0.206 0.011], Final Value = \$1634840.54, Sharpe Ratio = -18.55

Simulation Run = 4529

Weights = [0.063 0.004 0.158 0.201 0.179 0.18 0.089 0.047 0.078], Final Value = \$1609465.84, Sharpe Ratio = -17.19

Simulation Run = 4530

Weights = [0.166 0.063 0.167 0.063 0.021 0.158 0.149 0.083 0.131], Final Value = \$1481228.40, Sharpe Ratio = -15.25

Simulation Run = 4531

Weights = [0.032 0.133 0.01 0.133 0.138 0.13 0.126 0.157 0.141], Final Value = \$1530798.98, Sharpe Ratio = -20.13

Simulation Run = 4532

Weights = [0.145 0.015 0.171 0.143 0.042 0.135 0.122 0.052 0.176], Final Value = \$1463697.48, Sharpe Ratio = -16.69

Simulation Run = 4533

Weights = [0.339 0.08 0.042 0.06 0.098 0.042 0.119 0.147 0.072], Final Value = \$1588202.02, Sharpe Ratio = -17.65

Simulation Run = 4534

Weights = [0.247 0.267 0.254 0.051 0.071 0.03 0.017 0.029 0.035], Final Value = \$1456296.76, Sharpe Ratio = -20.87

Simulation Run = 4535
Weights = [0.132 0.044 0.151 0.034 0.087 0.159 0.114 0.161 0.118], Final Value =
\$1512024.46, Sharpe Ratio = -16.68

Simulation Run = 4536
Weights = [0.193 0.011 0.113 0.029 0.135 0.161 0.175 0.145 0.038], Final Value =
\$1625400.79, Sharpe Ratio = -14.23

Simulation Run = 4537
Weights = [0.166 0.121 0.152 0.022 0.023 0.092 0.042 0.19 0.192], Final Value =
\$1393195.70, Sharpe Ratio = -21.29

Simulation Run = 4538
Weights = [0.161 0.156 0.18 0.002 0.008 0.07 0.092 0.148 0.182], Final Value =
\$1359979.51, Sharpe Ratio = -19.52

Simulation Run = 4539
Weights = [0.164 0.093 0.065 0.165 0.106 0.096 0.129 0.007 0.176], Final Value =
\$1494542.76, Sharpe Ratio = -19.30

Simulation Run = 4540
Weights = [0.09 0.068 0.083 0.119 0.237 0.215 0.043 0.113 0.032], Final Value =
\$1681766.18, Sharpe Ratio = -18.81

Simulation Run = 4541
Weights = [0.001 0.066 0.091 0.201 0.139 0.133 0.163 0.157 0.049], Final Value =
\$1605313.64, Sharpe Ratio = -16.39

Simulation Run = 4542
Weights = [0.086 0.188 0.093 0.175 0.058 0.138 0.02 0.148 0.093], Final Value =
\$1531496.55, Sharpe Ratio = -22.33

Simulation Run = 4543
Weights = [0.172 0.118 0.132 0.051 0.182 0.124 0.007 0.092 0.122], Final Value =
\$1522384.13, Sharpe Ratio = -22.81

Simulation Run = 4544
Weights = [0.191 0.107 0.019 0.192 0.044 0.048 0.092 0.192 0.115], Final Value =

\$1546659.26, Sharpe Ratio = -20.59

Simulation Run = 4545

Weights = [0.161 0.011 0.101 0.123 0.1 0.191 0.139 0.132 0.042], Final Value = \$1645725.77, Sharpe Ratio = -14.89

Simulation Run = 4546

Weights = [0.096 0.184 0.079 0.095 0.132 0.135 0.074 0.065 0.139], Final Value = \$1494324.87, Sharpe Ratio = -22.09

Simulation Run = 4547

Weights = [0.22 0.151 0.148 0.235 0.024 0.028 0.032 0.009 0.153], Final Value = \$1449320.38, Sharpe Ratio = -22.42

Simulation Run = 4548

Weights = [0.2 0.259 0.041 0.103 0.238 0.026 0.005 0.048 0.08], Final Value = \$1550459.31, Sharpe Ratio = -28.61

Simulation Run = 4549

Weights = [0.016 0.052 0.195 0.159 0.078 0.133 0.141 0.08 0.146], Final Value = \$1458983.43, Sharpe Ratio = -16.64

Simulation Run = 4550

Weights = [0.135 0.161 0.109 0.157 0.098 0.018 0.006 0.201 0.116], Final Value = \$1484095.94, Sharpe Ratio = -25.77

Simulation Run = 4551

Weights = [0.061 0.002 0.232 0.051 0.025 0.178 0.02 0.183 0.248], Final Value = \$1364694.63, Sharpe Ratio = -18.79

Simulation Run = 4552

Weights = [0.216 0.062 0.14 0.206 0.058 0.165 0.041 0.005 0.107], Final Value = \$1569790.20, Sharpe Ratio = -18.26

Simulation Run = 4553

Weights = [0.059 0.278 0.06 0.056 0.135 0.14 0.063 0.139 0.072], Final Value = \$1525983.18, Sharpe Ratio = -22.95

Simulation Run = 4554
Weights = [0.146 0.017 0.149 0.294 0.248 0.01 0.073 0.051 0.013], Final Value =
\$1656442.98, Sharpe Ratio = -19.19

Simulation Run = 4555
Weights = [0.1 0.17 0.043 0.161 0.1 0.151 0.058 0.095 0.122], Final Value =
\$1542516.47, Sharpe Ratio = -21.88

Simulation Run = 4556
Weights = [0.153 0.058 0.18 0.039 0.149 0.169 0.115 0.037 0.1], Final Value =
\$1533365.99, Sharpe Ratio = -16.63

Simulation Run = 4557
Weights = [0.208 0.027 0.126 0.252 0.039 0.042 0.109 0.053 0.144], Final Value =
\$1507748.59, Sharpe Ratio = -18.15

Simulation Run = 4558
Weights = [0.212 0.015 0.077 0.157 0.022 0.032 0.176 0.015 0.294], Final Value =
\$1366028.84, Sharpe Ratio = -17.42

Simulation Run = 4559
Weights = [0.01 0.131 0.1 0.078 0.137 0.017 0.065 0.198 0.265], Final Value =
\$1332214.92, Sharpe Ratio = -27.15

Simulation Run = 4560
Weights = [0.231 0.172 0.023 0.025 0.176 0.179 0.08 0.029 0.086], Final Value =
\$1602553.21, Sharpe Ratio = -19.19

Simulation Run = 4561
Weights = [0.201 0.103 0.119 0.056 0.181 0.06 0.045 0.155 0.082], Final Value =
\$1548492.48, Sharpe Ratio = -21.94

Simulation Run = 4562
Weights = [0.103 0.081 0.057 0.09 0.021 0.086 0.166 0.199 0.198], Final Value =
\$1431867.25, Sharpe Ratio = -17.43

Simulation Run = 4563
Weights = [0.06 0.008 0.127 0.153 0.134 0.077 0.063 0.237 0.141], Final Value =
\$1510911.65, Sharpe Ratio = -20.88

Simulation Run = 4564
Weights = [0.259 0.013 0.073 0.002 0.155 0.165 0.058 0.147 0.127], Final Value =
\$1581965.15, Sharpe Ratio = -18.22

Simulation Run = 4565
Weights = [0.121 0.071 0.07 0.18 0.034 0.126 0.138 0.061 0.199], Final Value =
\$1467487.12, Sharpe Ratio = -17.92

Simulation Run = 4566
Weights = [0.102 0.146 0.109 0.076 0.085 0.149 0.033 0.179 0.121], Final Value =
\$1503328.46, Sharpe Ratio = -21.48

Simulation Run = 4567
Weights = [0.104 0.157 0.024 0.161 0.173 0.112 0.056 0.181 0.031], Final Value =
\$1640364.94, Sharpe Ratio = -22.07

Simulation Run = 4568
Weights = [0.044 0.079 0.117 0.159 0.151 0.149 0.027 0.155 0.118], Final Value =
\$1545323.66, Sharpe Ratio = -21.66

Simulation Run = 4569
Weights = [0.076 0.144 0.11 0.103 0.176 0.164 0.179 0.013 0.034], Final Value =
\$1597907.61, Sharpe Ratio = -15.80

Simulation Run = 4570
Weights = [0.017 0.085 0.066 0.141 0.101 0.163 0.186 0.065 0.176], Final Value =
\$1486677.17, Sharpe Ratio = -16.37

Simulation Run = 4571
Weights = [0.138 0.009 0.027 0.194 0.121 0.146 0.164 0.172 0.028], Final Value =
\$1688388.00, Sharpe Ratio = -15.26

Simulation Run = 4572
Weights = [0.108 0.179 0.162 0.085 0.164 0.067 0.049 0.004 0.183], Final Value =
\$1406120.79, Sharpe Ratio = -24.64

Simulation Run = 4573

Weights = [0.119 0.171 0.018 0.165 0.21 0.095 0.002 0.13 0.09], Final Value = \$1596009.23, Sharpe Ratio = -26.53

Simulation Run = 4574

Weights = [0.125 0.185 0.215 0.009 0.143 0.199 0.05 0.047 0.027], Final Value = \$1550548.31, Sharpe Ratio = -17.94

Simulation Run = 4575

Weights = [0.186 0.159 0.026 0.078 0.019 0.147 0.129 0.062 0.194], Final Value = \$1460372.39, Sharpe Ratio = -18.19

Simulation Run = 4576

Weights = [0.11 0.149 0.091 0.001 0.026 0.171 0.188 0.084 0.181], Final Value = \$1425400.05, Sharpe Ratio = -15.47

Simulation Run = 4577

Weights = [0.118 0.069 0.216 0.202 0.018 0.07 0.214 0.089 0.005], Final Value = \$1554562.52, Sharpe Ratio = -13.37

Simulation Run = 4578

Weights = [0.019 0.158 0.152 0.045 0.154 0.085 0.162 0.182 0.043], Final Value = \$1515523.27, Sharpe Ratio = -17.37

Simulation Run = 4579

Weights = [0.128 0.082 0.112 0.083 0.093 0.072 0.111 0.156 0.163], Final Value = \$1457191.46, Sharpe Ratio = -19.77

Simulation Run = 4580

Weights = [0.154 0.042 0.174 0.177 0.051 0.195 0.039 0.115 0.053], Final Value = \$1602510.77, Sharpe Ratio = -16.75

Simulation Run = 4581

Weights = [0.133 0.035 0.066 0.188 0.066 0.188 0.017 0.087 0.219], Final Value = \$1503997.36, Sharpe Ratio = -20.88

Simulation Run = 4582

Weights = [0.177 0.151 0.031 0.022 0.123 0.14 0.094 0.129 0.133], Final Value = \$1527040.77, Sharpe Ratio = -19.90

Simulation Run = 4583
Weights = [0.012 0.14 0.275 0.087 0.023 0.075 0.094 0.22 0.073], Final Value =
\$1419752.09, Sharpe Ratio = -17.47

Simulation Run = 4584
Weights = [0.168 0.174 0.046 0.152 0.093 0.074 0.022 0.154 0.117], Final Value =
\$1527608.56, Sharpe Ratio = -24.86

Simulation Run = 4585
Weights = [0.176 0.133 0.104 0.176 0.147 0.134 0.041 0.016 0.074], Final Value =
\$1591591.71, Sharpe Ratio = -20.94

Simulation Run = 4586
Weights = [0.263 0.145 0.083 0.061 0.08 0.054 0.069 0.207 0.038], Final Value =
\$1574382.38, Sharpe Ratio = -19.78

Simulation Run = 4587
Weights = [0.121 0.103 0.067 0.179 0.061 0.15 0.147 0.037 0.135], Final Value =
\$1530461.63, Sharpe Ratio = -17.10

Simulation Run = 4588
Weights = [0.214 0.063 0.011 0.17 0.102 0.092 0.101 0.13 0.118], Final Value =
\$1587160.55, Sharpe Ratio = -19.35

Simulation Run = 4589
Weights = [0.129 0.203 0.11 0.168 0.112 0.064 0.104 0. 0.108], Final Value =
\$1491559.27, Sharpe Ratio = -21.24

Simulation Run = 4590
Weights = [0.085 0.078 0.191 0.195 0.14 0.119 0.175 0.011 0.004], Final Value =
\$1604287.32, Sharpe Ratio = -14.90

Simulation Run = 4591
Weights = [0.099 0.222 0.096 0.011 0.076 0.129 0.219 0.012 0.135], Final Value =
\$1436686.18, Sharpe Ratio = -15.54

Simulation Run = 4592
Weights = [0.033 0.059 0.138 0.102 0.184 0.061 0.184 0.083 0.156], Final Value =

\$1459106.00, Sharpe Ratio = -17.41

Simulation Run = 4593

Weights = [0.005 0.066 0.225 0.061 0.216 0.041 0.04 0.225 0.122], Final Value = \$1449685.78, Sharpe Ratio = -22.17

Simulation Run = 4594

Weights = [0.162 0.147 0.247 0.005 0.11 0.023 0.088 0.063 0.155], Final Value = \$1365103.23, Sharpe Ratio = -20.04

Simulation Run = 4595

Weights = [0.19 0.048 0.018 0.092 0.113 0.136 0.177 0.187 0.041], Final Value = \$1651241.11, Sharpe Ratio = -15.10

Simulation Run = 4596

Weights = [0.06 0.029 0.012 0.143 0.098 0.089 0.213 0.165 0.192], Final Value = \$1490895.23, Sharpe Ratio = -16.17

Simulation Run = 4597

Weights = [0.045 0.033 0.1 0.024 0.203 0.066 0.205 0.198 0.125], Final Value = \$1502104.48, Sharpe Ratio = -16.30

Simulation Run = 4598

Weights = [0.206 0.149 0.127 0.201 0.028 0.012 0.023 0.056 0.198], Final Value = \$1406071.62, Sharpe Ratio = -24.45

Simulation Run = 4599

Weights = [0.177 0.093 0.191 0.023 0.078 0.137 0.138 0.151 0.011], Final Value = \$1569235.51, Sharpe Ratio = -15.11

Simulation Run = 4600

Weights = [0.092 0.161 0.015 0.16 0.158 0.054 0.084 0.116 0.16], Final Value = \$1499502.43, Sharpe Ratio = -24.74

Simulation Run = 4601

Weights = [0.016 0.195 0.167 0.149 0.119 0.001 0.104 0.188 0.061], Final Value = \$1469082.79, Sharpe Ratio = -21.01

Simulation Run = 4602
Weights = [0.163 0.143 0.202 0.062 0.062 0.132 0.039 0.094 0.103], Final Value =
\$1475921.53, Sharpe Ratio = -19.45

Simulation Run = 4603
Weights = [0.032 0.224 0.07 0.178 0.256 0.015 0.018 0.15 0.057], Final Value =
\$1557018.79, Sharpe Ratio = -28.15

Simulation Run = 4604
Weights = [0.087 0.051 0.173 0.049 0.041 0.207 0.021 0.167 0.204], Final Value =
\$1432586.06, Sharpe Ratio = -18.98

Simulation Run = 4605
Weights = [0.095 0.009 0.008 0.149 0.205 0.152 0.028 0.204 0.149], Final Value =
\$1605032.96, Sharpe Ratio = -22.24

Simulation Run = 4606
Weights = [0.121 0.039 0.128 0.085 0.022 0.192 0.222 0.171 0.019], Final Value =
\$1609002.32, Sharpe Ratio = -12.50

Simulation Run = 4607
Weights = [0.12 0.048 0.047 0.095 0.128 0.162 0.18 0.124 0.097], Final Value =
\$1589787.86, Sharpe Ratio = -15.48

Simulation Run = 4608
Weights = [0.167 0.153 0.111 0.045 0.155 0.043 0.203 0.06 0.064], Final Value =
\$1520400.72, Sharpe Ratio = -16.23

Simulation Run = 4609
Weights = [0.11 0.104 0.214 0.028 0.033 0.178 0.02 0.11 0.204], Final Value =
\$1387426.50, Sharpe Ratio = -19.59

Simulation Run = 4610
Weights = [0.196 0.049 0.061 0.05 0.137 0.096 0.275 0.007 0.128], Final Value =
\$1529933.77, Sharpe Ratio = -13.32

Simulation Run = 4611
Weights = [0.094 0.146 0.06 0.174 0.057 0.061 0.16 0.131 0.118], Final Value =
\$1498565.64, Sharpe Ratio = -18.34

Simulation Run = 4612
Weights = [0.016 0.16 0.121 0.015 0.058 0.046 0.233 0.137 0.214], Final Value =
\$1326876.02, Sharpe Ratio = -16.10

Simulation Run = 4613
Weights = [0.12 0.153 0.124 0.009 0.137 0.065 0.1 0.121 0.172], Final Value =
\$1415794.52, Sharpe Ratio = -21.60

Simulation Run = 4614
Weights = [0.237 0.079 0.048 0.115 0.093 0.026 0.205 0.026 0.171], Final Value =
\$1477680.97, Sharpe Ratio = -16.39

Simulation Run = 4615
Weights = [0.187 0.028 0.154 0.103 0.119 0.185 0.019 0.046 0.158], Final Value =
\$1525292.86, Sharpe Ratio = -19.23

Simulation Run = 4616
Weights = [0.095 0.158 0.198 0.07 0.143 0.072 0.082 0.068 0.115], Final Value =
\$1447423.59, Sharpe Ratio = -20.80

Simulation Run = 4617
Weights = [0.017 0.068 0.018 0.117 0.226 0.203 0.084 0.168 0.1], Final Value =
\$1626834.30, Sharpe Ratio = -19.49

Simulation Run = 4618
Weights = [0.206 0.048 0.132 0.049 0.199 0.097 0.028 0.221 0.019], Final Value =
\$1633733.27, Sharpe Ratio = -19.72

Simulation Run = 4619
Weights = [0.146 0.168 0.126 0.096 0.097 0.082 0.169 0.091 0.023], Final Value =
\$1556843.99, Sharpe Ratio = -16.42

Simulation Run = 4620
Weights = [0.001 0.163 0.219 0.136 0.12 0.133 0.145 0.061 0.023], Final Value =
\$1529471.46, Sharpe Ratio = -16.32

Simulation Run = 4621

Weights = [0.144 0.1 0.009 0.023 0.145 0.204 0.212 0.132 0.032], Final Value = \$1655219.11, Sharpe Ratio = -13.83

Simulation Run = 4622

Weights = [0.151 0.142 0.12 0.124 0.128 0.021 0.048 0.119 0.146], Final Value = \$1458230.45, Sharpe Ratio = -24.38

Simulation Run = 4623

Weights = [0.088 0.126 0.031 0.147 0.116 0.123 0.155 0.086 0.129], Final Value = \$1536062.04, Sharpe Ratio = -18.19

Simulation Run = 4624

Weights = [0.202 0.142 0.134 0.023 0.181 0.122 0.033 0.077 0.086], Final Value = \$1543025.37, Sharpe Ratio = -21.35

Simulation Run = 4625

Weights = [0.076 0.194 0.001 0.056 0.025 0.188 0.139 0.209 0.113], Final Value = \$1527718.68, Sharpe Ratio = -17.18

Simulation Run = 4626

Weights = [0.268 0.044 0.092 0.146 0.15 0.007 0.086 0.126 0.082], Final Value = \$1576184.92, Sharpe Ratio = -19.84

Simulation Run = 4627

Weights = [0.046 0.061 0.19 0.189 0.037 0.19 0.114 0.033 0.141], Final Value = \$1486103.62, Sharpe Ratio = -16.27

Simulation Run = 4628

Weights = [0.156 0.156 0.008 0.203 0.071 0.12 0.052 0.089 0.144], Final Value = \$1542581.20, Sharpe Ratio = -22.64

Simulation Run = 4629

Weights = [0.156 0.037 0.112 0.081 0.223 0.062 0.037 0.196 0.097], Final Value = \$1565788.90, Sharpe Ratio = -22.29

Simulation Run = 4630

Weights = [0.158 0.126 0.04 0.022 0.023 0.126 0.081 0.248 0.176], Final Value = \$1461437.94, Sharpe Ratio = -19.97

Simulation Run = 4631
Weights = [0.183 0.089 0.035 0.038 0.205 0.084 0.154 0.142 0.07], Final Value =
\$1597963.80, Sharpe Ratio = -17.74

Simulation Run = 4632
Weights = [0.016 0.245 0.024 0.083 0.174 0.133 0.03 0.243 0.052], Final Value =
\$1576141.24, Sharpe Ratio = -24.94

Simulation Run = 4633
Weights = [0.036 0.063 0.103 0.246 0.11 0.132 0.124 0.11 0.077], Final Value =
\$1586505.30, Sharpe Ratio = -17.57

Simulation Run = 4634
Weights = [0.104 0.11 0.037 0.006 0.215 0.212 0.104 0.166 0.046], Final Value =
\$1645350.21, Sharpe Ratio = -17.51

Simulation Run = 4635
Weights = [0.028 0.083 0.025 0.088 0.105 0.265 0.19 0.144 0.074], Final Value =
\$1625022.04, Sharpe Ratio = -14.01

Simulation Run = 4636
Weights = [0.039 0.214 0.052 0.159 0.105 0.081 0.096 0.188 0.068], Final Value =
\$1538868.18, Sharpe Ratio = -21.94

Simulation Run = 4637
Weights = [0.104 0.162 0.05 0.136 0.148 0.024 0.108 0.175 0.094], Final Value =
\$1525490.45, Sharpe Ratio = -22.20

Simulation Run = 4638
Weights = [0.298 0.126 0.075 0.064 0.046 0.022 0.044 0.291 0.035], Final Value =
\$1574644.08, Sharpe Ratio = -20.13

Simulation Run = 4639
Weights = [0.117 0.178 0.029 0.141 0.017 0.136 0.119 0.161 0.103], Final Value =
\$1533513.16, Sharpe Ratio = -18.54

Simulation Run = 4640
Weights = [0.036 0.176 0.104 0.145 0.154 0.149 0.038 0.141 0.057], Final Value =

\$1573436.33, Sharpe Ratio = -21.93

Simulation Run = 4641

Weights = [0.166 0.011 0.17 0.153 0.109 0.086 0.089 0.195 0.02], Final Value = \$1611889.40, Sharpe Ratio = -16.90

Simulation Run = 4642

Weights = [0.208 0.185 0.155 0.065 0.092 0.088 0.023 0.042 0.143], Final Value = \$1447978.12, Sharpe Ratio = -22.91

Simulation Run = 4643

Weights = [0.061 0.165 0.083 0.231 0.027 0.149 0.217 0.057 0.01], Final Value = \$1605378.90, Sharpe Ratio = -14.13

Simulation Run = 4644

Weights = [0.131 0.122 0.169 0.143 0.164 0.044 0.078 0.148 0.002], Final Value = \$1587637.67, Sharpe Ratio = -19.51

Simulation Run = 4645

Weights = [0.078 0.103 0.098 0.019 0.124 0.07 0.123 0.195 0.19], Final Value = \$1417537.99, Sharpe Ratio = -20.46

Simulation Run = 4646

Weights = [0.041 0.071 0.175 0.174 0.077 0.089 0.083 0.151 0.138], Final Value = \$1464869.84, Sharpe Ratio = -19.56

Simulation Run = 4647

Weights = [0.071 0.166 0.172 0.118 0.14 0.154 0.054 0.05 0.076], Final Value = \$1527050.90, Sharpe Ratio = -20.20

Simulation Run = 4648

Weights = [0.12 0.238 0.119 0.035 0.122 0.091 0.09 0.033 0.152], Final Value = \$1422792.98, Sharpe Ratio = -22.35

Simulation Run = 4649

Weights = [0.13 0. 0.143 0.16 0.149 0.029 0.112 0.139 0.139], Final Value = \$1502594.84, Sharpe Ratio = -19.19

Simulation Run = 4650
Weights = [0.075 0.099 0.002 0.193 0.185 0.041 0.083 0.141 0.182], Final Value =
\$1508971.59, Sharpe Ratio = -25.02

Simulation Run = 4651
Weights = [0.107 0.168 0.142 0.053 0.157 0.207 0.077 0.055 0.033], Final Value =
\$1591287.76, Sharpe Ratio = -17.94

Simulation Run = 4652
Weights = [0.128 0.183 0.143 0.037 0.216 0.106 0.107 0.012 0.068], Final Value =
\$1530893.53, Sharpe Ratio = -19.92

Simulation Run = 4653
Weights = [0.117 0.092 0.177 0.046 0.174 0.137 0.057 0.145 0.055], Final Value =
\$1559774.15, Sharpe Ratio = -19.19

Simulation Run = 4654
Weights = [0.196 0.102 0.062 0.176 0.031 0.129 0.127 0.07 0.106], Final Value =
\$1558289.12, Sharpe Ratio = -17.20

Simulation Run = 4655
Weights = [0.172 0.062 0.124 0.02 0.038 0.016 0.265 0.232 0.072], Final Value =
\$1489952.01, Sharpe Ratio = -13.24

Simulation Run = 4656
Weights = [0.07 0.025 0.074 0.252 0.18 0.032 0.097 0.129 0.141], Final Value =
\$1541048.46, Sharpe Ratio = -21.42

Simulation Run = 4657
Weights = [0.1 0.079 0.098 0.147 0.033 0.025 0.132 0.107 0.279], Final Value =
\$1336389.48, Sharpe Ratio = -20.57

Simulation Run = 4658
Weights = [0.003 0.165 0.206 0.041 0.009 0.089 0.168 0.153 0.166], Final Value =
\$1344655.76, Sharpe Ratio = -16.76

Simulation Run = 4659
Weights = [0.136 0.136 0.067 0.012 0.327 0.162 0.03 0.035 0.095], Final Value =
\$1601308.27, Sharpe Ratio = -22.69

Simulation Run = 4660
Weights = [0.222 0.157 0.046 0.238 0.057 0.12 0.063 0.059 0.038], Final Value =
\$1633295.16, Sharpe Ratio = -19.46

Simulation Run = 4661
Weights = [0.1 0.168 0.039 0.02 0.182 0.191 0.042 0.094 0.164], Final Value =
\$1514124.87, Sharpe Ratio = -22.31

Simulation Run = 4662
Weights = [0.196 0.08 0.15 0.059 0.198 0.066 0.092 0.139 0.019], Final Value =
\$1599891.12, Sharpe Ratio = -18.60

Simulation Run = 4663
Weights = [0.133 0.069 0.038 0.017 0.12 0.244 0.193 0.076 0.109], Final Value =
\$1589583.46, Sharpe Ratio = -13.99

Simulation Run = 4664
Weights = [0.17 0.123 0.121 0.091 0.037 0.148 0.066 0.124 0.119], Final Value =
\$1506492.46, Sharpe Ratio = -18.94

Simulation Run = 4665
Weights = [0.077 0.166 0.139 0.073 0.147 0.198 0.026 0.009 0.166], Final Value =
\$1472255.81, Sharpe Ratio = -21.76

Simulation Run = 4666
Weights = [0.174 0.169 0.054 0.116 0.174 0.038 0.036 0.138 0.101], Final Value =
\$1538526.16, Sharpe Ratio = -25.58

Simulation Run = 4667
Weights = [0.092 0.074 0.082 0.14 0.228 0.075 0.046 0.123 0.138], Final Value =
\$1537803.01, Sharpe Ratio = -24.17

Simulation Run = 4668
Weights = [0.141 0.142 0.104 0.052 0.079 0.215 0.063 0.132 0.07], Final Value =
\$1572979.90, Sharpe Ratio = -17.79

Simulation Run = 4669

Weights = [0.094 0.099 0.067 0.249 0.018 0.096 0.017 0.086 0.274], Final Value = \$1398426.42, Sharpe Ratio = -25.05

Simulation Run = 4670

Weights = [0.071 0.143 0.078 0.119 0.081 0.16 0.105 0.057 0.186], Final Value = \$1460867.42, Sharpe Ratio = -19.82

Simulation Run = 4671

Weights = [0.17 0.087 0.064 0.189 0.051 0.214 0.122 0.102 0.001], Final Value = \$1688729.80, Sharpe Ratio = -15.04

Simulation Run = 4672

Weights = [0.091 0.062 0.145 0.129 0.103 0.175 0.098 0.196 0.001], Final Value = \$1637527.03, Sharpe Ratio = -16.19

Simulation Run = 4673

Weights = [0.129 0.004 0.081 0.143 0.193 0.1 0.243 0.065 0.043], Final Value = \$1635909.90, Sharpe Ratio = -13.82

Simulation Run = 4674

Weights = [0.102 0.125 0.047 0.12 0.211 0.174 0.039 0.177 0.004], Final Value = \$1687604.47, Sharpe Ratio = -20.22

Simulation Run = 4675

Weights = [0.029 0.122 0.062 0.272 0.023 0.024 0.217 0.25 0.001], Final Value = \$1594233.34, Sharpe Ratio = -15.06

Simulation Run = 4676

Weights = [0.095 0.199 0.038 0.129 0.165 0.111 0.106 0.107 0.051], Final Value = \$1590129.50, Sharpe Ratio = -20.73

Simulation Run = 4677

Weights = [0.21 0.161 0.018 0.055 0.018 0.211 0.012 0.104 0.211], Final Value = \$1478124.25, Sharpe Ratio = -20.55

Simulation Run = 4678

Weights = [0.117 0.044 0.232 0.116 0.092 0.254 0.019 0.098 0.03], Final Value = \$1612185.56, Sharpe Ratio = -15.77

Simulation Run = 4679
Weights = [0.206 0.085 0.185 0.048 0.038 0.11 0.183 0.002 0.143], Final Value =
\$1442769.04, Sharpe Ratio = -14.99

Simulation Run = 4680
Weights = [0.229 0.014 0.103 0.206 0.101 0.104 0.025 0.11 0.108], Final Value =
\$1590509.50, Sharpe Ratio = -19.97

Simulation Run = 4681
Weights = [0.066 0.241 0.163 0.028 0.142 0.099 0.159 0.066 0.035], Final Value =
\$1499939.14, Sharpe Ratio = -17.56

Simulation Run = 4682
Weights = [0.117 0.066 0.081 0.082 0.193 0.152 0.133 0.068 0.108], Final Value =
\$1572307.19, Sharpe Ratio = -17.75

Simulation Run = 4683
Weights = [0.164 0.02 0.006 0.116 0.121 0.143 0.193 0.086 0.151], Final Value =
\$1569230.12, Sharpe Ratio = -15.50

Simulation Run = 4684
Weights = [0.133 0.1 0.132 0.028 0.196 0.103 0.07 0.056 0.182], Final Value =
\$1453589.48, Sharpe Ratio = -22.10

Simulation Run = 4685
Weights = [0.06 0.056 0.012 0.196 0.057 0.152 0.218 0.187 0.063], Final Value =
\$1622058.11, Sharpe Ratio = -14.21

Simulation Run = 4686
Weights = [0.172 0.155 0.14 0.09 0.164 0.08 0.003 0.08 0.116], Final Value =
\$1502412.71, Sharpe Ratio = -24.33

Simulation Run = 4687
Weights = [0.177 0.158 0.053 0.011 0.047 0.114 0.173 0.09 0.179], Final Value =
\$1438997.28, Sharpe Ratio = -16.93

Simulation Run = 4688
Weights = [0.135 0.124 0.148 0.047 0.053 0.145 0.043 0.153 0.152], Final Value =

\$1454792.65, Sharpe Ratio = -20.28

Simulation Run = 4689

Weights = [0.136 0.131 0.047 0.106 0.123 0.157 0.126 0.117 0.056], Final Value = \$1608447.48, Sharpe Ratio = -17.55

Simulation Run = 4690

Weights = [0.123 0.067 0.2 0.121 0.125 0.1 0.108 0.064 0.092], Final Value = \$1511069.57, Sharpe Ratio = -17.72

Simulation Run = 4691

Weights = [0.025 0.076 0.077 0.172 0.188 0.175 0.067 0.169 0.052], Final Value = \$1637198.75, Sharpe Ratio = -19.44

Simulation Run = 4692

Weights = [0.089 0.148 0.005 0.191 0.201 0.065 0.221 0.053 0.028], Final Value = \$1634283.76, Sharpe Ratio = -16.18

Simulation Run = 4693

Weights = [0.147 0.073 0.115 0.046 0.134 0.181 0.005 0.147 0.152], Final Value = \$1520612.88, Sharpe Ratio = -20.93

Simulation Run = 4694

Weights = [0.109 0.18 0.138 0.043 0.046 0.163 0.151 0.055 0.116], Final Value = \$1466926.49, Sharpe Ratio = -16.53

Simulation Run = 4695

Weights = [0.133 0.193 0.115 0.125 0.136 0.159 0.093 0.008 0.039], Final Value = \$1585990.23, Sharpe Ratio = -18.81

Simulation Run = 4696

Weights = [0.146 0.055 0.163 0.087 0.087 0.071 0.012 0.186 0.193], Final Value = \$1425825.97, Sharpe Ratio = -22.77

Simulation Run = 4697

Weights = [0.031 0.059 0.149 0.126 0.148 0.147 0.127 0.138 0.074], Final Value = \$1559240.06, Sharpe Ratio = -17.13

Simulation Run = 4698
Weights = [0.045 0.05 0.058 0.141 0.099 0.21 0.063 0.146 0.188], Final Value =
\$1520178.95, Sharpe Ratio = -19.54

Simulation Run = 4699
Weights = [0.104 0.122 0.142 0.098 0.131 0.111 0.082 0.117 0.092], Final Value =
\$1520448.06, Sharpe Ratio = -19.94

Simulation Run = 4700
Weights = [0.135 0.066 0.176 0.167 0.074 0.133 0.034 0.151 0.063], Final Value =
\$1564966.68, Sharpe Ratio = -18.65

Simulation Run = 4701
Weights = [0.034 0.107 0.111 0.111 0.148 0.07 0.165 0.106 0.146], Final Value =
\$1464022.99, Sharpe Ratio = -18.47

Simulation Run = 4702
Weights = [0.164 0.158 0.055 0.002 0.138 0.091 0.159 0.216 0.016], Final Value =
\$1594890.86, Sharpe Ratio = -16.92

Simulation Run = 4703
Weights = [0.24 0.127 0.199 0.056 0.05 0.039 0.243 0.029 0.017], Final Value =
\$1517710.05, Sharpe Ratio = -13.21

Simulation Run = 4704
Weights = [0.006 0.176 0.071 0.039 0.207 0.175 0.024 0.177 0.125], Final Value =
\$1523650.42, Sharpe Ratio = -23.80

Simulation Run = 4705
Weights = [0.167 0.079 0.132 0.151 0.176 0.079 0.068 0.032 0.115], Final Value =
\$1536616.70, Sharpe Ratio = -21.05

Simulation Run = 4706
Weights = [0.046 0.209 0.135 0.177 0.112 0.1 0.092 0.004 0.126], Final Value =
\$1464954.76, Sharpe Ratio = -21.56

Simulation Run = 4707
Weights = [0.107 0.201 0.049 0.215 0.16 0.073 0.104 0.005 0.085], Final Value =
\$1558659.01, Sharpe Ratio = -22.00

Simulation Run = 4708
Weights = [0.155 0.153 0.012 0.118 0.079 0.042 0.152 0.146 0.143], Final Value =
\$1491831.94, Sharpe Ratio = -19.45

Simulation Run = 4709
Weights = [0.176 0.002 0.144 0.071 0.169 0.15 0.146 0.099 0.043], Final Value =
\$1621798.43, Sharpe Ratio = -15.25

Simulation Run = 4710
Weights = [0.133 0.159 0.058 0.181 0.054 0.003 0.101 0.187 0.124], Final Value =
\$1480818.66, Sharpe Ratio = -21.95

Simulation Run = 4711
Weights = [0.026 0.039 0.075 0.167 0.008 0.082 0.11 0.247 0.246], Final Value =
\$1396072.38, Sharpe Ratio = -20.12

Simulation Run = 4712
Weights = [0.135 0.102 0.106 0.122 0.145 0.016 0.061 0.172 0.141], Final Value =
\$1478648.34, Sharpe Ratio = -23.68

Simulation Run = 4713
Weights = [0.115 0.186 0.135 0.151 0.093 0.139 0.107 0.016 0.058], Final Value =
\$1546542.26, Sharpe Ratio = -18.43

Simulation Run = 4714
Weights = [0.091 0.17 0.088 0.125 0.093 0.122 0.114 0.121 0.076], Final Value =
\$1540179.06, Sharpe Ratio = -19.07

Simulation Run = 4715
Weights = [0.162 0.031 0.145 0.037 0.075 0.104 0.108 0.133 0.205], Final Value =
\$1423479.90, Sharpe Ratio = -18.40

Simulation Run = 4716
Weights = [0. 0.149 0.141 0.184 0.055 0.054 0.044 0.182 0.19], Final Value =
\$1391986.13, Sharpe Ratio = -24.26

Simulation Run = 4717

Weights = [0.12 0.118 0.141 0.058 0.175 0.062 0.107 0.051 0.167], Final Value = \$1440181.27, Sharpe Ratio = -21.09

Simulation Run = 4718

Weights = [0.054 0.113 0.074 0.158 0.161 0.163 0.2 0.076 0.001], Final Value = \$1654090.94, Sharpe Ratio = -14.83

Simulation Run = 4719

Weights = [0.106 0.176 0.029 0.133 0.148 0.043 0.059 0.126 0.18], Final Value = \$1463692.79, Sharpe Ratio = -26.86

Simulation Run = 4720

Weights = [0.093 0.04 0.132 0.117 0.179 0.119 0.066 0.19 0.063], Final Value = \$1592059.43, Sharpe Ratio = -19.42

Simulation Run = 4721

Weights = [0.116 0.147 0.002 0.147 0.133 0.111 0.151 0.092 0.101], Final Value = \$1571833.26, Sharpe Ratio = -18.60

Simulation Run = 4722

Weights = [0.102 0.142 0.178 0.012 0.128 0.16 0.093 0.007 0.18], Final Value = \$1418319.11, Sharpe Ratio = -19.30

Simulation Run = 4723

Weights = [0.093 0.058 0.151 0.024 0.046 0.12 0.142 0.179 0.187], Final Value = \$1412624.27, Sharpe Ratio = -17.03

Simulation Run = 4724

Weights = [0.004 0.098 0.048 0.266 0.071 0.181 0.145 0.028 0.16], Final Value = \$1530609.12, Sharpe Ratio = -17.46

Simulation Run = 4725

Weights = [0.2 0.212 0.048 0.142 0.103 0.049 0.167 0.044 0.035], Final Value = \$1574457.11, Sharpe Ratio = -17.78

Simulation Run = 4726

Weights = [0.176 0.12 0.165 0.098 0.104 0.068 0.089 0.003 0.177], Final Value = \$1422968.87, Sharpe Ratio = -20.62

Simulation Run = 4727
Weights = [0.034 0.223 0.028 0.126 0.047 0.026 0.208 0.179 0.129], Final Value =
\$1442835.08, Sharpe Ratio = -17.70

Simulation Run = 4728
Weights = [0.04 0.142 0.059 0.166 0.174 0.096 0.068 0.142 0.112], Final Value =
\$1541982.34, Sharpe Ratio = -23.45

Simulation Run = 4729
Weights = [0.217 0.151 0.103 0.023 0.073 0.211 0.014 0.158 0.049], Final Value =
\$1597367.12, Sharpe Ratio = -18.33

Simulation Run = 4730
Weights = [0.175 0.152 0.054 0.172 0.06 0.056 0.021 0.188 0.123], Final Value =
\$1516823.91, Sharpe Ratio = -24.34

Simulation Run = 4731
Weights = [0.156 0.127 0.182 0.133 0.025 0.164 0.095 0.037 0.082], Final Value =
\$1519301.53, Sharpe Ratio = -16.79

Simulation Run = 4732
Weights = [0.137 0.146 0.128 0.185 0.03 0.026 0.002 0.178 0.168], Final Value =
\$1426541.20, Sharpe Ratio = -24.99

Simulation Run = 4733
Weights = [0.068 0.036 0.08 0.106 0.196 0.209 0.171 0.065 0.068], Final Value =
\$1632859.95, Sharpe Ratio = -15.17

Simulation Run = 4734
Weights = [0.104 0.098 0.153 0.115 0.149 0.083 0.064 0.071 0.162], Final Value =
\$1458715.09, Sharpe Ratio = -22.04

Simulation Run = 4735
Weights = [0.111 0.063 0.111 0.186 0.165 0.122 0.157 0.078 0.008], Final Value =
\$1651327.76, Sharpe Ratio = -15.97

Simulation Run = 4736
Weights = [0.099 0.076 0.338 0.109 0.004 0.223 0.027 0.021 0.102], Final Value =

\$1456005.31, Sharpe Ratio = -15.45

Simulation Run = 4737

Weights = [0.01 0.002 0.127 0.025 0.109 0.192 0.024 0.242 0.269], Final Value = \$1402038.87, Sharpe Ratio = -21.09

Simulation Run = 4738

Weights = [0.016 0.226 0.146 0.088 0.233 0.121 0.058 0.014 0.098], Final Value = \$1496531.29, Sharpe Ratio = -23.51

Simulation Run = 4739

Weights = [0.272 0.007 0.236 0.078 0.043 0.031 0.094 0.166 0.073], Final Value = \$1503041.62, Sharpe Ratio = -16.27

Simulation Run = 4740

Weights = [0.257 0.106 0.073 0.174 0.097 0.066 0.071 0.064 0.093], Final Value = \$1569733.84, Sharpe Ratio = -20.38

Simulation Run = 4741

Weights = [0.102 0.129 0.053 0.203 0.092 0.246 0.049 0.083 0.043], Final Value = \$1662664.96, Sharpe Ratio = -17.78

Simulation Run = 4742

Weights = [0.003 0.22 0.193 0.059 0.048 0.022 0.217 0.228 0.01], Final Value = \$1458604.22, Sharpe Ratio = -15.23

Simulation Run = 4743

Weights = [0.207 0.061 0.073 0.189 0.006 0.067 0.034 0.162 0.201], Final Value = \$1463971.54, Sharpe Ratio = -22.04

Simulation Run = 4744

Weights = [0.137 0.015 0.195 0.14 0.199 0.125 0.045 0.128 0.015], Final Value = \$1634409.27, Sharpe Ratio = -18.03

Simulation Run = 4745

Weights = [0.154 0.126 0.084 0.147 0.169 0.018 0.04 0.169 0.092], Final Value = \$1540522.17, Sharpe Ratio = -24.45

Simulation Run = 4746
Weights = [0.027 0.278 0.024 0.025 0.036 0.234 0.211 0.139 0.026], Final Value =
\$1570496.74, Sharpe Ratio = -14.14

Simulation Run = 4747
Weights = [0.096 0.181 0.098 0.09 0.102 0.023 0.153 0.167 0.09], Final Value =
\$1477426.73, Sharpe Ratio = -19.20

Simulation Run = 4748
Weights = [0.087 0.165 0.056 0.072 0.042 0.023 0.252 0.079 0.225], Final Value =
\$1352809.69, Sharpe Ratio = -15.77

Simulation Run = 4749
Weights = [0.06 0.194 0.153 0.183 0.131 0.025 0.052 0.04 0.161], Final Value =
\$1414262.59, Sharpe Ratio = -25.09

Simulation Run = 4750
Weights = [0.055 0.061 0.13 0.177 0.083 0.084 0.108 0.133 0.169], Final Value =
\$1459833.61, Sharpe Ratio = -19.61

Simulation Run = 4751
Weights = [0.071 0.162 0.158 0.084 0.134 0.079 0.041 0.065 0.206], Final Value =
\$1384187.07, Sharpe Ratio = -24.89

Simulation Run = 4752
Weights = [0.051 0.238 0.181 0.024 0. 0.064 0.073 0.284 0.086], Final Value =
\$1407119.82, Sharpe Ratio = -20.61

Simulation Run = 4753
Weights = [0.192 0.054 0.098 0.067 0.144 0.033 0.155 0.225 0.032], Final Value =
\$1590895.85, Sharpe Ratio = -16.81

Simulation Run = 4754
Weights = [0.132 0.085 0.105 0.051 0.035 0.085 0.248 0.146 0.113], Final Value =
\$1478796.93, Sharpe Ratio = -13.80

Simulation Run = 4755
Weights = [0.098 0.021 0.105 0.09 0.178 0.019 0.168 0.104 0.218], Final Value =
\$1421835.28, Sharpe Ratio = -18.82

Simulation Run = 4756
Weights = [0.042 0.06 0.228 0.075 0.168 0.102 0.013 0.198 0.113], Final Value =
\$1479290.47, Sharpe Ratio = -21.05

Simulation Run = 4757
Weights = [0.1 0.189 0.01 0.199 0.046 0.124 0.15 0.135 0.048], Final Value =
\$1596165.29, Sharpe Ratio = -17.56

Simulation Run = 4758
Weights = [0.179 0.19 0.018 0.169 0.041 0.092 0.12 0.176 0.013], Final Value =
\$1620026.46, Sharpe Ratio = -18.24

Simulation Run = 4759
Weights = [0.01 0.06 0.1 0.219 0.019 0.196 0.13 0.068 0.198], Final Value =
\$1471732.32, Sharpe Ratio = -16.90

Simulation Run = 4760
Weights = [0.167 0.045 0.21 0.118 0.018 0.105 0.026 0.133 0.178], Final Value =
\$1426692.45, Sharpe Ratio = -19.50

Simulation Run = 4761
Weights = [0.081 0.132 0.182 0.171 0.029 0.139 0.104 0.058 0.104], Final Value =
\$1484699.39, Sharpe Ratio = -17.59

Simulation Run = 4762
Weights = [0.022 0.166 0.148 0.098 0.143 0.072 0.161 0.124 0.066], Final Value =
\$1498240.84, Sharpe Ratio = -17.92

Simulation Run = 4763
Weights = [0.022 0.07 0.043 0.254 0.234 0.042 0.154 0.097 0.083], Final Value =
\$1597585.99, Sharpe Ratio = -19.30

Simulation Run = 4764
Weights = [0.163 0.057 0.205 0.072 0.122 0.142 0.001 0.136 0.103], Final Value =
\$1521764.50, Sharpe Ratio = -19.66

Simulation Run = 4765

Weights = [0.07 0.013 0.195 0.077 0.201 0.206 0.023 0.063 0.152], Final Value = \$1520326.04, Sharpe Ratio = -19.20

Simulation Run = 4766

Weights = [0.163 0.083 0.167 0.163 0.046 0.183 0.007 0.125 0.063], Final Value = \$1580683.79, Sharpe Ratio = -18.19

Simulation Run = 4767

Weights = [0.102 0.069 0.028 0.226 0.138 0.168 0.004 0.14 0.125], Final Value = \$1608844.96, Sharpe Ratio = -22.17

Simulation Run = 4768

Weights = [0.102 0.16 0.084 0.117 0.014 0.116 0.082 0.153 0.173], Final Value = \$1440044.79, Sharpe Ratio = -20.82

Simulation Run = 4769

Weights = [0.17 0.222 0.093 0.102 0.06 0.01 0.012 0.082 0.248], Final Value = \$1337199.95, Sharpe Ratio = -29.05

Simulation Run = 4770

Weights = [0.108 0.076 0.14 0.097 0.087 0.13 0.132 0.075 0.156], Final Value = \$1470012.23, Sharpe Ratio = -17.58

Simulation Run = 4771

Weights = [0.124 0.032 0.024 0.119 0.146 0.111 0.148 0.107 0.189], Final Value = \$1516484.27, Sharpe Ratio = -18.41

Simulation Run = 4772

Weights = [0.131 0.083 0.019 0.009 0.153 0.189 0.148 0.159 0.11], Final Value = \$1582984.75, Sharpe Ratio = -16.47

Simulation Run = 4773

Weights = [0.098 0.25 0.128 0.103 0.07 0.111 0.09 0.064 0.087], Final Value = \$1478454.86, Sharpe Ratio = -20.68

Simulation Run = 4774

Weights = [0.023 0.253 0.141 0.122 0.118 0.046 0.099 0.114 0.084], Final Value = \$1455103.68, Sharpe Ratio = -22.21

Simulation Run = 4775
Weights = [0.23 0.017 0.211 0.023 0.081 0.01 0.11 0.131 0.188], Final Value =
\$1389949.44, Sharpe Ratio = -18.15

Simulation Run = 4776
Weights = [0.084 0.094 0.068 0.179 0.061 0.13 0.121 0.112 0.151], Final Value =
\$1507438.13, Sharpe Ratio = -18.69

Simulation Run = 4777
Weights = [0.092 0.045 0.14 0.212 0.184 0.045 0.075 0.079 0.128], Final Value =
\$1521856.14, Sharpe Ratio = -21.33

Simulation Run = 4778
Weights = [0.057 0.126 0.058 0.11 0.078 0.151 0.17 0.078 0.172], Final Value =
\$1473785.35, Sharpe Ratio = -17.19

Simulation Run = 4779
Weights = [0.103 0.118 0.163 0.122 0.03 0.158 0.155 0.128 0.023], Final Value =
\$1566959.20, Sharpe Ratio = -14.94

Simulation Run = 4780
Weights = [0.204 0.18 0.088 0.127 0.118 0.129 0.016 0.12 0.018], Final Value =
\$1623470.17, Sharpe Ratio = -21.11

Simulation Run = 4781
Weights = [0.087 0.087 0.195 0.089 0.022 0.13 0.157 0.112 0.12], Final Value =
\$1453538.06, Sharpe Ratio = -15.61

Simulation Run = 4782
Weights = [0.09 0.158 0.156 0.163 0.151 0.012 0.149 0.048 0.073], Final Value =
\$1495518.25, Sharpe Ratio = -18.84

Simulation Run = 4783
Weights = [0.117 0.107 0.046 0.063 0.064 0.209 0.043 0.153 0.198], Final Value =
\$1488198.88, Sharpe Ratio = -20.14

Simulation Run = 4784
Weights = [0.066 0.143 0.095 0.09 0.215 0.01 0.092 0.134 0.155], Final Value =

\$1453804.48, Sharpe Ratio = -24.40

Simulation Run = 4785

Weights = [0.004 0.027 0.152 0.177 0.013 0.043 0.063 0.26 0.262], Final Value = \$1341395.50, Sharpe Ratio = -22.01

Simulation Run = 4786

Weights = [0.224 0.037 0.317 0.095 0.048 0.011 0.106 0.01 0.153], Final Value = \$1376002.87, Sharpe Ratio = -16.56

Simulation Run = 4787

Weights = [0.099 0.015 0.039 0.173 0.12 0.144 0.164 0.168 0.078], Final Value = \$1624986.42, Sharpe Ratio = -15.93

Simulation Run = 4788

Weights = [0.217 0.097 0.013 0.183 0.048 0.044 0.038 0.171 0.189], Final Value = \$1490954.52, Sharpe Ratio = -23.98

Simulation Run = 4789

Weights = [0.148 0.176 0.16 0.026 0.172 0.144 0.053 0.051 0.071], Final Value = \$1532166.17, Sharpe Ratio = -20.44

Simulation Run = 4790

Weights = [0.078 0.028 0.069 0.175 0.035 0.158 0.071 0.357 0.029], Final Value = \$1642291.10, Sharpe Ratio = -17.19

Simulation Run = 4791

Weights = [0.142 0.034 0.143 0.246 0.042 0.064 0.025 0.172 0.132], Final Value = \$1512169.58, Sharpe Ratio = -20.66

Simulation Run = 4792

Weights = [0.064 0.126 0.038 0.144 0.088 0.18 0.107 0.089 0.164], Final Value = \$1514961.23, Sharpe Ratio = -19.21

Simulation Run = 4793

Weights = [0.145 0.149 0.139 0.077 0.15 0.048 0.094 0.044 0.154], Final Value = \$1441295.90, Sharpe Ratio = -21.84

Simulation Run = 4794
Weights = [0.036 0.216 0.093 0.025 0.051 0.201 0.054 0.098 0.226], Final Value =
\$1384400.36, Sharpe Ratio = -21.51

Simulation Run = 4795
Weights = [0.107 0.139 0.113 0.125 0.002 0.033 0.089 0.179 0.213], Final Value =
\$1367425.35, Sharpe Ratio = -21.94

Simulation Run = 4796
Weights = [0.048 0.055 0.112 0.036 0.052 0.096 0.178 0.182 0.241], Final Value =
\$1367038.64, Sharpe Ratio = -17.04

Simulation Run = 4797
Weights = [0.041 0.199 0.161 0.177 0.091 0.038 0.172 0.079 0.043], Final Value =
\$1496813.51, Sharpe Ratio = -17.32

Simulation Run = 4798
Weights = [0.154 0.174 0.025 0.181 0.083 0.135 0.202 0.011 0.035], Final Value =
\$1619192.73, Sharpe Ratio = -15.31

Simulation Run = 4799
Weights = [0.069 0.164 0.194 0.02 0.104 0.067 0.157 0.054 0.171], Final Value =
\$1366500.77, Sharpe Ratio = -18.16

Simulation Run = 4800
Weights = [0.116 0.12 0.181 0.05 0.179 0.095 0.029 0.068 0.164], Final Value =
\$1441731.30, Sharpe Ratio = -23.20

Simulation Run = 4801
Weights = [0.034 0.107 0.123 0.129 0.153 0.162 0.041 0.12 0.131], Final Value =
\$1519751.28, Sharpe Ratio = -21.47

Simulation Run = 4802
Weights = [0.15 0.035 0.135 0.017 0.169 0.055 0.159 0.155 0.124], Final Value =
\$1494277.26, Sharpe Ratio = -17.25

Simulation Run = 4803
Weights = [0.023 0.065 0.159 0.127 0.188 0.061 0.091 0.206 0.08], Final Value =
\$1528367.67, Sharpe Ratio = -20.17

Simulation Run = 4804
Weights = [0.163 0.074 0.116 0.111 0.149 0.096 0.095 0.083 0.113], Final Value =
\$1536603.61, Sharpe Ratio = -19.52

Simulation Run = 4805
Weights = [0.148 0.141 0.181 0.072 0.016 0.024 0.09 0.253 0.075], Final Value =
\$1457269.52, Sharpe Ratio = -18.99

Simulation Run = 4806
Weights = [0.167 0.175 0.098 0.087 0.064 0.019 0.135 0.176 0.078], Final Value =
\$1492381.88, Sharpe Ratio = -19.05

Simulation Run = 4807
Weights = [0.122 0.179 0.046 0.149 0.054 0.089 0.099 0.145 0.118], Final Value =
\$1507927.51, Sharpe Ratio = -20.91

Simulation Run = 4808
Weights = [0.085 0.174 0.063 0.172 0.046 0.114 0.162 0.075 0.109], Final Value =
\$1510977.42, Sharpe Ratio = -17.55

Simulation Run = 4809
Weights = [0.195 0.028 0.062 0.137 0.046 0.162 0.191 0.089 0.091], Final Value =
\$1595349.68, Sharpe Ratio = -14.18

Simulation Run = 4810
Weights = [0.196 0.076 0.012 0.082 0.177 0.126 0.09 0.199 0.042], Final Value =
\$1661180.63, Sharpe Ratio = -18.83

Simulation Run = 4811
Weights = [0.013 0.207 0.009 0.253 0.2 0.066 0.123 0.07 0.06], Final Value =
\$1595508.14, Sharpe Ratio = -21.85

Simulation Run = 4812
Weights = [0.039 0.057 0.162 0.141 0.057 0.185 0.164 0.106 0.088], Final Value =
\$1534954.58, Sharpe Ratio = -14.85

Simulation Run = 4813

Weights = [0.152 0.196 0.112 0.178 0.049 0.007 0.197 0.052 0.055], Final Value = \$1503880.73, Sharpe Ratio = -16.49

Simulation Run = 4814

Weights = [0.144 0.156 0.095 0.148 0.062 0.08 0.137 0.084 0.095], Final Value = \$1513009.67, Sharpe Ratio = -18.37

Simulation Run = 4815

Weights = [0.081 0.032 0.207 0.236 0.272 0.063 0.046 0.004 0.058], Final Value = \$1590727.25, Sharpe Ratio = -20.04

Simulation Run = 4816

Weights = [0.059 0.056 0.179 0.017 0.089 0.084 0.208 0.101 0.207], Final Value = \$1368081.71, Sharpe Ratio = -15.58

Simulation Run = 4817

Weights = [0.165 0.124 0.054 0.167 0.108 0.078 0.183 0.085 0.037], Final Value = \$1605143.06, Sharpe Ratio = -16.28

Simulation Run = 4818

Weights = [0.146 0.032 0.148 0.149 0.147 0.188 0.016 0.127 0.046], Final Value = \$1638640.53, Sharpe Ratio = -18.24

Simulation Run = 4819

Weights = [0.112 0.081 0.046 0.094 0.143 0.139 0.154 0.123 0.109], Final Value = \$1566504.36, Sharpe Ratio = -17.23

Simulation Run = 4820

Weights = [0.085 0.148 0.039 0.134 0.212 0.003 0.116 0.083 0.181], Final Value = \$1459402.14, Sharpe Ratio = -24.12

Simulation Run = 4821

Weights = [0.086 0.024 0.038 0.204 0.1 0.165 0.081 0.137 0.164], Final Value = \$1558941.83, Sharpe Ratio = -19.37

Simulation Run = 4822

Weights = [0.092 0.222 0.14 0.058 0.118 0.145 0.08 0.095 0.052], Final Value = \$1527870.38, Sharpe Ratio = -19.80

Simulation Run = 4823
Weights = [0.094 0.148 0.059 0.087 0.135 0.136 0.119 0.146 0.075], Final Value =
\$1566840.76, Sharpe Ratio = -18.89

Simulation Run = 4824
Weights = [0.153 0.038 0.034 0.175 0.003 0.178 0.131 0.176 0.113], Final Value =
\$1586304.71, Sharpe Ratio = -15.85

Simulation Run = 4825
Weights = [0.069 0.02 0.202 0.128 0.224 0.021 0.214 0.05 0.072], Final Value =
\$1522047.10, Sharpe Ratio = -15.18

Simulation Run = 4826
Weights = [0.117 0.126 0.06 0.078 0.195 0.184 0.13 0.025 0.085], Final Value =
\$1595057.10, Sharpe Ratio = -17.74

Simulation Run = 4827
Weights = [0.181 0.026 0.013 0.154 0.142 0.124 0.164 0.143 0.052], Final Value =
\$1663703.88, Sharpe Ratio = -15.93

Simulation Run = 4828
Weights = [0.027 0.198 0.002 0.044 0.136 0.101 0.214 0.086 0.192], Final Value =
\$1433727.83, Sharpe Ratio = -17.42

Simulation Run = 4829
Weights = [0.182 0.136 0.023 0.044 0.12 0.175 0.16 0.042 0.117], Final Value =
\$1560681.98, Sharpe Ratio = -16.41

Simulation Run = 4830
Weights = [0.178 0.179 0.071 0.063 0.109 0.072 0.108 0.059 0.162], Final Value =
\$1455324.05, Sharpe Ratio = -21.26

Simulation Run = 4831
Weights = [0.116 0.028 0.046 0.207 0.089 0.189 0.005 0.153 0.167], Final Value =
\$1569137.69, Sharpe Ratio = -20.81

Simulation Run = 4832
Weights = [0.014 0.187 0.045 0.085 0.062 0.181 0.175 0.161 0.09], Final Value =

\$1530726.75, Sharpe Ratio = -16.25

Simulation Run = 4833

Weights = [0.148 0.104 0.152 0.041 0.054 0.017 0.192 0.134 0.159], Final Value = \$1397252.80, Sharpe Ratio = -16.49

Simulation Run = 4834

Weights = [0.107 0.109 0.127 0.013 0.133 0.146 0.135 0.103 0.127], Final Value = \$1492071.93, Sharpe Ratio = -17.57

Simulation Run = 4835

Weights = [0.015 0.219 0.242 0.025 0.041 0.219 0.122 0.046 0.07], Final Value = \$1454994.49, Sharpe Ratio = -15.73

Simulation Run = 4836

Weights = [0.048 0.096 0.008 0.231 0.221 0.154 0.131 0.008 0.104], Final Value = \$1624461.82, Sharpe Ratio = -19.14

Simulation Run = 4837

Weights = [0.201 0.009 0.032 0.194 0.206 0.167 0.1 0.09 0.002], Final Value = \$1750860.50, Sharpe Ratio = -16.72

Simulation Run = 4838

Weights = [0.095 0.084 0.195 0.046 0.129 0.115 0.094 0.078 0.164], Final Value = \$1431975.23, Sharpe Ratio = -19.23

Simulation Run = 4839

Weights = [0.199 0.044 0.054 0.107 0.107 0.068 0.134 0.208 0.08], Final Value = \$1584216.59, Sharpe Ratio = -17.61

Simulation Run = 4840

Weights = [0.174 0.15 0.034 0.103 0.11 0.141 0.081 0.015 0.192], Final Value = \$1486488.16, Sharpe Ratio = -21.40

Simulation Run = 4841

Weights = [0.146 0.06 0.059 0.067 0.046 0.07 0.087 0.225 0.241], Final Value = \$1406523.79, Sharpe Ratio = -21.40

Simulation Run = 4842
Weights = [0.152 0.027 0.061 0.093 0.132 0.176 0.125 0.11 0.123], Final Value =
\$1581872.91, Sharpe Ratio = -16.86

Simulation Run = 4843
Weights = [0.042 0.039 0.141 0.008 0.205 0.203 0.032 0.191 0.14], Final Value =
\$1528627.89, Sharpe Ratio = -19.88

Simulation Run = 4844
Weights = [0.143 0.136 0.104 0.067 0.062 0.158 0.035 0.128 0.167], Final Value =
\$1470026.45, Sharpe Ratio = -21.18

Simulation Run = 4845
Weights = [0.1 0.006 0.026 0.215 0.109 0.13 0.166 0.004 0.244], Final Value =
\$1485022.72, Sharpe Ratio = -17.57

Simulation Run = 4846
Weights = [0.175 0.065 0.033 0.098 0.258 0.022 0.038 0.105 0.208], Final Value =
\$1492748.36, Sharpe Ratio = -26.96

Simulation Run = 4847
Weights = [0.036 0.153 0.032 0.086 0.211 0.181 0.037 0.095 0.168], Final Value =
\$1525101.43, Sharpe Ratio = -23.82

Simulation Run = 4848
Weights = [0.15 0.073 0.147 0.159 0.113 0.028 0.109 0.09 0.131], Final Value =
\$1481194.35, Sharpe Ratio = -19.65

Simulation Run = 4849
Weights = [0.224 0.008 0.001 0.006 0.213 0.008 0.228 0.107 0.204], Final Value =
\$1485070.75, Sharpe Ratio = -16.03

Simulation Run = 4850
Weights = [0.061 0.185 0.114 0.168 0.147 0.145 0.003 0.098 0.079], Final Value =
\$1554658.67, Sharpe Ratio = -23.30

Simulation Run = 4851
Weights = [0.02 0.213 0.083 0.014 0.052 0.119 0.134 0.218 0.147], Final Value =
\$1420817.98, Sharpe Ratio = -19.30

Simulation Run = 4852
Weights = [0.062 0.192 0.184 0.196 0.113 0.022 0.006 0.045 0.179], Final Value =
\$1387039.08, Sharpe Ratio = -26.09

Simulation Run = 4853
Weights = [0.082 0.162 0.085 0.139 0.12 0.08 0.087 0.067 0.179], Final Value =
\$1446147.88, Sharpe Ratio = -23.10

Simulation Run = 4854
Weights = [0.116 0.194 0.138 0.002 0.006 0.044 0.168 0.138 0.193], Final Value =
\$1334553.15, Sharpe Ratio = -17.89

Simulation Run = 4855
Weights = [0.148 0.028 0.111 0.142 0.201 0.149 0.081 0.127 0.014], Final Value =
\$1676631.92, Sharpe Ratio = -17.64

Simulation Run = 4856
Weights = [0.126 0.13 0.011 0.123 0.163 0.072 0.13 0.083 0.161], Final Value =
\$1510597.75, Sharpe Ratio = -21.04

Simulation Run = 4857
Weights = [0.072 0.125 0.111 0.098 0.128 0.129 0.079 0.136 0.122], Final Value =
\$1507458.36, Sharpe Ratio = -20.69

Simulation Run = 4858
Weights = [0.109 0.029 0.095 0.025 0.111 0.11 0.295 0.186 0.041], Final Value =
\$1578437.35, Sharpe Ratio = -12.15

Simulation Run = 4859
Weights = [0.08 0.055 0.126 0.139 0.06 0.008 0.082 0.193 0.256], Final Value =
\$1351048.75, Sharpe Ratio = -22.85

Simulation Run = 4860
Weights = [0.199 0.059 0.158 0.142 0.021 0.049 0.149 0.105 0.116], Final Value =
\$1481715.29, Sharpe Ratio = -16.40

Simulation Run = 4861

Weights = [0.127 0.059 0.104 0.166 0.079 0.137 0.128 0.082 0.118], Final Value = \$1542710.20, Sharpe Ratio = -17.24

Simulation Run = 4862

Weights = [0.196 0.015 0.009 0.123 0.203 0.101 0.096 0.181 0.076], Final Value = \$1655009.38, Sharpe Ratio = -19.10

Simulation Run = 4863

Weights = [0.138 0.12 0.17 0.129 0.096 0.077 0.12 0.052 0.097], Final Value = \$1492378.93, Sharpe Ratio = -18.29

Simulation Run = 4864

Weights = [0.179 0.119 0.097 0.092 0.051 0.076 0.234 0.045 0.107], Final Value = \$1494656.44, Sharpe Ratio = -14.51

Simulation Run = 4865

Weights = [0.115 0.022 0.054 0.084 0.219 0.15 0.012 0.094 0.249], Final Value = \$1485458.09, Sharpe Ratio = -24.30

Simulation Run = 4866

Weights = [0.11 0.23 0.155 0.003 0.002 0.047 0.111 0.133 0.21], Final Value = \$1305384.39, Sharpe Ratio = -20.78

Simulation Run = 4867

Weights = [0.112 0.144 0.087 0.098 0.196 0.054 0.079 0.188 0.042], Final Value = \$1578760.17, Sharpe Ratio = -21.89

Simulation Run = 4868

Weights = [0.126 0.066 0.025 0.068 0.167 0.032 0.106 0.151 0.26], Final Value = \$1412083.36, Sharpe Ratio = -23.39

Simulation Run = 4869

Weights = [0.133 0.126 0.058 0.043 0.155 0.176 0.117 0.125 0.067], Final Value = \$1597671.03, Sharpe Ratio = -17.66

Simulation Run = 4870

Weights = [0.058 0.036 0.151 0.057 0.145 0.118 0.076 0.174 0.185], Final Value = \$1449455.29, Sharpe Ratio = -20.41

Simulation Run = 4871
Weights = [0.093 0.104 0.132 0.136 0.074 0.126 0.046 0.148 0.14], Final Value =
\$1487450.35, Sharpe Ratio = -21.03

Simulation Run = 4872
Weights = [0.121 0.03 0.145 0.154 0.024 0.126 0.147 0.181 0.071], Final Value =
\$1553713.83, Sharpe Ratio = -15.32

Simulation Run = 4873
Weights = [0.108 0.097 0.099 0.079 0.173 0.137 0.03 0.184 0.093], Final Value =
\$1564908.61, Sharpe Ratio = -21.79

Simulation Run = 4874
Weights = [0.159 0.006 0.004 0.172 0.147 0.12 0.185 0.179 0.029], Final Value =
\$1691770.59, Sharpe Ratio = -15.11

Simulation Run = 4875
Weights = [0.107 0.125 0.15 0.127 0.038 0.159 0.1 0.07 0.125], Final Value =
\$1486943.38, Sharpe Ratio = -17.83

Simulation Run = 4876
Weights = [0.149 0.154 0.166 0.225 0.053 0.157 0.046 0.024 0.026], Final Value =
\$1592742.90, Sharpe Ratio = -18.21

Simulation Run = 4877
Weights = [0.066 0.033 0.064 0.138 0.164 0.197 0.081 0.064 0.191], Final Value =
\$1531518.06, Sharpe Ratio = -19.54

Simulation Run = 4878
Weights = [0.215 0.096 0.072 0.116 0.186 0.152 0.05 0.028 0.085], Final Value =
\$1614893.44, Sharpe Ratio = -20.20

Simulation Run = 4879
Weights = [0.185 0.117 0.135 0.109 0.113 0.013 0.09 0.176 0.063], Final Value =
\$1527026.80, Sharpe Ratio = -20.09

Simulation Run = 4880
Weights = [0.06 0.016 0.217 0.046 0.026 0.148 0.222 0.065 0.201], Final Value =

\$1382298.67, Sharpe Ratio = -13.63

Simulation Run = 4881

Weights = [0.185 0.176 0.074 0.056 0.105 0.173 0.139 0.066 0.026], Final Value = \$1608637.45, Sharpe Ratio = -16.31

Simulation Run = 4882

Weights = [0.107 0.075 0.058 0.177 0.026 0.247 0.043 0.013 0.255], Final Value = \$1466895.15, Sharpe Ratio = -19.16

Simulation Run = 4883

Weights = [0.168 0.072 0.108 0.17 0.041 0.12 0.116 0.156 0.048], Final Value = \$1592874.34, Sharpe Ratio = -16.66

Simulation Run = 4884

Weights = [0.064 0.223 0.078 0.157 0.144 0.001 0.182 0.105 0.046], Final Value = \$1521481.02, Sharpe Ratio = -18.62

Simulation Run = 4885

Weights = [0.082 0.041 0.194 0.152 0.016 0.22 0.038 0.034 0.224], Final Value = \$1425802.05, Sharpe Ratio = -18.03

Simulation Run = 4886

Weights = [0.163 0.143 0.162 0.146 0.088 0.071 0.074 0.043 0.11], Final Value = \$1484396.10, Sharpe Ratio = -20.49

Simulation Run = 4887

Weights = [0.253 0.064 0.023 0.011 0.175 0.081 0.247 0.065 0.081], Final Value = \$1591167.65, Sharpe Ratio = -13.99

Simulation Run = 4888

Weights = [0.197 0.023 0.2 0.07 0.143 0.033 0.105 0.221 0.009], Final Value = \$1581736.50, Sharpe Ratio = -16.87

Simulation Run = 4889

Weights = [0.116 0.18 0.157 0.059 0.14 0.016 0.16 0.058 0.114], Final Value = \$1433787.16, Sharpe Ratio = -18.75

Simulation Run = 4890
Weights = [0.026 0.225 0.136 0.101 0.02 0.044 0.304 0.034 0.109], Final Value =
\$1399886.11, Sharpe Ratio = -13.29

Simulation Run = 4891
Weights = [0.115 0.091 0.146 0.053 0.133 0.103 0.194 0.095 0.07], Final Value =
\$1529077.09, Sharpe Ratio = -15.37

Simulation Run = 4892
Weights = [0.041 0.12 0.104 0.131 0.08 0.084 0.045 0.203 0.192], Final Value =
\$1426144.39, Sharpe Ratio = -24.14

Simulation Run = 4893
Weights = [0.072 0.161 0.086 0.049 0.209 0.181 0.043 0.03 0.169], Final Value =
\$1494891.49, Sharpe Ratio = -22.90

Simulation Run = 4894
Weights = [0.096 0.127 0.048 0.151 0.12 0.08 0.114 0.138 0.125], Final Value =
\$1523157.74, Sharpe Ratio = -20.72

Simulation Run = 4895
Weights = [0.045 0.1 0.075 0.155 0.123 0.173 0.102 0.161 0.067], Final Value =
\$1598565.14, Sharpe Ratio = -18.22

Simulation Run = 4896
Weights = [0.083 0.086 0.034 0.053 0.14 0.1 0.155 0.186 0.163], Final Value =
\$1494931.96, Sharpe Ratio = -18.56

Simulation Run = 4897
Weights = [0.068 0.076 0.178 0.184 0.082 0.078 0.14 0.122 0.072], Final Value =
\$1520491.28, Sharpe Ratio = -16.88

Simulation Run = 4898
Weights = [0.161 0.173 0.208 0.081 0.06 0.137 0.03 0.111 0.04], Final Value =
\$1526427.68, Sharpe Ratio = -18.96

Simulation Run = 4899
Weights = [0.171 0.174 0.121 0.091 0.012 0.013 0.149 0.171 0.096], Final Value =
\$1452287.03, Sharpe Ratio = -18.00

Simulation Run = 4900
Weights = [0.16 0.099 0.127 0.155 0.018 0.082 0.159 0.073 0.126], Final Value =
\$1480038.84, Sharpe Ratio = -16.60

Simulation Run = 4901
Weights = [0.037 0.054 0.223 0.074 0.069 0.111 0.181 0.085 0.168], Final Value =
\$1400025.28, Sharpe Ratio = -15.50

Simulation Run = 4902
Weights = [0.001 0.073 0.057 0.112 0.187 0.168 0.033 0.215 0.154], Final Value =
\$1539693.13, Sharpe Ratio = -22.77

Simulation Run = 4903
Weights = [0.223 0.137 0.108 0.087 0.157 0.112 0.04 0.07 0.066], Final Value =
\$1579389.92, Sharpe Ratio = -21.01

Simulation Run = 4904
Weights = [0.094 0.165 0.111 0.03 0.114 0.073 0.052 0.161 0.199], Final Value =
\$1395502.23, Sharpe Ratio = -24.74

Simulation Run = 4905
Weights = [0.056 0.132 0.109 0.031 0.072 0.131 0.165 0.208 0.096], Final Value =
\$1494108.98, Sharpe Ratio = -16.52

Simulation Run = 4906
Weights = [0.249 0.044 0.177 0.153 0.081 0.009 0.206 0.047 0.033], Final Value =
\$1556531.96, Sharpe Ratio = -14.28

Simulation Run = 4907
Weights = [0.129 0.077 0.026 0.124 0.105 0.145 0.083 0.151 0.16], Final Value =
\$1537868.77, Sharpe Ratio = -20.18

Simulation Run = 4908
Weights = [0.148 0.099 0.199 0.082 0.135 0.028 0.234 0.024 0.051], Final Value =
\$1502591.65, Sharpe Ratio = -14.31

Simulation Run = 4909

Weights = [0.152 0.107 0.036 0.054 0.178 0.075 0.096 0.121 0.181], Final Value = \$1486347.40, Sharpe Ratio = -22.31

Simulation Run = 4910

Weights = [0.12 0.119 0.018 0.196 0.07 0.05 0.165 0.145 0.118], Final Value = \$1531217.22, Sharpe Ratio = -18.27

Simulation Run = 4911

Weights = [0.04 0.059 0.204 0.052 0.076 0.198 0.007 0.155 0.21], Final Value = \$1411549.51, Sharpe Ratio = -19.93

Simulation Run = 4912

Weights = [0.182 0.134 0.052 0.115 0.179 0.042 0.16 0.024 0.112], Final Value = \$1533604.43, Sharpe Ratio = -18.93

Simulation Run = 4913

Weights = [0.056 0.161 0.217 0.044 0.019 0.213 0.041 0.191 0.058], Final Value = \$1502398.44, Sharpe Ratio = -17.23

Simulation Run = 4914

Weights = [0.087 0.169 0.062 0.094 0.099 0.082 0.123 0.169 0.116], Final Value = \$1495660.00, Sharpe Ratio = -20.28

Simulation Run = 4915

Weights = [0.189 0.199 0.115 0.031 0.079 0.105 0.027 0.244 0.011], Final Value = \$1573046.08, Sharpe Ratio = -20.66

Simulation Run = 4916

Weights = [0.083 0.036 0.119 0.114 0.103 0.187 0.172 0.028 0.158], Final Value = \$1509017.07, Sharpe Ratio = -15.47

Simulation Run = 4917

Weights = [0.157 0.229 0.003 0.038 0.156 0.051 0.244 0.098 0.024], Final Value = \$1578683.62, Sharpe Ratio = -15.32

Simulation Run = 4918

Weights = [0.005 0.21 0.014 0.025 0.207 0.143 0.223 0.015 0.158], Final Value = \$1478496.71, Sharpe Ratio = -16.63

Simulation Run = 4919
Weights = [0.165 0.178 0. 0.135 0.102 0.073 0.115 0.052 0.179], Final Value =
\$1481187.09, Sharpe Ratio = -21.78

Simulation Run = 4920
Weights = [0.23 0.161 0.067 0.008 0.018 0.245 0.071 0.069 0.133], Final Value =
\$1528817.74, Sharpe Ratio = -16.79

Simulation Run = 4921
Weights = [0.071 0.083 0.148 0.164 0.159 0.036 0.085 0.104 0.149], Final Value =
\$1465750.32, Sharpe Ratio = -21.81

Simulation Run = 4922
Weights = [0.077 0.141 0.126 0.143 0.107 0.009 0.154 0.104 0.138], Final Value =
\$1437708.14, Sharpe Ratio = -19.31

Simulation Run = 4923
Weights = [0.174 0.059 0.215 0.035 0.12 0.092 0.076 0.096 0.134], Final Value =
\$1459473.38, Sharpe Ratio = -18.75

Simulation Run = 4924
Weights = [0.005 0.046 0.013 0.21 0.133 0.099 0.249 0.177 0.069], Final Value =
\$1609139.29, Sharpe Ratio = -14.41

Simulation Run = 4925
Weights = [0.123 0.041 0.1 0.1 0.207 0.141 0.013 0.067 0.208], Final Value =
\$1494602.51, Sharpe Ratio = -23.63

Simulation Run = 4926
Weights = [0.189 0.145 0.115 0.061 0.071 0.056 0.047 0.136 0.18], Final Value =
\$1422282.09, Sharpe Ratio = -23.22

Simulation Run = 4927
Weights = [0.055 0.148 0.022 0.241 0.013 0.188 0.18 0.12 0.034], Final Value =
\$1629522.58, Sharpe Ratio = -14.94

Simulation Run = 4928
Weights = [0.095 0.166 0.073 0.147 0.093 0.101 0.106 0.046 0.172], Final Value =

\$1459017.37, Sharpe Ratio = -21.33

Simulation Run = 4929

Weights = [0.141 0.143 0.104 0.138 0.073 0.024 0.14 0.143 0.094], Final Value = \$1493750.71, Sharpe Ratio = -18.88

Simulation Run = 4930

Weights = [0.131 0.141 0.14 0.125 0.13 0.153 0.004 0.094 0.082], Final Value = \$1554635.17, Sharpe Ratio = -21.47

Simulation Run = 4931

Weights = [0.002 0.038 0.092 0.143 0.176 0.141 0.065 0.125 0.219], Final Value = \$1468394.75, Sharpe Ratio = -22.30

Simulation Run = 4932

Weights = [0.137 0.133 0.154 0.083 0.069 0.03 0.163 0.16 0.071], Final Value = \$1484181.72, Sharpe Ratio = -17.00

Simulation Run = 4933

Weights = [0.075 0.042 0.202 0.163 0.106 0.266 0.014 0.084 0.047], Final Value = \$1621226.93, Sharpe Ratio = -16.30

Simulation Run = 4934

Weights = [0.1 0.109 0.166 0.218 0.066 0.114 0.147 0.057 0.023], Final Value = \$1579832.74, Sharpe Ratio = -15.87

Simulation Run = 4935

Weights = [0.13 0.069 0.104 0.152 0.108 0.101 0.063 0.085 0.189], Final Value = \$1472935.14, Sharpe Ratio = -21.79

Simulation Run = 4936

Weights = [0.087 0.049 0.067 0.22 0.22 0.146 0.122 0.07 0.019], Final Value = \$1691291.90, Sharpe Ratio = -17.45

Simulation Run = 4937

Weights = [0.065 0.17 0.005 0.097 0.057 0.154 0.145 0.153 0.154], Final Value = \$1497371.99, Sharpe Ratio = -18.30

Simulation Run = 4938
Weights = [0.1 0.025 0.119 0.148 0.144 0.127 0.08 0.142 0.115], Final Value =
\$1556213.07, Sharpe Ratio = -19.19

Simulation Run = 4939
Weights = [0.036 0.247 0.013 0.137 0.194 0.173 0.076 0.018 0.107], Final Value =
\$1559803.02, Sharpe Ratio = -22.72

Simulation Run = 4940
Weights = [0.182 0.065 0.192 0.186 0.124 0.05 0.043 0.005 0.153], Final Value =
\$1470145.32, Sharpe Ratio = -21.20

Simulation Run = 4941
Weights = [0.113 0.013 0.057 0.076 0.184 0.115 0.23 0.175 0.037], Final Value =
\$1637335.92, Sharpe Ratio = -14.07

Simulation Run = 4942
Weights = [0.243 0.033 0.032 0.067 0.094 0.123 0.048 0.151 0.207], Final Value =
\$1504444.65, Sharpe Ratio = -20.80

Simulation Run = 4943
Weights = [0.152 0.098 0.108 0.086 0.043 0.169 0.033 0.127 0.183], Final Value =
\$1470180.43, Sharpe Ratio = -20.36

Simulation Run = 4944
Weights = [0.116 0.103 0.192 0.103 0.047 0.19 0.021 0.003 0.224], Final Value =
\$1401618.66, Sharpe Ratio = -20.06

Simulation Run = 4945
Weights = [0.164 0.036 0.116 0.096 0.004 0.197 0.192 0.133 0.061], Final Value =
\$1585918.93, Sharpe Ratio = -13.19

Simulation Run = 4946
Weights = [0.157 0.166 0.032 0.038 0.184 0.041 0.038 0.166 0.179], Final Value =
\$1464719.06, Sharpe Ratio = -27.35

Simulation Run = 4947
Weights = [0.242 0.021 0.149 0.113 0.014 0.133 0.029 0.045 0.254], Final Value =
\$1410627.46, Sharpe Ratio = -19.81

Simulation Run = 4948
Weights = [0.092 0.167 0.101 0.145 0.159 0.125 0.046 0.124 0.04], Final Value =
\$1593445.72, Sharpe Ratio = -21.61

Simulation Run = 4949
Weights = [0.101 0.326 0.125 0.018 0.021 0.21 0.067 0.08 0.053], Final Value =
\$1497957.07, Sharpe Ratio = -18.78

Simulation Run = 4950
Weights = [0.091 0.103 0.141 0.116 0.109 0.063 0.113 0.133 0.13], Final Value =
\$1468986.56, Sharpe Ratio = -19.70

Simulation Run = 4951
Weights = [0.099 0.146 0.007 0.118 0.172 0.052 0.161 0.095 0.151], Final Value =
\$1504742.14, Sharpe Ratio = -20.03

Simulation Run = 4952
Weights = [0.056 0.07 0.151 0.026 0.185 0.096 0.146 0.084 0.186], Final Value =
\$1428181.33, Sharpe Ratio = -18.63

Simulation Run = 4953
Weights = [0.122 0.198 0.085 0.096 0.139 0.145 0.026 0.112 0.077], Final Value =
\$1556255.07, Sharpe Ratio = -22.68

Simulation Run = 4954
Weights = [0.224 0.216 0.048 0.007 0.111 0.036 0.071 0.071 0.216], Final Value =
\$1392840.51, Sharpe Ratio = -24.67

Simulation Run = 4955
Weights = [0.232 0.078 0.053 0.014 0.077 0.24 0.047 0.018 0.241], Final Value =
\$1477041.32, Sharpe Ratio = -18.39

Simulation Run = 4956
Weights = [0.048 0.09 0.148 0.075 0.175 0.047 0.182 0.089 0.146], Final Value =
\$1445010.32, Sharpe Ratio = -17.61

Simulation Run = 4957

Weights = [0.132 0.015 0.158 0.217 0.106 0.055 0.105 0.155 0.057], Final Value = \$1576715.38, Sharpe Ratio = -17.57

Simulation Run = 4958

Weights = [0.002 0.08 0.087 0.227 0.149 0. 0.238 0.181 0.036], Final Value = \$1569755.97, Sharpe Ratio = -15.26

Simulation Run = 4959

Weights = [0.181 0.205 0.063 0.165 0.137 0.021 0.008 0.177 0.044], Final Value = \$1573593.11, Sharpe Ratio = -25.63

Simulation Run = 4960

Weights = [0.102 0.188 0.035 0.162 0.168 0.027 0.171 0.117 0.03], Final Value = \$1587120.59, Sharpe Ratio = -18.67

Simulation Run = 4961

Weights = [0.141 0.128 0.109 0.188 0.055 0.128 0.133 0.037 0.081], Final Value = \$1550455.67, Sharpe Ratio = -17.18

Simulation Run = 4962

Weights = [0.089 0.159 0.099 0.143 0.066 0.036 0.172 0.07 0.166], Final Value = \$1420011.59, Sharpe Ratio = -18.54

Simulation Run = 4963

Weights = [0.147 0.137 0.016 0.059 0.167 0.052 0.054 0.157 0.211], Final Value = \$1452217.07, Sharpe Ratio = -26.37

Simulation Run = 4964

Weights = [0.211 0.06 0.053 0.096 0.163 0.178 0.079 0.053 0.108], Final Value = \$1609785.40, Sharpe Ratio = -18.46

Simulation Run = 4965

Weights = [0.213 0.204 0.155 0.092 0.018 0.056 0.166 0.061 0.035], Final Value = \$1506233.66, Sharpe Ratio = -16.10

Simulation Run = 4966

Weights = [0.185 0.184 0.174 0.112 0.118 0.046 0.094 0.078 0.009], Final Value = \$1551415.78, Sharpe Ratio = -19.05

Simulation Run = 4967
Weights = [0.001 0.091 0.069 0.08 0.116 0.192 0.111 0.186 0.153], Final Value =
\$1509849.93, Sharpe Ratio = -18.48

Simulation Run = 4968
Weights = [0.125 0.184 0.048 0.217 0.098 0.067 0.066 0.173 0.023], Final Value =
\$1609370.29, Sharpe Ratio = -21.71

Simulation Run = 4969
Weights = [0.162 0.137 0.163 0.066 0.009 0.123 0.105 0.064 0.172], Final Value =
\$1412410.48, Sharpe Ratio = -18.19

Simulation Run = 4970
Weights = [0.094 0.149 0.047 0.088 0.105 0.153 0.152 0.082 0.131], Final Value =
\$1518952.90, Sharpe Ratio = -17.72

Simulation Run = 4971
Weights = [0.135 0.055 0.169 0.192 0.138 0.018 0.051 0.061 0.18], Final Value =
\$1443299.15, Sharpe Ratio = -22.56

Simulation Run = 4972
Weights = [0.043 0.167 0.146 0.155 0.11 0.103 0.086 0.016 0.174], Final Value =
\$1426039.02, Sharpe Ratio = -21.78

Simulation Run = 4973
Weights = [0.03 0.041 0.202 0.058 0.18 0.236 0.184 0.043 0.026], Final Value =
\$1605460.95, Sharpe Ratio = -13.54

Simulation Run = 4974
Weights = [0.202 0.094 0.175 0.018 0.118 0.087 0.205 0.065 0.036], Final Value =
\$1543285.62, Sharpe Ratio = -14.33

Simulation Run = 4975
Weights = [0.166 0.037 0.155 0.005 0.086 0.128 0.165 0.135 0.123], Final Value =
\$1491695.88, Sharpe Ratio = -15.39

Simulation Run = 4976
Weights = [0.024 0.207 0.158 0.033 0.187 0.172 0.023 0.042 0.154], Final Value =

\$1446720.66, Sharpe Ratio = -23.37

Simulation Run = 4977

Weights = [0.143 0.151 0.036 0.094 0.085 0.099 0.136 0.145 0.111], Final Value = \$1527378.63, Sharpe Ratio = -18.76

Simulation Run = 4978

Weights = [0.019 0.093 0.115 0.171 0.182 0.138 0.193 0.001 0.089], Final Value = \$1557282.63, Sharpe Ratio = -16.02

Simulation Run = 4979

Weights = [0.199 0.02 0.031 0.172 0.216 0.161 0.067 0.031 0.104], Final Value = \$1654861.13, Sharpe Ratio = -19.43

Simulation Run = 4980

Weights = [0.03 0.011 0.049 0.104 0.149 0.163 0.216 0.234 0.043], Final Value = \$1638444.84, Sharpe Ratio = -14.09

Simulation Run = 4981

Weights = [0.17 0.01 0.164 0.255 0.001 0.046 0.129 0.032 0.192], Final Value = \$1438463.00, Sharpe Ratio = -17.27

Simulation Run = 4982

Weights = [0.096 0.064 0.129 0.271 0.056 0.088 0.111 0.026 0.159], Final Value = \$1488292.48, Sharpe Ratio = -18.78

Simulation Run = 4983

Weights = [0.115 0.07 0.184 0.101 0.164 0.166 0.012 0.004 0.186], Final Value = \$1467407.54, Sharpe Ratio = -21.39

Simulation Run = 4984

Weights = [0.198 0.087 0.014 0.115 0.126 0.031 0.251 0.008 0.17], Final Value = \$1491067.25, Sharpe Ratio = -15.22

Simulation Run = 4985

Weights = [0.047 0.048 0.134 0.159 0.124 0.214 0.074 0.058 0.141], Final Value = \$1539663.51, Sharpe Ratio = -18.09

Simulation Run = 4986
Weights = [0.058 0.174 0.194 0.006 0.052 0.134 0.215 0.025 0.141], Final Value =
\$1392550.19, Sharpe Ratio = -14.79

Simulation Run = 4987
Weights = [0.231 0.054 0.23 0.004 0.013 0.197 0.145 0.02 0.106], Final Value =
\$1489257.05, Sharpe Ratio = -13.84

Simulation Run = 4988
Weights = [0.158 0.011 0.05 0.047 0.192 0.128 0.022 0.178 0.214], Final Value =
\$1506414.86, Sharpe Ratio = -23.14

Simulation Run = 4989
Weights = [0.164 0.021 0.042 0.131 0.225 0.038 0.029 0.213 0.138], Final Value =
\$1567745.59, Sharpe Ratio = -24.46

Simulation Run = 4990
Weights = [0.08 0.053 0.12 0.132 0.068 0.101 0.1 0.175 0.172], Final Value =
\$1462482.36, Sharpe Ratio = -19.40

Simulation Run = 4991
Weights = [0.176 0.143 0.18 0.021 0.16 0.076 0.105 0.012 0.125], Final Value =
\$1456430.55, Sharpe Ratio = -19.61

Simulation Run = 4992
Weights = [0.099 0.177 0.065 0.032 0.088 0.095 0.16 0.136 0.147], Final Value =
\$1452756.78, Sharpe Ratio = -18.40

Simulation Run = 4993
Weights = [0.064 0.117 0.1 0.138 0.117 0.18 0.069 0.191 0.022], Final Value =
\$1626764.34, Sharpe Ratio = -18.34

Simulation Run = 4994
Weights = [0.094 0.004 0.031 0.137 0.132 0.076 0.183 0.182 0.163], Final Value =
\$1525434.60, Sharpe Ratio = -17.02

Simulation Run = 4995
Weights = [0.06 0.041 0.006 0.1 0.007 0.252 0.281 0.242 0.011], Final Value =
\$1674501.80, Sharpe Ratio = -11.14

Simulation Run = 4996
Weights = [0.058 0.046 0.185 0.176 0.183 0.121 0.1 0.019 0.113], Final Value =
\$1527224.61, Sharpe Ratio = -18.56

Simulation Run = 4997
Weights = [0.106 0.081 0.087 0.141 0.054 0.04 0.118 0.204 0.17], Final Value =
\$1449787.38, Sharpe Ratio = -20.08

Simulation Run = 4998
Weights = [0.239 0.205 0.028 0.209 0.132 0.013 0.124 0.043 0.007], Final Value =
\$1626842.43, Sharpe Ratio = -19.76

Simulation Run = 4999
Weights = [0.121 0.077 0.195 0.006 0.071 0.221 0.229 0.015 0.066], Final Value =
\$1532497.91, Sharpe Ratio = -12.45

Simulation Run = 5000
Weights = [0.016 0.17 0.155 0.057 0.154 0.007 0.147 0.108 0.186], Final Value =
\$1357845.38, Sharpe Ratio = -20.77

Simulation Run = 5001
Weights = [0.084 0.146 0.246 0.038 0.013 0.224 0.048 0.142 0.059], Final Value =
\$1499149.74, Sharpe Ratio = -16.29

Simulation Run = 5002
Weights = [0.083 0.036 0.163 0.145 0.066 0.035 0.149 0.172 0.15], Final Value =
\$1443308.49, Sharpe Ratio = -17.51

Simulation Run = 5003
Weights = [0.084 0.198 0.069 0.18 0.161 0.139 0.145 0.015 0.009], Final Value =
\$1628649.13, Sharpe Ratio = -17.78

Simulation Run = 5004
Weights = [0.116 0.1 0.073 0.154 0.167 0.142 0.031 0.154 0.064], Final Value =
\$1617941.98, Sharpe Ratio = -21.35

Simulation Run = 5005

Weights = [0.067 0.248 0.159 0.108 0.197 0.087 0. 0.076 0.059], Final Value = \$1515246.57, Sharpe Ratio = -25.30

Simulation Run = 5006

Weights = [0.247 0.04 0.195 0.123 0.018 0.098 0.003 0.245 0.031], Final Value = \$1579458.75, Sharpe Ratio = -17.67

Simulation Run = 5007

Weights = [0.15 0.154 0.156 0.06 0.145 0.087 0.131 0.003 0.114], Final Value = \$1475134.62, Sharpe Ratio = -18.72

Simulation Run = 5008

Weights = [0.021 0.181 0.043 0.17 0.136 0.054 0.183 0.031 0.181], Final Value = \$1440415.29, Sharpe Ratio = -19.39

Simulation Run = 5009

Weights = [0.156 0.143 0.02 0.098 0.003 0.132 0.114 0.187 0.147], Final Value = \$1501358.66, Sharpe Ratio = -18.53

Simulation Run = 5010

Weights = [0.078 0.098 0.108 0.076 0.083 0.211 0.225 0.064 0.057], Final Value = \$1577909.46, Sharpe Ratio = -13.27

Simulation Run = 5011

Weights = [0.075 0.176 0.061 0.207 0.078 0.099 0.141 0.042 0.12], Final Value = \$1510429.40, Sharpe Ratio = -19.17

Simulation Run = 5012

Weights = [0.161 0.065 0.161 0.14 0.1 0.141 0.035 0.119 0.078], Final Value = \$1565997.25, Sharpe Ratio = -19.03

Simulation Run = 5013

Weights = [0.056 0.107 0.077 0.138 0.21 0.187 0.04 0.13 0.055], Final Value = \$1634400.51, Sharpe Ratio = -20.51

Simulation Run = 5014

Weights = [0.158 0.037 0.044 0.026 0.096 0.246 0.067 0.105 0.221], Final Value = \$1507223.30, Sharpe Ratio = -17.82

Simulation Run = 5015
Weights = [0.067 0.134 0.198 0.069 0.024 0.206 0.143 0.044 0.116], Final Value =
\$1463837.60, Sharpe Ratio = -15.31

Simulation Run = 5016
Weights = [0.097 0.18 0.179 0.046 0.066 0.143 0.024 0.132 0.134], Final Value =
\$1439140.61, Sharpe Ratio = -21.37

Simulation Run = 5017
Weights = [0.125 0.025 0.175 0.127 0.114 0.071 0.16 0.005 0.198], Final Value =
\$1424048.62, Sharpe Ratio = -17.20

Simulation Run = 5018
Weights = [0.035 0.223 0.148 0.186 0.03 0.018 0.006 0.25 0.103], Final Value =
\$1435184.28, Sharpe Ratio = -25.09

Simulation Run = 5019
Weights = [0.014 0.146 0.109 0.224 0.135 0.149 0.042 0.081 0.1], Final Value =
\$1549367.09, Sharpe Ratio = -21.80

Simulation Run = 5020
Weights = [0.099 0.161 0.092 0.006 0.179 0.165 0.094 0.194 0.011], Final Value =
\$1614007.01, Sharpe Ratio = -18.40

Simulation Run = 5021
Weights = [0.149 0.142 0.059 0.029 0.279 0.097 0.021 0.084 0.141], Final Value =
\$1533131.50, Sharpe Ratio = -25.82

Simulation Run = 5022
Weights = [0.182 0.121 0.083 0.003 0.123 0.206 0.085 0.047 0.148], Final Value =
\$1520308.89, Sharpe Ratio = -18.14

Simulation Run = 5023
Weights = [0.104 0.153 0.061 0.089 0.077 0.15 0.104 0.152 0.11], Final Value =
\$1527969.86, Sharpe Ratio = -19.07

Simulation Run = 5024
Weights = [0.168 0.092 0.068 0.05 0.174 0.046 0.133 0.149 0.12], Final Value =

\$1519866.64, Sharpe Ratio = -19.55

Simulation Run = 5025

Weights = [0.139 0.156 0.042 0.152 0.199 0.103 0.035 0.075 0.098], Final Value = \$1580617.16, Sharpe Ratio = -24.40

Simulation Run = 5026

Weights = [0.134 0.063 0.165 0.149 0.054 0.102 0.062 0.032 0.238], Final Value = \$1392565.78, Sharpe Ratio = -20.83

Simulation Run = 5027

Weights = [0.026 0.154 0.159 0.122 0.175 0.13 0.009 0.134 0.091], Final Value = \$1519884.09, Sharpe Ratio = -23.05

Simulation Run = 5028

Weights = [0.109 0.199 0.048 0.118 0.083 0.072 0.119 0.066 0.186], Final Value = \$1430716.88, Sharpe Ratio = -21.82

Simulation Run = 5029

Weights = [0.163 0.138 0.157 0.079 0.024 0.043 0.136 0.11 0.15], Final Value = \$1409951.83, Sharpe Ratio = -18.23

Simulation Run = 5030

Weights = [0.193 0.09 0.008 0.158 0.032 0.099 0.075 0.163 0.183], Final Value = \$1505941.86, Sharpe Ratio = -20.92

Simulation Run = 5031

Weights = [0.153 0.116 0.154 0.028 0.172 0.153 0.161 0.013 0.049], Final Value = \$1567368.84, Sharpe Ratio = -15.77

Simulation Run = 5032

Weights = [0.197 0.084 0.055 0.04 0.051 0.028 0.184 0.2 0.162], Final Value = \$1453482.19, Sharpe Ratio = -16.85

Simulation Run = 5033

Weights = [0.009 0.184 0.084 0.105 0.197 0.215 0.032 0.025 0.149], Final Value = \$1518775.23, Sharpe Ratio = -22.49

Simulation Run = 5034
Weights = [0.081 0.046 0.19 0.098 0.108 0.081 0.201 0.118 0.077], Final Value =
\$1507031.71, Sharpe Ratio = -14.80

Simulation Run = 5035
Weights = [0.138 0.14 0.124 0.176 0.05 0.034 0.155 0.115 0.067], Final Value =
\$1514029.99, Sharpe Ratio = -17.44

Simulation Run = 5036
Weights = [0.078 0.144 0.088 0.145 0.095 0.035 0.153 0.102 0.16], Final Value =
\$1440341.06, Sharpe Ratio = -19.66

Simulation Run = 5037
Weights = [0.107 0.155 0.15 0.029 0.099 0.098 0.043 0.095 0.225], Final Value =
\$1365545.44, Sharpe Ratio = -23.78

Simulation Run = 5038
Weights = [0.143 0.147 0.001 0.106 0.115 0.091 0.117 0.162 0.118], Final Value =
\$1545349.17, Sharpe Ratio = -20.32

Simulation Run = 5039
Weights = [0.034 0.125 0.001 0.237 0.045 0.194 0.245 0.097 0.021], Final Value =
\$1657920.08, Sharpe Ratio = -13.20

Simulation Run = 5040
Weights = [0.166 0.171 0.092 0.149 0.166 0.035 0.054 0.005 0.16], Final Value =
\$1469458.46, Sharpe Ratio = -25.44

Simulation Run = 5041
Weights = [0.099 0.159 0.048 0.161 0.169 0.2 0.024 0.095 0.044], Final Value =
\$1649341.76, Sharpe Ratio = -20.78

Simulation Run = 5042
Weights = [0.033 0.032 0.011 0.272 0.02 0.26 0.056 0.193 0.123], Final Value =
\$1627767.63, Sharpe Ratio = -17.05

Simulation Run = 5043
Weights = [0.079 0.141 0.067 0.161 0.054 0.169 0.157 0.055 0.115], Final Value =
\$1531459.64, Sharpe Ratio = -16.65

Simulation Run = 5044
Weights = [0.171 0.012 0.177 0.124 0.154 0.176 0.105 0.06 0.02], Final Value =
\$1644335.17, Sharpe Ratio = -15.55

Simulation Run = 5045
Weights = [0.176 0.193 0.131 0.013 0.211 0.031 0.109 0.026 0.109], Final Value =
\$1471171.47, Sharpe Ratio = -21.49

Simulation Run = 5046
Weights = [0.046 0.171 0.129 0.152 0.018 0.128 0.155 0.089 0.112], Final Value =
\$1470178.52, Sharpe Ratio = -17.00

Simulation Run = 5047
Weights = [0.042 0.093 0.146 0.137 0.091 0.176 0.183 0.056 0.077], Final Value =
\$1544904.41, Sharpe Ratio = -14.93

Simulation Run = 5048
Weights = [0.019 0.104 0.037 0.004 0.138 0.215 0.19 0.162 0.131], Final Value =
\$1534189.79, Sharpe Ratio = -15.32

Simulation Run = 5049
Weights = [0.136 0.077 0.194 0.016 0.101 0.066 0.1 0.117 0.195], Final Value =
\$1383662.54, Sharpe Ratio = -19.57

Simulation Run = 5050
Weights = [0.184 0.119 0.139 0.155 0.04 0.115 0.128 0.111 0.008], Final Value =
\$1598909.15, Sharpe Ratio = -16.04

Simulation Run = 5051
Weights = [0.172 0.21 0.027 0.185 0.094 0.128 0.037 0.126 0.022], Final Value =
\$1635874.93, Sharpe Ratio = -21.57

Simulation Run = 5052
Weights = [0.148 0.034 0.097 0.164 0.118 0.187 0.105 0.015 0.132], Final Value =
\$1571375.89, Sharpe Ratio = -17.28

Simulation Run = 5053

Weights = [0.223 0.009 0.225 0.17 0.163 0.029 0.067 0.091 0.023], Final Value = \$1591689.85, Sharpe Ratio = -17.65

Simulation Run = 5054

Weights = [0.133 0.176 0.081 0.098 0.159 0.088 0.025 0.112 0.127], Final Value = \$1507496.95, Sharpe Ratio = -25.31

Simulation Run = 5055

Weights = [0.049 0.118 0.152 0.157 0.087 0.179 0.143 0.018 0.097], Final Value = \$1525205.92, Sharpe Ratio = -16.37

Simulation Run = 5056

Weights = [0.059 0.005 0.088 0.216 0.132 0.153 0.2 0.011 0.136], Final Value = \$1560031.91, Sharpe Ratio = -15.10

Simulation Run = 5057

Weights = [0.06 0.27 0.071 0.125 0.055 0.16 0.224 0.034], Final Value = \$1502476.42, Sharpe Ratio = -18.05

Simulation Run = 5058

Weights = [0.035 0.137 0.098 0.058 0.112 0.186 0.144 0.205 0.025], Final Value = \$1593289.06, Sharpe Ratio = -16.16

Simulation Run = 5059

Weights = [0.108 0.138 0.06 0.078 0.127 0.128 0.129 0.133 0.099], Final Value = \$1542795.01, Sharpe Ratio = -18.67

Simulation Run = 5060

Weights = [0.101 0.014 0.002 0.005 0.18 0.186 0.185 0.165 0.162], Final Value = \$1560845.40, Sharpe Ratio = -15.51

Simulation Run = 5061

Weights = [0.143 0.156 0.016 0.066 0.188 0.097 0.139 0.035 0.159], Final Value = \$1507777.37, Sharpe Ratio = -20.23

Simulation Run = 5062

Weights = [0.185 0.115 0.175 0.017 0.077 0.136 0.087 0.208 0.001], Final Value = \$1582436.37, Sharpe Ratio = -16.62

Simulation Run = 5063
Weights = [0.239 0.082 0.022 0.089 0.151 0.134 0.044 0.097 0.142], Final Value =
\$1574186.82, Sharpe Ratio = -21.22

Simulation Run = 5064
Weights = [0.035 0.086 0.22 0.141 0.005 0.038 0.117 0.182 0.176], Final Value =
\$1362826.12, Sharpe Ratio = -18.32

Simulation Run = 5065
Weights = [0.081 0.189 0.119 0.075 0.104 0.089 0.128 0.011 0.205], Final Value =
\$1383616.13, Sharpe Ratio = -20.74

Simulation Run = 5066
Weights = [0.167 0.101 0.144 0.069 0.014 0.058 0.144 0.22 0.082], Final Value =
\$1488562.77, Sharpe Ratio = -16.64

Simulation Run = 5067
Weights = [0.12 0.017 0.116 0.176 0.171 0.14 0.038 0.196 0.027], Final Value =
\$1661596.26, Sharpe Ratio = -18.89

Simulation Run = 5068
Weights = [0.006 0.145 0.189 0.187 0.034 0.147 0.011 0.081 0.2], Final Value =
\$1394539.34, Sharpe Ratio = -21.98

Simulation Run = 5069
Weights = [0.08 0.142 0.201 0.154 0.021 0.11 0.086 0.04 0.168], Final Value =
\$1402249.39, Sharpe Ratio = -19.25

Simulation Run = 5070
Weights = [0.038 0.136 0.246 0.06 0.022 0.123 0.064 0.201 0.11], Final Value =
\$1418435.61, Sharpe Ratio = -18.39

Simulation Run = 5071
Weights = [0.082 0.04 0.089 0.152 0.232 0.06 0.235 0.086 0.024], Final Value =
\$1628884.60, Sharpe Ratio = -14.74

Simulation Run = 5072
Weights = [0.227 0.056 0.086 0.097 0.134 0.156 0.074 0.087 0.083], Final Value =

\$1607770.24, Sharpe Ratio = -18.13

Simulation Run = 5073

Weights = [0.097 0.219 0.026 0.059 0.076 0.099 0.186 0.036 0.203], Final Value = \$1409185.58, Sharpe Ratio = -18.20

Simulation Run = 5074

Weights = [0.126 0.145 0.18 0.095 0.055 0.077 0.023 0.167 0.132], Final Value = \$1439530.61, Sharpe Ratio = -22.10

Simulation Run = 5075

Weights = [0.166 0.151 0.036 0.013 0.163 0.158 0.011 0.1 0.201], Final Value = \$1482713.44, Sharpe Ratio = -24.11

Simulation Run = 5076

Weights = [0.167 0.096 0.182 0.04 0.059 0.127 0.121 0.184 0.024], Final Value = \$1556278.94, Sharpe Ratio = -15.84

Simulation Run = 5077

Weights = [0.168 0.128 0.15 0.012 0.135 0.074 0.173 0.035 0.124], Final Value = \$1460594.69, Sharpe Ratio = -16.91

Simulation Run = 5078

Weights = [0.155 0.077 0.118 0.239 0.166 0.071 0. 0.125 0.049], Final Value = \$1618610.85, Sharpe Ratio = -22.03

Simulation Run = 5079

Weights = [0.121 0.177 0.202 0.106 0.015 0.101 0.092 0.08 0.106], Final Value = \$1439250.65, Sharpe Ratio = -18.55

Simulation Run = 5080

Weights = [0.117 0.1 0.171 0.002 0.064 0.121 0.167 0.079 0.178], Final Value = \$1401663.26, Sharpe Ratio = -16.27

Simulation Run = 5081

Weights = [0.156 0.069 0.073 0.195 0.076 0.111 0.084 0.121 0.116], Final Value = \$1558740.80, Sharpe Ratio = -19.42

Simulation Run = 5082
Weights = [0.102 0.064 0.132 0.041 0.21 0.162 0.095 0.118 0.076], Final Value =
\$1579457.82, Sharpe Ratio = -18.23

Simulation Run = 5083
Weights = [0.001 0.067 0.003 0.302 0.038 0.153 0.277 0.11 0.05], Final Value =
\$1636974.03, Sharpe Ratio = -12.71

Simulation Run = 5084
Weights = [0.115 0.198 0.121 0.047 0.036 0.17 0.083 0.069 0.162], Final Value =
\$1435097.40, Sharpe Ratio = -19.49

Simulation Run = 5085
Weights = [0.12 0.159 0.04 0.2 0.174 0.22 0.06 0.024 0.003], Final Value =
\$1706703.91, Sharpe Ratio = -18.55

Simulation Run = 5086
Weights = [0.077 0.24 0.202 0.084 0.079 0.057 0.055 0.203 0.002], Final Value =
\$1505534.06, Sharpe Ratio = -20.55

Simulation Run = 5087
Weights = [0.03 0.098 0.084 0.106 0.201 0.215 0.016 0.032 0.219], Final Value =
\$1486671.07, Sharpe Ratio = -22.82

Simulation Run = 5088
Weights = [0.082 0.119 0.14 0.126 0.035 0.15 0.118 0.082 0.148], Final Value =
\$1462537.42, Sharpe Ratio = -17.75

Simulation Run = 5089
Weights = [0.026 0.117 0.206 0.176 0.021 0.02 0.122 0.123 0.188], Final Value =
\$1350889.69, Sharpe Ratio = -19.14

Simulation Run = 5090
Weights = [0.198 0.137 0.111 0.055 0.088 0.098 0.082 0.078 0.155], Final Value =
\$1464891.90, Sharpe Ratio = -20.46

Simulation Run = 5091
Weights = [0.041 0.14 0.039 0.135 0.174 0.106 0.085 0.097 0.183], Final Value =
\$1483484.39, Sharpe Ratio = -23.72

Simulation Run = 5092
Weights = [0.194 0.041 0.015 0.072 0.18 0.144 0.071 0.212 0.072], Final Value =
\$1649884.47, Sharpe Ratio = -19.08

Simulation Run = 5093
Weights = [0.171 0.089 0.141 0.176 0.01 0.119 0.167 0.083 0.044], Final Value =
\$1568268.12, Sharpe Ratio = -14.84

Simulation Run = 5094
Weights = [0.1 0.093 0.179 0.115 0.121 0.136 0.142 0.006 0.108], Final Value =
\$1503191.26, Sharpe Ratio = -16.77

Simulation Run = 5095
Weights = [0.142 0.188 0.167 0.136 0.17 0.137 0.021 0.031 0.007], Final Value =
\$1602486.01, Sharpe Ratio = -20.65

Simulation Run = 5096
Weights = [0.018 0.086 0.194 0.026 0.162 0.175 0.066 0.222 0.049], Final Value =
\$1550264.66, Sharpe Ratio = -18.07

Simulation Run = 5097
Weights = [0.086 0.231 0.105 0.091 0.012 0.082 0.133 0.227 0.033], Final Value =
\$1511729.89, Sharpe Ratio = -18.10

Simulation Run = 5098
Weights = [0.047 0.209 0.025 0.125 0.133 0.09 0.13 0.172 0.068], Final Value =
\$1552569.94, Sharpe Ratio = -20.43

Simulation Run = 5099
Weights = [0.077 0.342 0.007 0.126 0.074 0.034 0.068 0.029 0.242], Final Value =
\$1341594.69, Sharpe Ratio = -29.29

Simulation Run = 5100
Weights = [0.142 0.114 0.119 0.127 0.052 0.055 0.17 0.19 0.031], Final Value =
\$1554170.14, Sharpe Ratio = -16.06

Simulation Run = 5101

Weights = [0.106 0.204 0.007 0.147 0.018 0.095 0.129 0.131 0.162], Final Value = \$1466185.67, Sharpe Ratio = -20.13

Simulation Run = 5102

Weights = [0.155 0.033 0.246 0.071 0.058 0.012 0.057 0.262 0.106], Final Value = \$1442197.62, Sharpe Ratio = -18.74

Simulation Run = 5103

Weights = [0.239 0.054 0.057 0.031 0.099 0.181 0.05 0.168 0.122], Final Value = \$1576990.86, Sharpe Ratio = -18.35

Simulation Run = 5104

Weights = [0.093 0.058 0.224 0.046 0.125 0.074 0.15 0.139 0.091], Final Value = \$1473124.89, Sharpe Ratio = -16.38

Simulation Run = 5105

Weights = [0.175 0.157 0.034 0.142 0.014 0.045 0.146 0.161 0.128], Final Value = \$1488749.39, Sharpe Ratio = -18.67

Simulation Run = 5106

Weights = [0.202 0.202 0.097 0.135 0.064 0.19 0.04 0.05 0.022], Final Value = \$1617681.68, Sharpe Ratio = -18.72

Simulation Run = 5107

Weights = [0.125 0.196 0.031 0.164 0.032 0.116 0.187 0.11 0.039], Final Value = \$1581237.23, Sharpe Ratio = -15.96

Simulation Run = 5108

Weights = [0.078 0.166 0.153 0.161 0.116 0.051 0.039 0.09 0.146], Final Value = \$1441544.01, Sharpe Ratio = -24.28

Simulation Run = 5109

Weights = [0.222 0.097 0.246 0.073 0.108 0.05 0.165 0.012 0.026], Final Value = \$1521755.16, Sharpe Ratio = -15.10

Simulation Run = 5110

Weights = [0.045 0.189 0.117 0.138 0.05 0.029 0.062 0.273 0.097], Final Value = \$1460232.19, Sharpe Ratio = -23.12

Simulation Run = 5111
Weights = [0.144 0.183 0.198 0.021 0.091 0.001 0.062 0.278 0.021], Final Value =
\$1486948.43, Sharpe Ratio = -20.49

Simulation Run = 5112
Weights = [0.195 0.012 0.123 0.047 0.133 0.236 0.038 0.031 0.185], Final Value =
\$1529161.07, Sharpe Ratio = -17.96

Simulation Run = 5113
Weights = [0.136 0.035 0.187 0.139 0.138 0.02 0.2 0.126 0.018], Final Value =
\$1565982.58, Sharpe Ratio = -14.79

Simulation Run = 5114
Weights = [0.176 0.192 0.068 0.102 0.174 0.06 0.029 0.016 0.183], Final Value =
\$1458218.32, Sharpe Ratio = -27.29

Simulation Run = 5115
Weights = [0.089 0.155 0.151 0.025 0.094 0.14 0.044 0.237 0.064], Final Value =
\$1519790.66, Sharpe Ratio = -20.11

Simulation Run = 5116
Weights = [0.109 0.15 0.074 0.13 0.122 0.134 0.134 0.01 0.136], Final Value =
\$1510831.21, Sharpe Ratio = -18.87

Simulation Run = 5117
Weights = [0.17 0.141 0.011 0.011 0.183 0.1 0.173 0.171 0.038], Final Value =
\$1613934.07, Sharpe Ratio = -16.82

Simulation Run = 5118
Weights = [0.169 0.088 0.027 0.041 0.05 0.207 0.16 0.171 0.086], Final Value =
\$1593467.61, Sharpe Ratio = -14.84

Simulation Run = 5119
Weights = [0.141 0.113 0.084 0.135 0.011 0.157 0.083 0.121 0.154], Final Value =
\$1494229.18, Sharpe Ratio = -18.79

Simulation Run = 5120
Weights = [0.111 0.155 0.131 0.072 0.102 0.103 0.108 0.056 0.162], Final Value =

\$1436906.23, Sharpe Ratio = -20.18

Simulation Run = 5121

Weights = [0.22 0.011 0.167 0.211 0.208 0.013 0.13 0.009 0.033], Final Value = \$1614841.75, Sharpe Ratio = -17.09

Simulation Run = 5122

Weights = [0.045 0.107 0.127 0.062 0.088 0.157 0.176 0.094 0.145], Final Value = \$1466284.34, Sharpe Ratio = -16.12

Simulation Run = 5123

Weights = [0.102 0.166 0.127 0.155 0.146 0.17 0.016 0.053 0.065], Final Value = \$1578974.11, Sharpe Ratio = -21.27

Simulation Run = 5124

Weights = [0.143 0.061 0.13 0.16 0.053 0.106 0.086 0.16 0.101], Final Value = \$1533513.26, Sharpe Ratio = -18.39

Simulation Run = 5125

Weights = [0.165 0.016 0.177 0.121 0.107 0.055 0.107 0.092 0.161], Final Value = \$1461272.95, Sharpe Ratio = -18.53

Simulation Run = 5126

Weights = [0.254 0.213 0.088 0.04 0.004 0.005 0.055 0.161 0.18], Final Value = \$1384835.13, Sharpe Ratio = -23.39

Simulation Run = 5127

Weights = [0.16 0.17 0.193 0.159 0.174 0.059 0.049 0.003 0.033], Final Value = \$1552565.97, Sharpe Ratio = -20.95

Simulation Run = 5128

Weights = [0.205 0.172 0.027 0.01 0.151 0.027 0.157 0.063 0.188], Final Value = \$1436724.93, Sharpe Ratio = -19.89

Simulation Run = 5129

Weights = [0.005 0.095 0.083 0.189 0.186 0.151 0.085 0.059 0.146], Final Value = \$1534374.18, Sharpe Ratio = -21.05

Simulation Run = 5130
Weights = [0.201 0.173 0.059 0.037 0.026 0.169 0.047 0.07 0.219], Final Value =
\$1429140.33, Sharpe Ratio = -20.91

Simulation Run = 5131
Weights = [0.093 0.099 0.041 0.153 0.204 0.036 0.077 0.247 0.05], Final Value =
\$1608857.30, Sharpe Ratio = -22.49

Simulation Run = 5132
Weights = [0.068 0.178 0.072 0.159 0.133 0.15 0.033 0.174 0.033], Final Value =
\$1611635.89, Sharpe Ratio = -21.64

Simulation Run = 5133
Weights = [0.045 0.194 0.151 0.061 0.003 0.112 0.159 0.117 0.157], Final Value =
\$1386093.82, Sharpe Ratio = -17.29

Simulation Run = 5134
Weights = [0.095 0.123 0.062 0.059 0.182 0.053 0.143 0.244 0.039], Final Value =
\$1579723.82, Sharpe Ratio = -18.85

Simulation Run = 5135
Weights = [0.038 0.051 0.172 0.155 0.175 0.008 0.145 0.136 0.12], Final Value =
\$1473092.65, Sharpe Ratio = -18.62

Simulation Run = 5136
Weights = [0.158 0.055 0.177 0.002 0.043 0.084 0.178 0.172 0.131], Final Value =
\$1441853.17, Sharpe Ratio = -15.29

Simulation Run = 5137
Weights = [0.083 0.156 0.002 0.137 0.222 0.097 0.125 0.046 0.133], Final Value =
\$1551117.88, Sharpe Ratio = -21.57

Simulation Run = 5138
Weights = [0.032 0.089 0.089 0.165 0.106 0.256 0.181 0.052 0.031], Final Value =
\$1647843.02, Sharpe Ratio = -13.94

Simulation Run = 5139
Weights = [0.178 0.018 0.047 0.034 0.13 0.184 0.101 0.135 0.174], Final Value =
\$1541568.31, Sharpe Ratio = -17.67

Simulation Run = 5140
Weights = [0.193 0.012 0.126 0.092 0.135 0.106 0.031 0.176 0.131], Final Value =
\$1540554.07, Sharpe Ratio = -20.47

Simulation Run = 5141
Weights = [0.147 0.145 0.139 0.121 0.065 0.112 0.121 0.145 0.006], Final Value =
\$1585447.00, Sharpe Ratio = -16.88

Simulation Run = 5142
Weights = [0.127 0.118 0.181 0.007 0.056 0.059 0.154 0.157 0.14], Final Value =
\$1405570.75, Sharpe Ratio = -17.15

Simulation Run = 5143
Weights = [0.15 0.014 0.163 0.171 0.055 0.024 0.105 0.15 0.168], Final Value =
\$1445903.77, Sharpe Ratio = -18.82

Simulation Run = 5144
Weights = [0.028 0.207 0.059 0.178 0.026 0.105 0.03 0.127 0.24], Final Value =
\$1379644.09, Sharpe Ratio = -26.50

Simulation Run = 5145
Weights = [0.122 0.105 0.165 0.131 0.058 0.047 0.074 0.139 0.16], Final Value =
\$1425099.51, Sharpe Ratio = -21.01

Simulation Run = 5146
Weights = [0.062 0.013 0.105 0.189 0.16 0.044 0.176 0.079 0.173], Final Value =
\$1482519.00, Sharpe Ratio = -17.73

Simulation Run = 5147
Weights = [0.099 0.056 0.188 0.085 0.069 0.125 0.22 0.099 0.059], Final Value =
\$1525774.15, Sharpe Ratio = -13.56

Simulation Run = 5148
Weights = [0.083 0.089 0.05 0.053 0.136 0.156 0.2 0.215 0.018], Final Value =
\$1632451.35, Sharpe Ratio = -14.67

Simulation Run = 5149

Weights = [0.146 0.01 0.094 0.102 0.162 0.101 0.165 0.066 0.155], Final Value = \$1521500.57, Sharpe Ratio = -16.94

Simulation Run = 5150

Weights = [0.192 0.019 0.038 0.013 0.163 0.203 0.203 0.066 0.103], Final Value = \$1612820.72, Sharpe Ratio = -13.91

Simulation Run = 5151

Weights = [0.172 0.107 0.043 0.114 0.153 0.036 0.064 0.13 0.182], Final Value = \$1480226.88, Sharpe Ratio = -24.62

Simulation Run = 5152

Weights = [0.065 0.144 0.007 0.173 0.229 0.065 0.188 0.067 0.063], Final Value = \$1604754.69, Sharpe Ratio = -18.10

Simulation Run = 5153

Weights = [0.103 0.005 0.052 0.182 0.081 0.192 0.164 0.067 0.153], Final Value = \$1565359.61, Sharpe Ratio = -15.49

Simulation Run = 5154

Weights = [0.046 0.134 0.052 0.145 0.018 0.053 0.181 0.063 0.308], Final Value = \$1307601.45, Sharpe Ratio = -19.00

Simulation Run = 5155

Weights = [0.001 0.039 0.053 0.109 0.056 0.071 0.167 0.255 0.249], Final Value = \$1390286.43, Sharpe Ratio = -18.50

Simulation Run = 5156

Weights = [0.154 0.116 0.172 0.158 0.107 0.106 0.055 0.018 0.115], Final Value = \$1502710.23, Sharpe Ratio = -20.35

Simulation Run = 5157

Weights = [0.193 0.091 0.111 0.019 0.189 0.064 0.157 0.174 0.003], Final Value = \$1611995.00, Sharpe Ratio = -16.53

Simulation Run = 5158

Weights = [0.172 0.116 0.028 0.091 0.159 0.209 0.071 0.146 0.008], Final Value = \$1698191.60, Sharpe Ratio = -17.62

Simulation Run = 5159
Weights = [0.164 0.27 0.128 0.045 0.11 0.037 0.081 0.078 0.086], Final Value =
\$1456340.93, Sharpe Ratio = -22.69

Simulation Run = 5160
Weights = [0.052 0.101 0.143 0.128 0.117 0.172 0.134 0.148 0.004], Final Value =
\$1617608.26, Sharpe Ratio = -15.89

Simulation Run = 5161
Weights = [0.093 0.224 0.083 0.093 0.131 0.033 0.015 0.137 0.192], Final Value =
\$1401915.31, Sharpe Ratio = -29.79

Simulation Run = 5162
Weights = [0.008 0.269 0.001 0.18 0.065 0.165 0.09 0.11 0.11], Final Value =
\$1526527.93, Sharpe Ratio = -21.50

Simulation Run = 5163
Weights = [0.063 0.252 0.053 0.148 0.003 0.089 0.11 0.146 0.136], Final Value =
\$1445483.22, Sharpe Ratio = -21.14

Simulation Run = 5164
Weights = [0.131 0.158 0.078 0.005 0.17 0.173 0.209 0.02 0.054], Final Value =
\$1577844.23, Sharpe Ratio = -14.77

Simulation Run = 5165
Weights = [0.09 0.203 0.117 0.047 0.214 0.128 0.139 0.013 0.049], Final Value =
\$1554528.79, Sharpe Ratio = -18.57

Simulation Run = 5166
Weights = [0.181 0.14 0.023 0.105 0.21 0.035 0.223 0.002 0.082], Final Value =
\$1568833.65, Sharpe Ratio = -16.36

Simulation Run = 5167
Weights = [0.23 0.177 0.083 0.124 0.081 0.007 0.087 0.006 0.206], Final Value =
\$1403235.28, Sharpe Ratio = -23.32

Simulation Run = 5168
Weights = [0.062 0.008 0.159 0.031 0.148 0.19 0.175 0.02 0.206], Final Value =

\$1449083.79, Sharpe Ratio = -15.46

Simulation Run = 5169

Weights = [0.029 0.001 0.144 0.098 0.161 0.207 0.213 0.137 0.01], Final Value = \$1648181.45, Sharpe Ratio = -13.07

Simulation Run = 5170

Weights = [0.124 0.012 0.134 0.047 0.175 0.185 0.195 0.087 0.041], Final Value = \$1622416.02, Sharpe Ratio = -13.87

Simulation Run = 5171

Weights = [0.137 0.111 0.135 0.031 0.14 0.153 0.142 0.042 0.11], Final Value = \$1514770.93, Sharpe Ratio = -16.93

Simulation Run = 5172

Weights = [0.158 0.042 0.125 0.026 0.022 0.185 0.16 0.185 0.097], Final Value = \$1536197.35, Sharpe Ratio = -14.38

Simulation Run = 5173

Weights = [0.086 0.014 0.149 0.21 0.055 0.021 0.226 0.228 0.01], Final Value = \$1581498.02, Sharpe Ratio = -13.77

Simulation Run = 5174

Weights = [0.074 0.149 0.144 0.119 0.125 0.153 0.094 0.066 0.076], Final Value = \$1537847.24, Sharpe Ratio = -18.81

Simulation Run = 5175

Weights = [0.049 0.141 0.112 0.016 0.194 0.211 0.118 0.012 0.149], Final Value = \$1499169.30, Sharpe Ratio = -18.26

Simulation Run = 5176

Weights = [0.066 0.179 0.234 0.025 0.025 0.086 0.083 0.23 0.072], Final Value = \$1428676.96, Sharpe Ratio = -18.44

Simulation Run = 5177

Weights = [0.18 0.071 0.135 0.124 0.053 0.009 0.129 0.115 0.183], Final Value = \$1416216.87, Sharpe Ratio = -19.03

Simulation Run = 5178
Weights = [0.015 0.057 0.193 0.126 0.106 0.066 0.009 0.202 0.227], Final Value =
\$1372318.44, Sharpe Ratio = -23.98

Simulation Run = 5179
Weights = [0.048 0.141 0.087 0.175 0.012 0.085 0.079 0.175 0.197], Final Value =
\$1414296.93, Sharpe Ratio = -22.08

Simulation Run = 5180
Weights = [0.006 0.248 0.061 0.01 0.007 0.024 0.223 0.247 0.174], Final Value =
\$1342186.78, Sharpe Ratio = -16.97

Simulation Run = 5181
Weights = [0.009 0.139 0.144 0.044 0.173 0.117 0.019 0.185 0.171], Final Value =
\$1435071.72, Sharpe Ratio = -24.79

Simulation Run = 5182
Weights = [0.073 0.091 0.075 0.194 0.149 0.015 0.099 0.137 0.168], Final Value =
\$1473510.98, Sharpe Ratio = -22.88

Simulation Run = 5183
Weights = [0.051 0.104 0.204 0.094 0.018 0.052 0.147 0.146 0.185], Final Value =
\$1354953.61, Sharpe Ratio = -17.64

Simulation Run = 5184
Weights = [0.169 0.201 0.194 0.056 0.143 0.019 0.102 0.07 0.044], Final Value =
\$1488808.94, Sharpe Ratio = -19.77

Simulation Run = 5185
Weights = [0.201 0.152 0.099 0.054 0.077 0.054 0.02 0.145 0.198], Final Value =
\$1413659.96, Sharpe Ratio = -25.02

Simulation Run = 5186
Weights = [0.165 0.027 0.114 0.142 0.067 0.158 0.114 0.174 0.039], Final Value =
\$1625781.61, Sharpe Ratio = -15.78

Simulation Run = 5187
Weights = [0.066 0.022 0.027 0.051 0.229 0.157 0.116 0.182 0.151], Final Value =
\$1567833.55, Sharpe Ratio = -19.06

Simulation Run = 5188
Weights = [0.245 0.234 0.008 0.055 0.05 0.064 0.123 0.021 0.2], Final Value =
\$1423063.76, Sharpe Ratio = -20.75

Simulation Run = 5189
Weights = [0.017 0.139 0.03 0.076 0.176 0.192 0.168 0.137 0.066], Final Value =
\$1601258.47, Sharpe Ratio = -16.55

Simulation Run = 5190
Weights = [0.092 0.103 0.132 0.048 0.123 0.123 0.06 0.167 0.152], Final Value =
\$1468965.65, Sharpe Ratio = -21.26

Simulation Run = 5191
Weights = [0.177 0.044 0.199 0.084 0.126 0.027 0.124 0.036 0.182], Final Value =
\$1411654.76, Sharpe Ratio = -18.63

Simulation Run = 5192
Weights = [0.164 0.177 0.051 0.151 0.048 0.149 0.128 0.1 0.032], Final Value =
\$1608441.14, Sharpe Ratio = -17.09

Simulation Run = 5193
Weights = [0.142 0.065 0.054 0.073 0.104 0.148 0.14 0.126 0.149], Final Value =
\$1527349.62, Sharpe Ratio = -17.32

Simulation Run = 5194
Weights = [0.078 0.203 0.008 0.089 0.25 0.173 0.021 0.025 0.154], Final Value =
\$1546680.81, Sharpe Ratio = -25.46

Simulation Run = 5195
Weights = [0.032 0.164 0.013 0.103 0.18 0.215 0.117 0.1 0.076], Final Value =
\$1613511.72, Sharpe Ratio = -18.32

Simulation Run = 5196
Weights = [0.195 0.124 0.175 0.111 0.022 0.128 0.067 0.049 0.128], Final Value =
\$1472049.07, Sharpe Ratio = -18.60

Simulation Run = 5197

Weights = [0.152 0.171 0.084 0.042 0.054 0.086 0.135 0.082 0.193], Final Value = \$1406241.49, Sharpe Ratio = -19.35

Simulation Run = 5198

Weights = [0.197 0.008 0.069 0.161 0.182 0.044 0.057 0.163 0.12], Final Value = \$1577338.61, Sharpe Ratio = -21.65

Simulation Run = 5199

Weights = [0.178 0.115 0.183 0.103 0.105 0.071 0.003 0.095 0.147], Final Value = \$1453994.05, Sharpe Ratio = -22.84

Simulation Run = 5200

Weights = [0.199 0.103 0.068 0.039 0.161 0.04 0.161 0.068 0.16], Final Value = \$1475996.89, Sharpe Ratio = -18.57

Simulation Run = 5201

Weights = [0.097 0.153 0.117 0.087 0.16 0.021 0.103 0.108 0.154], Final Value = \$1436606.13, Sharpe Ratio = -22.63

Simulation Run = 5202

Weights = [0.173 0.144 0.047 0.066 0.166 0.026 0.066 0.193 0.118], Final Value = \$1514813.91, Sharpe Ratio = -24.09

Simulation Run = 5203

Weights = [0.207 0.109 0.04 0.198 0.208 0.062 0.126 0.015 0.037], Final Value = \$1650381.46, Sharpe Ratio = -19.08

Simulation Run = 5204

Weights = [0.191 0.074 0.113 0.091 0.019 0.187 0.094 0.131 0.099], Final Value = \$1552867.61, Sharpe Ratio = -16.36

Simulation Run = 5205

Weights = [0.08 0.061 0.153 0.145 0.075 0.024 0.202 0.159 0.102], Final Value = \$1477571.91, Sharpe Ratio = -15.67

Simulation Run = 5206

Weights = [0.183 0.046 0.157 0.02 0.053 0.226 0.072 0.089 0.155], Final Value = \$1499651.32, Sharpe Ratio = -16.45

Simulation Run = 5207
Weights = [0.124 0.165 0.07 0.077 0.073 0.058 0.208 0.032 0.192], Final Value =
\$1405565.60, Sharpe Ratio = -16.98

Simulation Run = 5208
Weights = [0.088 0.097 0.191 0.156 0.069 0.171 0.02 0.09 0.119], Final Value =
\$1502412.00, Sharpe Ratio = -19.45

Simulation Run = 5209
Weights = [0.055 0.072 0.188 0.188 0.025 0.203 0.19 0.057 0.022], Final Value =
\$1588082.69, Sharpe Ratio = -13.22

Simulation Run = 5210
Weights = [0.031 0.174 0.223 0.209 0.061 0.09 0.028 0.085 0.099], Final Value =
\$1455652.95, Sharpe Ratio = -20.95

Simulation Run = 5211
Weights = [0.107 0.096 0.174 0.23 0.091 0.116 0.087 0.083 0.017], Final Value =
\$1599915.68, Sharpe Ratio = -17.46

Simulation Run = 5212
Weights = [0.032 0.146 0.161 0.035 0.087 0.076 0.186 0.19 0.087], Final Value =
\$1455531.84, Sharpe Ratio = -16.35

Simulation Run = 5213
Weights = [0.016 0.188 0.185 0.21 0.085 0.161 0.104 0.025 0.025], Final Value =
\$1556726.20, Sharpe Ratio = -17.40

Simulation Run = 5214
Weights = [0.205 0.207 0.175 0.093 0.041 0.089 0.017 0.15 0.022], Final Value =
\$1535395.97, Sharpe Ratio = -20.34

Simulation Run = 5215
Weights = [0.03 0.026 0.132 0.056 0.196 0.179 0.136 0.093 0.152], Final Value =
\$1514635.49, Sharpe Ratio = -17.23

Simulation Run = 5216
Weights = [0.012 0.161 0.154 0.048 0.052 0.146 0.09 0.168 0.168], Final Value =

\$1405016.98, Sharpe Ratio = -19.79

Simulation Run = 5217

Weights = [0.236 0.063 0.065 0.091 0.031 0.009 0.243 0.048 0.215], Final Value = \$1408256.15, Sharpe Ratio = -14.92

Simulation Run = 5218

Weights = [0.095 0.178 0.003 0.153 0.16 0.046 0.187 0.068 0.109], Final Value = \$1533550.14, Sharpe Ratio = -18.67

Simulation Run = 5219

Weights = [0.143 0.15 0.038 0.008 0.167 0.1 0.173 0.067 0.156], Final Value = \$1484876.08, Sharpe Ratio = -18.03

Simulation Run = 5220

Weights = [0.118 0.103 0.123 0.098 0.159 0.137 0.062 0.099 0.101], Final Value = \$1544841.55, Sharpe Ratio = -20.45

Simulation Run = 5221

Weights = [0.033 0.105 0.17 0.105 0.161 0.17 0.134 0.116 0.006], Final Value = \$1604543.36, Sharpe Ratio = -16.11

Simulation Run = 5222

Weights = [0.156 0.076 0.017 0.138 0.096 0.145 0.153 0.128 0.09], Final Value = \$1603849.12, Sharpe Ratio = -16.56

Simulation Run = 5223

Weights = [0.058 0.25 0.031 0.268 0.031 0.049 0.219 0.087 0.007], Final Value = \$1577669.13, Sharpe Ratio = -15.91

Simulation Run = 5224

Weights = [0.007 0.141 0.048 0.016 0.128 0.196 0.137 0.129 0.198], Final Value = \$1454237.91, Sharpe Ratio = -18.36

Simulation Run = 5225

Weights = [0.077 0.13 0.16 0.131 0.162 0.027 0.067 0.149 0.097], Final Value = \$1486630.09, Sharpe Ratio = -22.42

Simulation Run = 5226
Weights = [0.066 0.067 0.187 0.145 0.239 0.102 0.064 0.126 0.004], Final Value =
\$1622088.34, Sharpe Ratio = -19.04

Simulation Run = 5227
Weights = [0.186 0.141 0.155 0.03 0.083 0.057 0.166 0.154 0.027], Final Value =
\$1529804.48, Sharpe Ratio = -16.05

Simulation Run = 5228
Weights = [0.089 0.111 0.087 0.094 0.075 0.101 0.118 0.109 0.214], Final Value =
\$1415410.70, Sharpe Ratio = -20.19

Simulation Run = 5229
Weights = [0.145 0.18 0.171 0.139 0.206 0.023 0.064 0.034 0.038], Final Value =
\$1541217.72, Sharpe Ratio = -21.98

Simulation Run = 5230
Weights = [0.119 0.092 0.054 0.147 0.14 0.171 0.142 0.072 0.064], Final Value =
\$1623366.96, Sharpe Ratio = -16.74

Simulation Run = 5231
Weights = [0.078 0.081 0.071 0.156 0.164 0.108 0.16 0.163 0.018], Final Value =
\$1636870.13, Sharpe Ratio = -16.71

Simulation Run = 5232
Weights = [0.183 0.137 0.105 0.129 0.192 0.017 0.135 0.006 0.096], Final Value =
\$1522728.24, Sharpe Ratio = -19.88

Simulation Run = 5233
Weights = [0.183 0.031 0.067 0.194 0.045 0.158 0.056 0.164 0.103], Final Value =
\$1600279.79, Sharpe Ratio = -18.23

Simulation Run = 5234
Weights = [0.029 0.028 0.097 0.157 0.141 0.193 0.061 0.096 0.198], Final Value =
\$1504342.35, Sharpe Ratio = -20.08

Simulation Run = 5235
Weights = [0.13 0.068 0.063 0.026 0.246 0.012 0.191 0.229 0.035], Final Value =
\$1594570.71, Sharpe Ratio = -16.90

Simulation Run = 5236
Weights = [0.085 0.107 0.134 0.027 0.098 0.002 0.217 0.15 0.179], Final Value =
\$1376449.45, Sharpe Ratio = -16.50

Simulation Run = 5237
Weights = [0.161 0.085 0.02 0.215 0.023 0.232 0.001 0.052 0.21], Final Value =
\$1533933.22, Sharpe Ratio = -20.10

Simulation Run = 5238
Weights = [0.142 0.113 0.122 0.105 0.127 0.035 0.06 0.075 0.22], Final Value =
\$1397663.14, Sharpe Ratio = -24.39

Simulation Run = 5239
Weights = [0.232 0.103 0.147 0.216 0.049 0.047 0.026 0.036 0.144], Final Value =
\$1483177.14, Sharpe Ratio = -21.70

Simulation Run = 5240
Weights = [0.144 0.17 0.091 0.178 0.114 0.072 0.153 0.011 0.066], Final Value =
\$1550306.60, Sharpe Ratio = -18.09

Simulation Run = 5241
Weights = [0.037 0.144 0.145 0.011 0.146 0.005 0.188 0.178 0.147], Final Value =
\$1394078.16, Sharpe Ratio = -18.05

Simulation Run = 5242
Weights = [0.046 0.084 0.113 0.264 0.098 0.118 0.11 0.042 0.125], Final Value =
\$1530786.23, Sharpe Ratio = -18.88

Simulation Run = 5243
Weights = [0.083 0.064 0.077 0.17 0.153 0.1 0.148 0.122 0.083], Final Value =
\$1579995.61, Sharpe Ratio = -17.72

Simulation Run = 5244
Weights = [0.156 0.004 0.102 0.038 0.035 0.187 0.14 0.151 0.185], Final Value =
\$1484629.73, Sharpe Ratio = -15.53

Simulation Run = 5245

Weights = [0.118 0.047 0.039 0. 0.033 0.107 0.275 0.204 0.178], Final Value = \$1453764.24, Sharpe Ratio = -13.20

Simulation Run = 5246

Weights = [0.23 0.019 0.206 0.05 0.187 0.168 0.069 0.016 0.057], Final Value = \$1598205.00, Sharpe Ratio = -16.67

Simulation Run = 5247

Weights = [0.2 0.183 0.019 0.006 0.171 0.087 0.02 0.192 0.123], Final Value = \$1530222.30, Sharpe Ratio = -25.04

Simulation Run = 5248

Weights = [0.052 0.141 0.048 0.157 0.07 0.125 0.152 0.123 0.133], Final Value = \$1507431.40, Sharpe Ratio = -18.16

Simulation Run = 5249

Weights = [0.106 0.087 0.157 0.048 0.097 0.179 0.016 0.168 0.143], Final Value = \$1489901.02, Sharpe Ratio = -20.17

Simulation Run = 5250

Weights = [0.104 0.172 0.13 0.057 0.147 0.18 0.123 0.052 0.035], Final Value = \$1578447.78, Sharpe Ratio = -17.14

Simulation Run = 5251

Weights = [0.157 0.023 0.181 0.063 0.109 0.017 0.192 0.163 0.095], Final Value = \$1483777.25, Sharpe Ratio = -15.40

Simulation Run = 5252

Weights = [0.137 0.205 0.092 0.153 0.133 0.097 0.004 0.11 0.069], Final Value = \$1555952.38, Sharpe Ratio = -24.51

Simulation Run = 5253

Weights = [0.02 0.141 0.152 0.14 0.155 0.007 0.101 0.201 0.082], Final Value = \$1482523.59, Sharpe Ratio = -21.34

Simulation Run = 5254

Weights = [0.174 0.127 0.04 0.095 0.061 0.085 0.058 0.153 0.206], Final Value = \$1447720.48, Sharpe Ratio = -23.14

Simulation Run = 5255
Weights = [0.095 0.158 0.127 0.052 0.128 0.158 0.087 0.091 0.104], Final Value =
\$1510963.77, Sharpe Ratio = -19.46

Simulation Run = 5256
Weights = [0.004 0.242 0.033 0.208 0.242 0.141 0.023 0.032 0.075], Final Value =
\$1593882.53, Sharpe Ratio = -25.87

Simulation Run = 5257
Weights = [0.125 0.149 0.005 0.01 0.078 0.149 0.152 0.196 0.136], Final Value =
\$1514008.16, Sharpe Ratio = -17.36

Simulation Run = 5258
Weights = [0.134 0.115 0.137 0.081 0.11 0.104 0.113 0.045 0.161], Final Value =
\$1453859.99, Sharpe Ratio = -19.36

Simulation Run = 5259
Weights = [0.095 0.154 0.041 0.177 0.042 0.133 0.135 0.093 0.131], Final Value =
\$1517156.18, Sharpe Ratio = -18.40

Simulation Run = 5260
Weights = [0.047 0.092 0.029 0.043 0.134 0.219 0.109 0.242 0.086], Final Value =
\$1600420.55, Sharpe Ratio = -17.31

Simulation Run = 5261
Weights = [0.108 0.043 0.039 0.039 0.041 0.237 0.092 0.181 0.22], Final Value =
\$1485048.13, Sharpe Ratio = -17.17

Simulation Run = 5262
Weights = [0.037 0.137 0.078 0.164 0.172 0.025 0.09 0.11 0.187], Final Value =
\$1439574.99, Sharpe Ratio = -24.78

Simulation Run = 5263
Weights = [0.197 0.023 0.149 0.114 0.038 0.062 0.121 0.054 0.241], Final Value =
\$1388071.08, Sharpe Ratio = -18.38

Simulation Run = 5264
Weights = [0.255 0.123 0.109 0.127 0.122 0.001 0.074 0.031 0.159], Final Value =

\$1462927.54, Sharpe Ratio = -22.46

Simulation Run = 5265

Weights = [0.092 0.106 0.285 0.046 0.011 0.085 0.276 0.041 0.057], Final Value = \$1430346.59, Sharpe Ratio = -12.02

Simulation Run = 5266

Weights = [0.011 0.043 0.106 0.191 0.186 0.185 0.081 0.167 0.029], Final Value = \$1657969.90, Sharpe Ratio = -17.82

Simulation Run = 5267

Weights = [0.168 0.069 0.102 0.112 0.102 0.112 0.102 0.069 0.163], Final Value = \$1494276.71, Sharpe Ratio = -19.23

Simulation Run = 5268

Weights = [0.206 0.069 0.046 0.195 0.11 0.134 0.107 0.006 0.127], Final Value = \$1582077.94, Sharpe Ratio = -18.52

Simulation Run = 5269

Weights = [0.06 0.127 0.017 0.02 0.186 0.056 0.246 0.135 0.151], Final Value = \$1478175.82, Sharpe Ratio = -15.92

Simulation Run = 5270

Weights = [0.144 0.028 0.174 0.103 0.161 0.026 0.054 0.12 0.19], Final Value = \$1432620.89, Sharpe Ratio = -22.25

Simulation Run = 5271

Weights = [0.006 0.043 0.2 0.154 0.166 0.137 0.04 0.075 0.179], Final Value = \$1456991.85, Sharpe Ratio = -20.94

Simulation Run = 5272

Weights = [0.086 0.173 0.093 0.093 0.133 0.164 0.146 0.049 0.064], Final Value = \$1561444.16, Sharpe Ratio = -17.28

Simulation Run = 5273

Weights = [0.104 0.132 0.065 0.083 0.047 0.143 0.153 0.101 0.174], Final Value = \$1460880.91, Sharpe Ratio = -17.46

Simulation Run = 5274
Weights = [0.089 0.049 0.167 0.11 0.202 0.012 0.116 0.182 0.072], Final Value =
\$1527417.12, Sharpe Ratio = -19.20

Simulation Run = 5275
Weights = [0.196 0.195 0.071 0.157 0.152 0.11 0.056 0.013 0.051], Final Value =
\$1598658.88, Sharpe Ratio = -21.75

Simulation Run = 5276
Weights = [0.055 0.055 0.387 0.032 0.092 0.22 0.114 0.013 0.032], Final Value =
\$1494501.49, Sharpe Ratio = -13.43

Simulation Run = 5277
Weights = [0.056 0.085 0.145 0.111 0.095 0.091 0.128 0.12 0.169], Final Value =
\$1437408.74, Sharpe Ratio = -18.88

Simulation Run = 5278
Weights = [0.077 0.101 0.148 0.165 0.131 0.041 0.103 0.063 0.171], Final Value =
\$1435196.88, Sharpe Ratio = -21.20

Simulation Run = 5279
Weights = [0.163 0.109 0.062 0.152 0.171 0.148 0.111 0.027 0.057], Final Value =
\$1630036.99, Sharpe Ratio = -18.29

Simulation Run = 5280
Weights = [0.171 0.278 0.122 0.106 0.02 0.06 0.208 0.009 0.026], Final Value =
\$1501010.31, Sharpe Ratio = -15.57

Simulation Run = 5281
Weights = [0.056 0.121 0.13 0.11 0.174 0.186 0.19 0.025 0.009], Final Value =
\$1622987.09, Sharpe Ratio = -14.72

Simulation Run = 5282
Weights = [0.169 0.045 0.177 0.049 0.18 0.063 0.065 0.171 0.081], Final Value =
\$1533513.72, Sharpe Ratio = -19.74

Simulation Run = 5283
Weights = [0.199 0.174 0.089 0.136 0.089 0.036 0.021 0.139 0.117], Final Value =
\$1497384.67, Sharpe Ratio = -24.75

Simulation Run = 5284
Weights = [0.067 0.128 0.15 0.124 0.142 0.149 0.037 0.06 0.144], Final Value =
\$1487420.08, Sharpe Ratio = -21.86

Simulation Run = 5285
Weights = [0.066 0.11 0.221 0.062 0.157 0.208 0.085 0.035 0.057], Final Value =
\$1548626.57, Sharpe Ratio = -16.82

Simulation Run = 5286
Weights = [0.127 0.107 0.008 0.185 0.141 0.27 0.036 0.111 0.015], Final Value =
\$1734445.14, Sharpe Ratio = -17.41

Simulation Run = 5287
Weights = [0.154 0.105 0.197 0.19 0.085 0.049 0.143 0.055 0.022], Final Value =
\$1552909.81, Sharpe Ratio = -16.33

Simulation Run = 5288
Weights = [0.108 0.022 0.032 0.152 0.129 0.098 0.152 0.185 0.124], Final Value =
\$1568686.69, Sharpe Ratio = -17.63

Simulation Run = 5289
Weights = [0.046 0.232 0.14 0.077 0.088 0.07 0.082 0.114 0.151], Final Value =
\$1398759.16, Sharpe Ratio = -23.03

Simulation Run = 5290
Weights = [0.057 0.195 0.098 0.14 0.154 0.158 0.114 0.015 0.069], Final Value =
\$1558585.48, Sharpe Ratio = -19.18

Simulation Run = 5291
Weights = [0.245 0.04 0.151 0.174 0.003 0.027 0.127 0.155 0.079], Final Value =
\$1526678.02, Sharpe Ratio = -16.42

Simulation Run = 5292
Weights = [0.127 0.08 0.097 0.048 0.227 0.055 0.133 0.18 0.052], Final Value =
\$1579986.75, Sharpe Ratio = -18.80

Simulation Run = 5293

Weights = [0.068 0.078 0.088 0.192 0.097 0.174 0.172 0.105 0.025], Final Value = \$1636542.45, Sharpe Ratio = -14.99

Simulation Run = 5294

Weights = [0.062 0.003 0.135 0.098 0.069 0.135 0.209 0.202 0.086], Final Value = \$1540748.06, Sharpe Ratio = -13.99

Simulation Run = 5295

Weights = [0.072 0.096 0.178 0.065 0.091 0.152 0.027 0.111 0.208], Final Value = \$1406381.99, Sharpe Ratio = -21.50

Simulation Run = 5296

Weights = [0.108 0.163 0.072 0.191 0.124 0.075 0.102 0.043 0.121], Final Value = \$1515668.50, Sharpe Ratio = -21.56

Simulation Run = 5297

Weights = [0.147 0.098 0.077 0.185 0.217 0.065 0.103 0.026 0.083], Final Value = \$1589139.74, Sharpe Ratio = -20.69

Simulation Run = 5298

Weights = [0.14 0.092 0.159 0.05 0.118 0.153 0.116 0.126 0.047], Final Value = \$1567633.92, Sharpe Ratio = -16.61

Simulation Run = 5299

Weights = [0.059 0.116 0.194 0.077 0.042 0.078 0.095 0.138 0.203], Final Value = \$1355850.76, Sharpe Ratio = -19.98

Simulation Run = 5300

Weights = [0.008 0.05 0.107 0.098 0.24 0. 0.121 0.224 0.153], Final Value = \$1470314.03, Sharpe Ratio = -21.76

Simulation Run = 5301

Weights = [0.016 0.174 0.151 0.132 0.145 0.089 0.073 0.124 0.096], Final Value = \$1487376.68, Sharpe Ratio = -21.91

Simulation Run = 5302

Weights = [0.099 0.178 0.074 0.114 0.067 0.093 0.133 0.067 0.176], Final Value = \$1435132.99, Sharpe Ratio = -19.98

Simulation Run = 5303
Weights = [0.129 0.329 0.007 0.093 0.037 0.044 0.169 0.126 0.066], Final Value =
\$1492030.70, Sharpe Ratio = -19.08

Simulation Run = 5304
Weights = [0.152 0.01 0.159 0.157 0.071 0.142 0.139 0.016 0.154], Final Value =
\$1501923.29, Sharpe Ratio = -16.12

Simulation Run = 5305
Weights = [0.11 0.089 0.051 0.014 0.246 0.102 0.08 0.207 0.103], Final Value =
\$1567588.34, Sharpe Ratio = -21.66

Simulation Run = 5306
Weights = [0.126 0.055 0.146 0.045 0.115 0.146 0.104 0.142 0.12], Final Value =
\$1512966.80, Sharpe Ratio = -17.67

Simulation Run = 5307
Weights = [0.031 0.087 0.047 0.066 0.024 0.128 0.118 0.31 0.188], Final Value =
\$1447331.12, Sharpe Ratio = -18.99

Simulation Run = 5308
Weights = [0.102 0.13 0.01 0.059 0.195 0.142 0.1 0.189 0.073], Final Value =
\$1608950.72, Sharpe Ratio = -19.92

Simulation Run = 5309
Weights = [0.056 0.207 0.119 0.141 0.01 0.214 0.127 0.123 0.003], Final Value =
\$1591468.84, Sharpe Ratio = -15.66

Simulation Run = 5310
Weights = [0.049 0.163 0.137 0.054 0.168 0.144 0.113 0.043 0.13], Final Value =
\$1477249.50, Sharpe Ratio = -19.60

Simulation Run = 5311
Weights = [0.057 0.031 0.041 0.132 0.19 0.176 0.026 0.204 0.145], Final Value =
\$1583719.96, Sharpe Ratio = -21.79

Simulation Run = 5312
Weights = [0.144 0.107 0.125 0.149 0.1 0.094 0.041 0.157 0.084], Final Value =

\$1545884.07, Sharpe Ratio = -21.08

Simulation Run = 5313

Weights = [0.183 0.082 0.043 0.019 0.176 0.075 0.093 0.122 0.206], Final Value = \$1466150.61, Sharpe Ratio = -21.91

Simulation Run = 5314

Weights = [0.034 0.083 0.126 0.134 0.116 0.124 0.067 0.154 0.162], Final Value = \$1475210.46, Sharpe Ratio = -21.21

Simulation Run = 5315

Weights = [0.225 0.087 0.036 0.042 0.142 0.058 0.016 0.171 0.223], Final Value = \$1455286.68, Sharpe Ratio = -25.63

Simulation Run = 5316

Weights = [0.086 0.166 0.116 0.075 0.067 0.204 0.184 0.052 0.051], Final Value = \$1558945.86, Sharpe Ratio = -14.64

Simulation Run = 5317

Weights = [0.206 0.088 0.113 0.13 0.028 0.214 0.097 0.043 0.083], Final Value = \$1584531.89, Sharpe Ratio = -15.87

Simulation Run = 5318

Weights = [0.11 0.151 0.087 0.099 0.171 0.097 0.146 0.088 0.051], Final Value = \$1572432.37, Sharpe Ratio = -18.25

Simulation Run = 5319

Weights = [0.23 0.102 0.112 0.164 0.139 0.072 0.1 0.072 0.008], Final Value = \$1633447.06, Sharpe Ratio = -18.13

Simulation Run = 5320

Weights = [0.02 0.137 0.171 0.192 0.105 0.07 0.092 0.194 0.019], Final Value = \$1553737.78, Sharpe Ratio = -18.93

Simulation Run = 5321

Weights = [0.134 0.036 0.088 0.021 0.174 0.155 0.171 0.134 0.088], Final Value = \$1580562.50, Sharpe Ratio = -15.59

Simulation Run = 5322
Weights = [0.064 0.03 0.112 0.174 0.011 0.162 0.106 0.2 0.141], Final Value =
\$1513902.62, Sharpe Ratio = -17.02

Simulation Run = 5323
Weights = [0.12 0.07 0.187 0.217 0.15 0.069 0.044 0.037 0.108], Final Value =
\$1520006.36, Sharpe Ratio = -20.86

Simulation Run = 5324
Weights = [0.17 0.096 0.038 0.171 0.024 0.155 0.12 0.06 0.165], Final Value =
\$1519446.23, Sharpe Ratio = -17.79

Simulation Run = 5325
Weights = [0.01 0.041 0.191 0.181 0.151 0.051 0.04 0.134 0.202], Final Value =
\$1412573.16, Sharpe Ratio = -22.90

Simulation Run = 5326
Weights = [0.069 0.073 0.007 0.017 0.061 0. 0.285 0.24 0.248], Final Value =
\$1360952.93, Sharpe Ratio = -14.62

Simulation Run = 5327
Weights = [0.066 0.217 0.163 0.262 0.125 0.01 0.105 0.002 0.051], Final Value =
\$1508617.73, Sharpe Ratio = -20.53

Simulation Run = 5328
Weights = [0.038 0.194 0.011 0.26 0.273 0.044 0.126 0.036 0.019], Final Value =
\$1648804.15, Sharpe Ratio = -21.48

Simulation Run = 5329
Weights = [0.221 0.253 0.01 0.053 0.145 0.074 0.088 0.127 0.029], Final Value =
\$1594610.91, Sharpe Ratio = -21.42

Simulation Run = 5330
Weights = [0.075 0.114 0.112 0.097 0.052 0.145 0.014 0.265 0.126], Final Value =
\$1499700.44, Sharpe Ratio = -21.50

Simulation Run = 5331
Weights = [0.183 0.132 0.011 0.148 0.03 0.059 0.188 0.047 0.202], Final Value =
\$1447647.09, Sharpe Ratio = -17.41

Simulation Run = 5332
Weights = [0.037 0.154 0.149 0.056 0.133 0.037 0.115 0.156 0.163], Final Value =
\$1396976.63, Sharpe Ratio = -21.45

Simulation Run = 5333
Weights = [0.111 0.175 0.064 0.097 0.043 0.181 0.14 0.011 0.178], Final Value =
\$1461535.05, Sharpe Ratio = -17.63

Simulation Run = 5334
Weights = [0.194 0.073 0.148 0.152 0.028 0.057 0.073 0.149 0.126], Final Value =
\$1484567.18, Sharpe Ratio = -19.34

Simulation Run = 5335
Weights = [0.18 0.065 0.173 0.152 0.016 0. 0.148 0.139 0.126], Final Value =
\$1444504.15, Sharpe Ratio = -16.95

Simulation Run = 5336
Weights = [0.147 0.123 0.107 0.157 0.048 0.071 0.042 0.139 0.165], Final Value =
\$1457497.71, Sharpe Ratio = -22.80

Simulation Run = 5337
Weights = [0.064 0.091 0.236 0.025 0.156 0.018 0.172 0.208 0.028], Final Value =
\$1491408.96, Sharpe Ratio = -16.01

Simulation Run = 5338
Weights = [0.079 0.092 0.056 0.022 0.213 0.135 0.166 0.112 0.125], Final Value =
\$1539049.26, Sharpe Ratio = -17.53

Simulation Run = 5339
Weights = [0.088 0.071 0.143 0.184 0.005 0.184 0.09 0.039 0.195], Final Value =
\$1453042.07, Sharpe Ratio = -17.72

Simulation Run = 5340
Weights = [0.061 0.219 0.122 0.057 0.047 0.227 0.064 0.145 0.057], Final Value =
\$1540191.83, Sharpe Ratio = -18.09

Simulation Run = 5341

Weights = [0.074 0.184 0.094 0.077 0.094 0.033 0.012 0.228 0.204], Final Value = \$1383232.85, Sharpe Ratio = -28.67

Simulation Run = 5342

Weights = [0.079 0.102 0.134 0.123 0.125 0.085 0.072 0.126 0.155], Final Value = \$1464385.17, Sharpe Ratio = -21.81

Simulation Run = 5343

Weights = [0.034 0.026 0.051 0.177 0.098 0.197 0.189 0.047 0.181], Final Value = \$1526859.17, Sharpe Ratio = -15.38

Simulation Run = 5344

Weights = [0.204 0.067 0.004 0.139 0.023 0.138 0.085 0.194 0.146], Final Value = \$1555994.85, Sharpe Ratio = -18.66

Simulation Run = 5345

Weights = [0.092 0.079 0.265 0.039 0.105 0.14 0.085 0.189 0.007], Final Value = \$1547065.08, Sharpe Ratio = -16.09

Simulation Run = 5346

Weights = [0.154 0.114 0.052 0.077 0.228 0.084 0.03 0.201 0.058], Final Value = \$1612420.23, Sharpe Ratio = -23.40

Simulation Run = 5347

Weights = [0.127 0.037 0.109 0.116 0.149 0.14 0.112 0.063 0.146], Final Value = \$1530643.86, Sharpe Ratio = -18.34

Simulation Run = 5348

Weights = [0.027 0.191 0.247 0.041 0.217 0.013 0.035 0.009 0.219], Final Value = \$1306127.43, Sharpe Ratio = -25.34

Simulation Run = 5349

Weights = [0.118 0.221 0.112 0.138 0.158 0.013 0.078 0.001 0.162], Final Value = \$1422881.87, Sharpe Ratio = -25.29

Simulation Run = 5350

Weights = [0.022 0.167 0.147 0.112 0.149 0.083 0.152 0.034 0.133], Final Value = \$1447201.53, Sharpe Ratio = -18.98

Simulation Run = 5351
Weights = [0.124 0.115 0.075 0.099 0.085 0.035 0.209 0.067 0.191], Final Value =
\$1418316.54, Sharpe Ratio = -16.91

Simulation Run = 5352
Weights = [0.156 0.053 0.002 0.056 0.146 0.105 0.154 0.225 0.103], Final Value =
\$1587169.50, Sharpe Ratio = -17.31

Simulation Run = 5353
Weights = [0.166 0.011 0.067 0.048 0.195 0.087 0.106 0.189 0.131], Final Value =
\$1554108.08, Sharpe Ratio = -19.34

Simulation Run = 5354
Weights = [0.114 0.133 0.161 0.165 0.024 0.132 0.038 0.193 0.039], Final Value =
\$1557275.07, Sharpe Ratio = -18.81

Simulation Run = 5355
Weights = [0.003 0.178 0.108 0.031 0.091 0.125 0.154 0.088 0.222], Final Value =
\$1362523.49, Sharpe Ratio = -19.01

Simulation Run = 5356
Weights = [0.11 0.096 0.142 0.146 0.065 0.053 0.127 0.111 0.149], Final Value =
\$1447786.17, Sharpe Ratio = -18.90

Simulation Run = 5357
Weights = [0.012 0.018 0.084 0.188 0.196 0.25 0.104 0.005 0.143], Final Value =
\$1595718.24, Sharpe Ratio = -17.19

Simulation Run = 5358
Weights = [0.015 0.088 0.177 0.112 0.092 0.073 0.114 0.174 0.155], Final Value =
\$1422641.08, Sharpe Ratio = -19.32

Simulation Run = 5359
Weights = [0.057 0.182 0.107 0.055 0.089 0.049 0.175 0.117 0.168], Final Value =
\$1395395.27, Sharpe Ratio = -18.61

Simulation Run = 5360
Weights = [0.151 0.09 0.118 0.1 0.014 0.208 0.069 0.068 0.182], Final Value =

\$1475079.71, Sharpe Ratio = -17.87

Simulation Run = 5361

Weights = [0.044 0.206 0.017 0.171 0.207 0.017 0.05 0.179 0.109], Final Value = \$1525947.19, Sharpe Ratio = -28.34

Simulation Run = 5362

Weights = [0.054 0.036 0.138 0.092 0.285 0.117 0.012 0.25 0.016], Final Value = \$1650134.26, Sharpe Ratio = -21.01

Simulation Run = 5363

Weights = [0.11 0.157 0.128 0.131 0.121 0.042 0.07 0.128 0.113], Final Value = \$1479161.82, Sharpe Ratio = -22.71

Simulation Run = 5364

Weights = [0.16 0.122 0.089 0.079 0.153 0.08 0.008 0.15 0.159], Final Value = \$1488323.33, Sharpe Ratio = -25.35

Simulation Run = 5365

Weights = [0.068 0.087 0.005 0.09 0.161 0.094 0.124 0.191 0.18], Final Value = \$1501891.46, Sharpe Ratio = -20.87

Simulation Run = 5366

Weights = [0.193 0.061 0.019 0.089 0.046 0.097 0.15 0.227 0.118], Final Value = \$1550169.87, Sharpe Ratio = -16.83

Simulation Run = 5367

Weights = [0.031 0.154 0.101 0.153 0.077 0.091 0.149 0.063 0.179], Final Value = \$1425351.91, Sharpe Ratio = -19.21

Simulation Run = 5368

Weights = [0.17 0.084 0.159 0.135 0.063 0.09 0.031 0.135 0.134], Final Value = \$1485374.52, Sharpe Ratio = -20.87

Simulation Run = 5369

Weights = [0.016 0.098 0.105 0.138 0.127 0.199 0.211 0.064 0.042], Final Value = \$1602303.93, Sharpe Ratio = -14.11

Simulation Run = 5370

Weights = [0.103 0.087 0.01 0.11 0.059 0.111 0.2 0.149 0.172], Final Value = \$1492625.69, Sharpe Ratio = -16.18

Simulation Run = 5371

Weights = [0.159 0.019 0.034 0.154 0.078 0.15 0.132 0.143 0.131], Final Value = \$1579048.56, Sharpe Ratio = -16.87

Simulation Run = 5372

Weights = [0.068 0.115 0.094 0.145 0.211 0.053 0.039 0.181 0.094], Final Value = \$1546549.83, Sharpe Ratio = -24.61

Simulation Run = 5373

Weights = [0.03 0.016 0.109 0.001 0.137 0.256 0.178 0.043 0.229], Final Value = \$1456737.37, Sharpe Ratio = -14.85

Simulation Run = 5374

Weights = [0.141 0.119 0.01 0.033 0.178 0.171 0.16 0.158 0.031], Final Value = \$1652425.44, Sharpe Ratio = -16.14

Simulation Run = 5375

Weights = [0.192 0.132 0.092 0.205 0.083 0.007 0.001 0.209 0.08], Final Value = \$1543532.75, Sharpe Ratio = -24.08

Simulation Run = 5376

Weights = [0.086 0.087 0.092 0.175 0.086 0.173 0.135 0.081 0.085], Final Value = \$1578088.07, Sharpe Ratio = -16.64

Simulation Run = 5377

Weights = [0.127 0.065 0.174 0.006 0.133 0.163 0.148 0.171 0.012], Final Value = \$1593986.41, Sharpe Ratio = -14.95

Simulation Run = 5378

Weights = [0.162 0.051 0.042 0.175 0.19 0.168 0.108 0.011 0.092], Final Value = \$1640068.07, Sharpe Ratio = -18.08

Simulation Run = 5379

Weights = [0.213 0.01 0.184 0.109 0.146 0.097 0.138 0.042 0.061], Final Value = \$1576240.12, Sharpe Ratio = -15.85

Simulation Run = 5380
Weights = [0.155 0.055 0.197 0.229 0.149 0.028 0.057 0.005 0.124], Final Value =
\$1497044.76, Sharpe Ratio = -20.58

Simulation Run = 5381
Weights = [0.171 0.042 0.027 0.247 0.025 0.208 0.183 0.093 0.003], Final Value =
\$1714880.52, Sharpe Ratio = -13.38

Simulation Run = 5382
Weights = [0.012 0.129 0.164 0.139 0.099 0.085 0.137 0.161 0.076], Final Value =
\$1496351.30, Sharpe Ratio = -17.95

Simulation Run = 5383
Weights = [0.118 0.028 0.186 0.118 0.182 0.264 0.051 0.038 0.015], Final Value =
\$1672248.43, Sharpe Ratio = -15.70

Simulation Run = 5384
Weights = [0.101 0.175 0.11 0.247 0.171 0.07 0.038 0. 0.088], Final Value =
\$1549796.92, Sharpe Ratio = -23.94

Simulation Run = 5385
Weights = [0.025 0.04 0.249 0.205 0.019 0.03 0.094 0.245 0.093], Final Value =
\$1451293.98, Sharpe Ratio = -17.31

Simulation Run = 5386
Weights = [0.214 0.069 0.088 0.072 0.101 0.057 0.168 0.055 0.176], Final Value =
\$1463292.47, Sharpe Ratio = -17.33

Simulation Run = 5387
Weights = [0.119 0.043 0.17 0.057 0.099 0.084 0.111 0.147 0.169], Final Value =
\$1436932.41, Sharpe Ratio = -18.59

Simulation Run = 5388
Weights = [0.088 0.099 0.122 0.137 0.129 0.163 0.009 0.09 0.162], Final Value =
\$1501272.71, Sharpe Ratio = -22.35

Simulation Run = 5389

Weights = [0.016 0.218 0.185 0.033 0.099 0.204 0.001 0.081 0.163], Final Value = \$1415805.98, Sharpe Ratio = -21.87

Simulation Run = 5390

Weights = [0.048 0.231 0.239 0.021 0.124 0.083 0.102 0.153 0.], Final Value = \$1491954.49, Sharpe Ratio = -18.38

Simulation Run = 5391

Weights = [0.186 0.093 0.3 0.023 0.146 0.166 0.017 0.021 0.048], Final Value = \$1525356.39, Sharpe Ratio = -17.29

Simulation Run = 5392

Weights = [0.142 0.021 0.083 0.148 0.168 0.176 0.111 0.096 0.056], Final Value = \$1652966.53, Sharpe Ratio = -16.75

Simulation Run = 5393

Weights = [0.2 0.145 0.124 0.093 0.087 0.006 0.137 0.105 0.102], Final Value = \$1475182.48, Sharpe Ratio = -18.87

Simulation Run = 5394

Weights = [0.074 0.058 0. 0.2 0.036 0.118 0.253 0.159 0.101], Final Value = \$1575053.29, Sharpe Ratio = -13.76

Simulation Run = 5395

Weights = [0.115 0.109 0.142 0.124 0.063 0.08 0.087 0.064 0.216], Final Value = \$1392702.79, Sharpe Ratio = -21.19

Simulation Run = 5396

Weights = [0.109 0.135 0.165 0.04 0.042 0.118 0.151 0.227 0.013], Final Value = \$1544048.94, Sharpe Ratio = -15.56

Simulation Run = 5397

Weights = [0.028 0.121 0.157 0.088 0.161 0.145 0.136 0.022 0.142], Final Value = \$1469624.31, Sharpe Ratio = -18.23

Simulation Run = 5398

Weights = [0.123 0.134 0.095 0.161 0.061 0.163 0.139 0.009 0.114], Final Value = \$1530198.11, Sharpe Ratio = -17.03

Simulation Run = 5399
Weights = [0.015 0.194 0.036 0.089 0.065 0.041 0.181 0.188 0.192], Final Value =
\$1392460.96, Sharpe Ratio = -19.31

Simulation Run = 5400
Weights = [0.09 0.086 0.005 0.128 0.074 0.084 0.158 0.213 0.162], Final Value =
\$1503317.07, Sharpe Ratio = -18.40

Simulation Run = 5401
Weights = [0.104 0.079 0.114 0.093 0.166 0.124 0.067 0.099 0.155], Final Value =
\$1501670.98, Sharpe Ratio = -21.32

Simulation Run = 5402
Weights = [0.167 0.149 0.058 0.072 0.119 0.011 0.122 0.13 0.172], Final Value =
\$1440701.13, Sharpe Ratio = -21.66

Simulation Run = 5403
Weights = [0.189 0.061 0.129 0.113 0.073 0.105 0.169 0.084 0.077], Final Value =
\$1550532.16, Sharpe Ratio = -15.44

Simulation Run = 5404
Weights = [0.204 0.177 0.126 0.02 0.087 0.161 0.199 0.026 0.001], Final Value =
\$1591303.89, Sharpe Ratio = -14.06

Simulation Run = 5405
Weights = [0.156 0.09 0.041 0.208 0.016 0.101 0.013 0.154 0.22], Final Value =
\$1463897.67, Sharpe Ratio = -23.79

Simulation Run = 5406
Weights = [0.096 0.189 0.046 0.088 0.21 0.044 0.199 0.097 0.032], Final Value =
\$1577935.35, Sharpe Ratio = -17.42

Simulation Run = 5407
Weights = [0.133 0.227 0.101 0.058 0.051 0.023 0.209 0.081 0.117], Final Value =
\$1422527.22, Sharpe Ratio = -16.76

Simulation Run = 5408
Weights = [0.186 0.094 0.154 0.065 0.104 0.075 0.086 0.026 0.211], Final Value =

\$1403337.60, Sharpe Ratio = -20.77

Simulation Run = 5409

Weights = [0.089 0.011 0.135 0.158 0.081 0.091 0.102 0.177 0.156], Final Value = \$1488046.01, Sharpe Ratio = -18.71

Simulation Run = 5410

Weights = [0.043 0.164 0.023 0.016 0.14 0.215 0.058 0.123 0.218], Final Value = \$1461585.97, Sharpe Ratio = -21.57

Simulation Run = 5411

Weights = [0.04 0.178 0.073 0.216 0.104 0.008 0.058 0.185 0.139], Final Value = \$1464745.04, Sharpe Ratio = -25.81

Simulation Run = 5412

Weights = [0.011 0.123 0.01 0.126 0.069 0.042 0.152 0.255 0.213], Final Value = \$1415946.80, Sharpe Ratio = -20.66

Simulation Run = 5413

Weights = [0.009 0.015 0.086 0.24 0.03 0.143 0.237 0.189 0.05], Final Value = \$1602460.90, Sharpe Ratio = -13.17

Simulation Run = 5414

Weights = [0.078 0.192 0.151 0.196 0.168 0.002 0.104 0.047 0.062], Final Value = \$1506401.79, Sharpe Ratio = -21.35

Simulation Run = 5415

Weights = [0.027 0.166 0.123 0.033 0.026 0.153 0.213 0.22 0.04], Final Value = \$1518553.94, Sharpe Ratio = -14.19

Simulation Run = 5416

Weights = [0.123 0.139 0.117 0.086 0.155 0.049 0.148 0.111 0.072], Final Value = \$1523072.88, Sharpe Ratio = -18.54

Simulation Run = 5417

Weights = [0.116 0.214 0.216 0.094 0.029 0.066 0.155 0.069 0.041], Final Value = \$1463215.78, Sharpe Ratio = -16.46

Simulation Run = 5418
Weights = [0.047 0.053 0.178 0.051 0.134 0.214 0.13 0. 0.192], Final Value =
\$1449781.36, Sharpe Ratio = -16.57

Simulation Run = 5419
Weights = [0.146 0.08 0.141 0.177 0.051 0.12 0.216 0.027 0.043], Final Value =
\$1573877.61, Sharpe Ratio = -13.83

Simulation Run = 5420
Weights = [0.147 0.211 0.202 0.04 0.012 0.184 0.152 0.022 0.03], Final Value =
\$1512339.55, Sharpe Ratio = -14.81

Simulation Run = 5421
Weights = [0.166 0.094 0.173 0.025 0.025 0.058 0.177 0.133 0.15], Final Value =
\$1407674.51, Sharpe Ratio = -15.96

Simulation Run = 5422
Weights = [0.105 0.054 0.035 0.133 0.038 0.174 0.115 0.176 0.17], Final Value =
\$1521677.18, Sharpe Ratio = -17.64

Simulation Run = 5423
Weights = [0.105 0.152 0.241 0.012 0.1 0.047 0.2 0.064 0.08], Final Value =
\$1423783.60, Sharpe Ratio = -15.32

Simulation Run = 5424
Weights = [0.007 0.055 0.018 0.064 0.238 0.216 0.183 0.207 0.011], Final Value =
\$1698565.32, Sharpe Ratio = -14.90

Simulation Run = 5425
Weights = [0.046 0.031 0.041 0.179 0.162 0.02 0.196 0.116 0.21], Final Value =
\$1457105.30, Sharpe Ratio = -18.22

Simulation Run = 5426
Weights = [0.249 0.074 0.001 0.036 0.106 0.116 0.044 0.233 0.14], Final Value =
\$1561504.98, Sharpe Ratio = -20.76

Simulation Run = 5427
Weights = [0.062 0.012 0.118 0.232 0.137 0.067 0.109 0.175 0.089], Final Value =
\$1569957.95, Sharpe Ratio = -18.64

Simulation Run = 5428
Weights = [0.127 0.09 0.119 0.034 0.168 0.058 0.074 0.182 0.149], Final Value =
\$1470603.29, Sharpe Ratio = -22.17

Simulation Run = 5429
Weights = [0.118 0.163 0.017 0.037 0.062 0.139 0.15 0.155 0.159], Final Value =
\$1481597.24, Sharpe Ratio = -17.91

Simulation Run = 5430
Weights = [0.126 0.104 0.013 0.044 0.133 0.173 0.153 0.08 0.175], Final Value =
\$1516804.86, Sharpe Ratio = -17.36

Simulation Run = 5431
Weights = [0.101 0.005 0.067 0.25 0.034 0.126 0.067 0.218 0.13], Final Value =
\$1566183.50, Sharpe Ratio = -18.88

Simulation Run = 5432
Weights = [0.195 0.091 0.086 0.299 0.091 0.033 0.095 0.105 0.004], Final Value =
\$1648131.14, Sharpe Ratio = -18.45

Simulation Run = 5433
Weights = [0.046 0.136 0.179 0.062 0.022 0.059 0.162 0.191 0.143], Final Value =
\$1389664.78, Sharpe Ratio = -17.15

Simulation Run = 5434
Weights = [0.129 0.177 0.017 0.151 0.007 0.176 0.074 0.168 0.1], Final Value =
\$1560773.46, Sharpe Ratio = -19.13

Simulation Run = 5435
Weights = [0.038 0.162 0.052 0.133 0.102 0.143 0.167 0.184 0.018], Final Value =
\$1608788.95, Sharpe Ratio = -16.47

Simulation Run = 5436
Weights = [0.005 0.064 0.162 0.085 0.002 0.088 0.087 0.234 0.273], Final Value =
\$1309945.44, Sharpe Ratio = -20.59

Simulation Run = 5437

Weights = [0.1 0.172 0.121 0.086 0.051 0.118 0.183 0.126 0.042], Final Value = \$1532632.51, Sharpe Ratio = -15.59

Simulation Run = 5438

Weights = [0.082 0.127 0.185 0.067 0.132 0.135 0.031 0.106 0.135], Final Value = \$1465531.23, Sharpe Ratio = -21.44

Simulation Run = 5439

Weights = [0.142 0.17 0.001 0.101 0.127 0.029 0.195 0.012 0.222], Final Value = \$1418701.63, Sharpe Ratio = -18.85

Simulation Run = 5440

Weights = [0.094 0.04 0.018 0.025 0.236 0.146 0.196 0.066 0.18], Final Value = \$1530601.34, Sharpe Ratio = -16.43

Simulation Run = 5441

Weights = [0.139 0.19 0.177 0.167 0.004 0.043 0.029 0.146 0.105], Final Value = \$1443754.35, Sharpe Ratio = -21.91

Simulation Run = 5442

Weights = [0.114 0.01 0.024 0.138 0.317 0.016 0.22 0.114 0.045], Final Value = \$1653967.53, Sharpe Ratio = -16.06

Simulation Run = 5443

Weights = [0.176 0.042 0.117 0.293 0.096 0.017 0.005 0.035 0.219], Final Value = \$1455045.92, Sharpe Ratio = -24.40

Simulation Run = 5444

Weights = [0.245 0.107 0.142 0.127 0.237 0.013 0.019 0.05 0.061], Final Value = \$1574886.84, Sharpe Ratio = -22.95

Simulation Run = 5445

Weights = [0.121 0.046 0.225 0.022 0.007 0.085 0.216 0.05 0.229], Final Value = \$1323122.49, Sharpe Ratio = -14.39

Simulation Run = 5446

Weights = [0.075 0.175 0.02 0.034 0.233 0.212 0.033 0.205 0.014], Final Value = \$1673208.76, Sharpe Ratio = -20.46

Simulation Run = 5447
Weights = [0.078 0.129 0.169 0.023 0.056 0.105 0.17 0.133 0.137], Final Value =
\$1420984.03, Sharpe Ratio = -16.41

Simulation Run = 5448
Weights = [0.001 0.212 0.095 0.07 0.168 0.034 0.171 0.131 0.117], Final Value =
\$1444866.41, Sharpe Ratio = -19.71

Simulation Run = 5449
Weights = [0.159 0.003 0.104 0.013 0.146 0.129 0.178 0.2 0.067], Final Value =
\$1588265.94, Sharpe Ratio = -14.91

Simulation Run = 5450
Weights = [0.128 0.154 0.034 0.095 0.127 0.111 0.104 0.125 0.122], Final Value =
\$1531537.47, Sharpe Ratio = -20.69

Simulation Run = 5451
Weights = [0.064 0.092 0.073 0.087 0.041 0.186 0.195 0.208 0.055], Final Value =
\$1581208.97, Sharpe Ratio = -14.23

Simulation Run = 5452
Weights = [0.083 0.159 0.061 0.142 0.014 0.115 0.097 0.173 0.156], Final Value =
\$1466079.30, Sharpe Ratio = -20.30

Simulation Run = 5453
Weights = [0.169 0.12 0.144 0.04 0.246 0.162 0.027 0.016 0.077], Final Value =
\$1580459.36, Sharpe Ratio = -20.84

Simulation Run = 5454
Weights = [0.05 0.145 0.14 0.144 0.129 0.206 0.036 0.11 0.04], Final Value =
\$1598980.03, Sharpe Ratio = -19.05

Simulation Run = 5455
Weights = [0.231 0.016 0.242 0.054 0.106 0.053 0.199 0.055 0.044], Final Value =
\$1527248.94, Sharpe Ratio = -13.77

Simulation Run = 5456
Weights = [0.229 0.145 0.008 0.075 0. 0.121 0.194 0.112 0.116], Final Value =

\$1529754.61, Sharpe Ratio = -15.19

Simulation Run = 5457

Weights = [0.027 0.06 0.189 0.123 0.28 0.103 0.073 0.123 0.022], Final Value = \$1606712.58, Sharpe Ratio = -19.30

Simulation Run = 5458

Weights = [0.139 0.059 0.038 0.189 0.134 0.155 0.134 0.134 0.018], Final Value = \$1685828.94, Sharpe Ratio = -16.40

Simulation Run = 5459

Weights = [0.146 0.081 0.124 0.148 0.062 0.112 0.07 0.164 0.093], Final Value = \$1541001.75, Sharpe Ratio = -19.10

Simulation Run = 5460

Weights = [0.039 0.202 0.146 0.098 0.045 0.067 0.137 0.197 0.068], Final Value = \$1466980.55, Sharpe Ratio = -18.43

Simulation Run = 5461

Weights = [0.074 0.221 0.016 0.016 0.139 0.22 0.004 0.267 0.044], Final Value = \$1615105.92, Sharpe Ratio = -21.16

Simulation Run = 5462

Weights = [0.081 0.012 0.107 0.124 0.118 0.098 0.036 0.212 0.213], Final Value = \$1456966.15, Sharpe Ratio = -22.80

Simulation Run = 5463

Weights = [0.14 0.091 0.139 0.16 0.066 0.118 0.102 0.074 0.111], Final Value = \$1517563.19, Sharpe Ratio = -18.20

Simulation Run = 5464

Weights = [0.104 0.172 0.004 0.167 0.128 0.132 0.079 0.166 0.047], Final Value = \$1626544.51, Sharpe Ratio = -20.81

Simulation Run = 5465

Weights = [0.163 0.067 0.112 0.094 0.067 0.079 0.106 0.143 0.169], Final Value = \$1461023.19, Sharpe Ratio = -19.25

Simulation Run = 5466
Weights = [0.076 0.138 0.134 0.203 0.038 0.109 0.188 0.065 0.049], Final Value =
\$1543724.72, Sharpe Ratio = -15.30

Simulation Run = 5467
Weights = [0.149 0.166 0.129 0.092 0.057 0.028 0.141 0.177 0.062], Final Value =
\$1494894.97, Sharpe Ratio = -18.17

Simulation Run = 5468
Weights = [0.138 0.116 0.132 0.104 0.055 0.129 0.003 0.148 0.176], Final Value =
\$1453555.95, Sharpe Ratio = -22.50

Simulation Run = 5469
Weights = [0.188 0.046 0.039 0.018 0.134 0.079 0.192 0.148 0.157], Final Value =
\$1506694.15, Sharpe Ratio = -16.25

Simulation Run = 5470
Weights = [0.002 0.157 0.018 0.155 0.149 0.135 0.168 0.174 0.041], Final Value =
\$1610482.61, Sharpe Ratio = -17.41

Simulation Run = 5471
Weights = [0.164 0.108 0.175 0.205 0.024 0.047 0.007 0.175 0.096], Final Value =
\$1495596.65, Sharpe Ratio = -21.13

Simulation Run = 5472
Weights = [0.073 0.073 0.086 0.11 0.146 0.166 0.049 0.197 0.101], Final Value =
\$1574003.53, Sharpe Ratio = -20.29

Simulation Run = 5473
Weights = [0.025 0.099 0.148 0.07 0.109 0.181 0.188 0.053 0.127], Final Value =
\$1485852.51, Sharpe Ratio = -15.24

Simulation Run = 5474
Weights = [0.144 0.143 0.015 0.155 0.19 0.112 0.048 0.004 0.188], Final Value =
\$1516604.47, Sharpe Ratio = -25.22

Simulation Run = 5475
Weights = [0.088 0.054 0.105 0.072 0.142 0.109 0.071 0.188 0.171], Final Value =
\$1480701.06, Sharpe Ratio = -21.27

Simulation Run = 5476
Weights = [0.065 0.099 0.159 0.088 0.114 0.159 0.135 0.178 0.004], Final Value =
\$1600246.14, Sharpe Ratio = -15.83

Simulation Run = 5477
Weights = [0.042 0.181 0.168 0.148 0.04 0.04 0.175 0.078 0.128], Final Value =
\$1406773.04, Sharpe Ratio = -17.44

Simulation Run = 5478
Weights = [0.118 0.173 0.032 0.102 0.159 0.13 0.105 0.084 0.097], Final Value =
\$1562986.02, Sharpe Ratio = -20.50

Simulation Run = 5479
Weights = [0.06 0.235 0.155 0.08 0.012 0.064 0.058 0.19 0.147], Final Value =
\$1380072.04, Sharpe Ratio = -22.87

Simulation Run = 5480
Weights = [0.188 0.036 0.089 0.118 0.053 0.219 0.205 0.089 0.003], Final Value =
\$1675814.92, Sharpe Ratio = -12.60

Simulation Run = 5481
Weights = [0.167 0.09 0.187 0.132 0.118 0.204 0.001 0.059 0.04], Final Value =
\$1609893.42, Sharpe Ratio = -18.05

Simulation Run = 5482
Weights = [0.021 0.131 0.051 0.055 0.204 0.036 0.165 0.22 0.118], Final Value =
\$1496943.79, Sharpe Ratio = -19.73

Simulation Run = 5483
Weights = [0.099 0.169 0.068 0.062 0.095 0.092 0.179 0.054 0.182], Final Value =
\$1427313.14, Sharpe Ratio = -17.98

Simulation Run = 5484
Weights = [0.114 0.141 0.174 0.222 0.028 0.162 0.044 0.024 0.091], Final Value =
\$1525301.62, Sharpe Ratio = -18.75

Simulation Run = 5485

Weights = [0.006 0.157 0.185 0.01 0.146 0.068 0.1 0.17 0.157], Final Value = \$1387402.64, Sharpe Ratio = -21.24

Simulation Run = 5486

Weights = [0.157 0.158 0.091 0.113 0.11 0.041 0.121 0.167 0.042], Final Value = \$1555103.76, Sharpe Ratio = -19.29

Simulation Run = 5487

Weights = [0.151 0.051 0.18 0.176 0.136 0.143 0.037 0.117 0.008], Final Value = \$1638273.58, Sharpe Ratio = -17.87

Simulation Run = 5488

Weights = [0.109 0.137 0.027 0.17 0.131 0.1 0.071 0.119 0.136], Final Value = \$1538117.42, Sharpe Ratio = -22.93

Simulation Run = 5489

Weights = [0.145 0.197 0.113 0.163 0.08 0.075 0.133 0.065 0.029], Final Value = \$1558146.63, Sharpe Ratio = -18.20

Simulation Run = 5490

Weights = [0.112 0.245 0.021 0.003 0.133 0.173 0.141 0.163 0.01], Final Value = \$1610068.27, Sharpe Ratio = -17.29

Simulation Run = 5491

Weights = [0.022 0.031 0.327 0.301 0.02 0.148 0.013 0.025 0.113], Final Value = \$1469008.35, Sharpe Ratio = -16.46

Simulation Run = 5492

Weights = [0.219 0.038 0.062 0.015 0.207 0.119 0.166 0.076 0.099], Final Value = \$1588681.62, Sharpe Ratio = -16.27

Simulation Run = 5493

Weights = [0.112 0.082 0.101 0.071 0.155 0.093 0.044 0.137 0.206], Final Value = \$1445989.47, Sharpe Ratio = -23.98

Simulation Run = 5494

Weights = [0.011 0.067 0.238 0.15 0.129 0.103 0.116 0.171 0.015], Final Value = \$1553752.96, Sharpe Ratio = -16.41

Simulation Run = 5495
Weights = [0.095 0.047 0.036 0.143 0.241 0.154 0.034 0.187 0.063], Final Value =
\$1665999.74, Sharpe Ratio = -21.21

Simulation Run = 5496
Weights = [0.02 0.081 0.087 0.198 0.123 0.153 0.08 0.061 0.197], Final Value =
\$1481925.05, Sharpe Ratio = -21.08

Simulation Run = 5497
Weights = [0.264 0.074 0.005 0.304 0.086 0.001 0.073 0.031 0.16], Final Value =
\$1549214.33, Sharpe Ratio = -22.20

Simulation Run = 5498
Weights = [0.105 0.217 0.239 0.075 0.023 0.057 0.028 0.121 0.134], Final Value =
\$1368606.84, Sharpe Ratio = -21.83

Simulation Run = 5499
Weights = [0.2 0.049 0.006 0.117 0.075 0.186 0.213 0.042 0.11], Final Value =
\$1605706.03, Sharpe Ratio = -13.86

Simulation Run = 5500
Weights = [0.197 0.05 0.012 0.115 0.013 0.199 0.008 0.211 0.194], Final Value =
\$1534047.42, Sharpe Ratio = -19.69

Simulation Run = 5501
Weights = [0.13 0.064 0.045 0.058 0.012 0.22 0.171 0.114 0.187], Final Value =
\$1494729.88, Sharpe Ratio = -14.84

Simulation Run = 5502
Weights = [0.217 0.04 0.034 0.091 0.076 0.122 0.142 0.088 0.19], Final Value =
\$1506177.98, Sharpe Ratio = -17.35

Simulation Run = 5503
Weights = [0.001 0.119 0.024 0.123 0.087 0.241 0.136 0.064 0.206], Final Value =
\$1490031.56, Sharpe Ratio = -17.37

Simulation Run = 5504
Weights = [0.08 0.098 0.181 0.159 0.147 0.018 0.078 0.149 0.09], Final Value =

\$1491404.60, Sharpe Ratio = -20.87

Simulation Run = 5505

Weights = [0.209 0.118 0.01 0.084 0.282 0.123 0.025 0.113 0.036], Final Value = \$1685359.82, Sharpe Ratio = -22.32

Simulation Run = 5506

Weights = [0.075 0.182 0.177 0.177 0.056 0.015 0.035 0.117 0.165], Final Value = \$1385590.31, Sharpe Ratio = -24.22

Simulation Run = 5507

Weights = [0.034 0.134 0.118 0.18 0.116 0.057 0.174 0.044 0.142], Final Value = \$1457892.15, Sharpe Ratio = -18.14

Simulation Run = 5508

Weights = [0.165 0.136 0.044 0.118 0.098 0.122 0.011 0.16 0.146], Final Value = \$1525744.39, Sharpe Ratio = -23.77

Simulation Run = 5509

Weights = [0.019 0.092 0.023 0.087 0.2 0.186 0.171 0.015 0.207], Final Value = \$1497018.45, Sharpe Ratio = -17.61

Simulation Run = 5510

Weights = [0.036 0.098 0.16 0.101 0.147 0.052 0.197 0.045 0.165], Final Value = \$1418513.25, Sharpe Ratio = -16.99

Simulation Run = 5511

Weights = [0.109 0.127 0.12 0.134 0.22 0.004 0.215 0.016 0.056], Final Value = \$1540945.71, Sharpe Ratio = -16.45

Simulation Run = 5512

Weights = [0.001 0.246 0.041 0.056 0.177 0.129 0.082 0.164 0.104], Final Value = \$1510256.10, Sharpe Ratio = -23.41

Simulation Run = 5513

Weights = [0.174 0.092 0.049 0.05 0.145 0.096 0.177 0.036 0.181], Final Value = \$1481250.20, Sharpe Ratio = -17.41

Simulation Run = 5514
Weights = [0.129 0.136 0.021 0.055 0.093 0.092 0.121 0.178 0.174], Final Value =
\$1471669.57, Sharpe Ratio = -20.31

Simulation Run = 5515
Weights = [0.078 0.146 0.055 0.164 0.133 0.157 0.061 0.113 0.093], Final Value =
\$1577187.14, Sharpe Ratio = -21.15

Simulation Run = 5516
Weights = [0.087 0.146 0.141 0.103 0.199 0.04 0.056 0.021 0.207], Final Value =
\$1401282.29, Sharpe Ratio = -25.74

Simulation Run = 5517
Weights = [0.114 0.047 0.034 0.1 0.232 0.134 0.026 0.147 0.167], Final Value =
\$1559216.84, Sharpe Ratio = -23.78

Simulation Run = 5518
Weights = [0.134 0.011 0.048 0.2 0.156 0.208 0.024 0.208 0.01], Final Value =
\$1735890.50, Sharpe Ratio = -17.78

Simulation Run = 5519
Weights = [0.069 0.221 0.006 0.009 0.165 0.11 0.027 0.229 0.163], Final Value =
\$1475191.54, Sharpe Ratio = -27.06

Simulation Run = 5520
Weights = [0.165 0.111 0.039 0.056 0.037 0.316 0.074 0.032 0.171], Final Value =
\$1549654.81, Sharpe Ratio = -15.86

Simulation Run = 5521
Weights = [0.03 0.159 0.059 0.198 0.057 0.089 0.072 0.195 0.141], Final Value =
\$1485938.91, Sharpe Ratio = -22.74

Simulation Run = 5522
Weights = [0.196 0.003 0.151 0.119 0.051 0.19 0.153 0.112 0.026], Final Value =
\$1632627.19, Sharpe Ratio = -13.70

Simulation Run = 5523
Weights = [0.162 0.043 0.048 0.167 0.072 0.117 0.177 0.116 0.098], Final Value =
\$1581995.66, Sharpe Ratio = -15.70

Simulation Run = 5524
Weights = [0.083 0.139 0.128 0.146 0.005 0.141 0.085 0.109 0.164], Final Value =
\$1444508.93, Sharpe Ratio = -19.30

Simulation Run = 5525
Weights = [0.163 0.078 0.117 0.01 0.066 0.038 0.153 0.151 0.224], Final Value =
\$1371687.93, Sharpe Ratio = -18.35

Simulation Run = 5526
Weights = [0.101 0.184 0.188 0.117 0.057 0.006 0.17 0.012 0.164], Final Value =
\$1360172.74, Sharpe Ratio = -18.06

Simulation Run = 5527
Weights = [0.108 0.112 0.136 0.121 0.075 0.142 0.165 0.092 0.05], Final Value =
\$1560962.15, Sharpe Ratio = -15.53

Simulation Run = 5528
Weights = [0.027 0.123 0.028 0.082 0.18 0.139 0.133 0.105 0.182], Final Value =
\$1490913.57, Sharpe Ratio = -20.17

Simulation Run = 5529
Weights = [0.117 0.159 0.109 0.177 0.117 0.103 0.005 0.194 0.018], Final Value =
\$1607549.53, Sharpe Ratio = -22.04

Simulation Run = 5530
Weights = [0.036 0.201 0.086 0.188 0.173 0.072 0.098 0.012 0.134], Final Value =
\$1485466.92, Sharpe Ratio = -23.26

Simulation Run = 5531
Weights = [0.011 0.034 0.247 0.012 0.151 0.172 0.054 0.215 0.103], Final Value =
\$1487919.47, Sharpe Ratio = -17.82

Simulation Run = 5532
Weights = [0.009 0.072 0.154 0.227 0.131 0.191 0.064 0.075 0.077], Final Value =
\$1583690.94, Sharpe Ratio = -18.22

Simulation Run = 5533

Weights = [0.069 0.123 0.128 0.158 0.127 0.144 0.058 0.142 0.052], Final Value = \$1581405.07, Sharpe Ratio = -19.80

Simulation Run = 5534

Weights = [0.159 0.061 0.143 0.186 0.01 0.103 0.127 0.008 0.203], Final Value = \$1429664.78, Sharpe Ratio = -17.63

Simulation Run = 5535

Weights = [0.012 0.324 0.066 0.131 0.05 0.124 0.187 0.009 0.098], Final Value = \$1458976.99, Sharpe Ratio = -17.66

Simulation Run = 5536

Weights = [0.164 0.109 0.191 0.061 0.078 0.142 0.137 0.082 0.036], Final Value = \$1549741.00, Sharpe Ratio = -15.55

Simulation Run = 5537

Weights = [0.181 0.081 0.101 0.029 0.018 0.089 0.176 0.14 0.185], Final Value = \$1423509.11, Sharpe Ratio = -16.15

Simulation Run = 5538

Weights = [0.036 0.134 0.004 0.012 0.038 0.218 0.175 0.132 0.251], Final Value = \$1415816.10, Sharpe Ratio = -16.15

Simulation Run = 5539

Weights = [0.257 0.028 0.115 0.053 0.097 0.045 0.13 0.237 0.037], Final Value = \$1589006.56, Sharpe Ratio = -16.44

Simulation Run = 5540

Weights = [0.168 0.11 0.162 0.146 0.039 0.048 0.038 0.167 0.123], Final Value = \$1467316.93, Sharpe Ratio = -21.22

Simulation Run = 5541

Weights = [0.222 0.059 0.087 0.131 0.147 0.027 0.01 0.167 0.149], Final Value = \$1515232.78, Sharpe Ratio = -24.30

Simulation Run = 5542

Weights = [0.186 0.135 0.114 0.093 0.109 0.061 0.08 0.087 0.135], Final Value = \$1478868.41, Sharpe Ratio = -21.42

Simulation Run = 5543
Weights = [0.085 0.157 0.112 0.011 0.082 0.148 0.119 0.142 0.142], Final Value =
\$1457015.98, Sharpe Ratio = -18.53

Simulation Run = 5544
Weights = [0.134 0.078 0.063 0.006 0.26 0.035 0.005 0.12 0.299], Final Value =
\$1376707.32, Sharpe Ratio = -29.70

Simulation Run = 5545
Weights = [0.151 0.209 0.137 0.073 0.009 0.07 0.089 0.083 0.18], Final Value =
\$1377259.48, Sharpe Ratio = -21.09

Simulation Run = 5546
Weights = [0.023 0.084 0.118 0.196 0.226 0.03 0.15 0.031 0.142], Final Value =
\$1491352.15, Sharpe Ratio = -19.82

Simulation Run = 5547
Weights = [0.098 0.129 0.023 0.157 0.038 0.082 0.208 0.198 0.066], Final Value =
\$1562282.94, Sharpe Ratio = -15.57

Simulation Run = 5548
Weights = [0.197 0.03 0.061 0.099 0.194 0.002 0.069 0.13 0.217], Final Value =
\$1461381.18, Sharpe Ratio = -24.08

Simulation Run = 5549
Weights = [0.155 0.105 0.183 0.104 0.105 0.003 0.043 0.199 0.104], Final Value =
\$1465325.36, Sharpe Ratio = -21.86

Simulation Run = 5550
Weights = [0.089 0.115 0.121 0.191 0.019 0.173 0.104 0.066 0.12], Final Value =
\$1516077.19, Sharpe Ratio = -17.46

Simulation Run = 5551
Weights = [0.112 0.158 0.148 0.188 0.11 0.06 0.149 0.059 0.015], Final Value =
\$1566715.45, Sharpe Ratio = -17.25

Simulation Run = 5552
Weights = [0.03 0.048 0.193 0.216 0.159 0.06 0.123 0.119 0.053], Final Value =

\$1552923.68, Sharpe Ratio = -17.57

Simulation Run = 5553

Weights = [0.11 0.037 0.148 0.086 0.134 0.13 0.159 0.139 0.057], Final Value = \$1574248.14, Sharpe Ratio = -15.60

Simulation Run = 5554

Weights = [0.025 0.166 0.197 0.092 0.093 0.052 0.081 0.103 0.191], Final Value = \$1352716.06, Sharpe Ratio = -22.22

Simulation Run = 5555

Weights = [0.105 0.111 0.157 0.114 0.048 0.151 0.04 0.136 0.138], Final Value = \$1477518.52, Sharpe Ratio = -19.97

Simulation Run = 5556

Weights = [0.028 0.075 0.065 0.164 0.033 0.186 0.068 0.204 0.177], Final Value = \$1497801.32, Sharpe Ratio = -19.44

Simulation Run = 5557

Weights = [0.126 0.195 0.099 0.12 0.078 0.061 0.064 0.116 0.141], Final Value = \$1453303.20, Sharpe Ratio = -23.50

Simulation Run = 5558

Weights = [0.001 0.023 0.195 0.212 0.064 0.109 0.164 0.037 0.194], Final Value = \$1418764.96, Sharpe Ratio = -16.29

Simulation Run = 5559

Weights = [0.139 0.059 0.164 0.111 0.082 0.157 0.14 0.063 0.086], Final Value = \$1543108.69, Sharpe Ratio = -15.71

Simulation Run = 5560

Weights = [0.26 0.087 0.017 0.201 0.067 0.057 0.221 0.024 0.066], Final Value = \$1607606.84, Sharpe Ratio = -14.73

Simulation Run = 5561

Weights = [0.079 0.095 0.182 0.138 0.163 0.091 0.186 0.037 0.029], Final Value = \$1563839.77, Sharpe Ratio = -15.49

Simulation Run = 5562
Weights = [0.074 0.234 0.107 0.086 0.05 0.052 0.13 0.198 0.069], Final Value =
\$1472990.01, Sharpe Ratio = -19.64

Simulation Run = 5563
Weights = [0.045 0.125 0.097 0.128 0.159 0.101 0.122 0.067 0.156], Final Value =
\$1477882.14, Sharpe Ratio = -20.45

Simulation Run = 5564
Weights = [0.082 0.131 0.103 0.091 0.172 0.038 0.169 0.105 0.108], Final Value =
\$1491575.67, Sharpe Ratio = -18.55

Simulation Run = 5565
Weights = [0.059 0.243 0.09 0.148 0.241 0.053 0.026 0.056 0.086], Final Value =
\$1524750.25, Sharpe Ratio = -27.69

Simulation Run = 5566
Weights = [0.182 0.066 0.095 0.168 0.15 0.122 0.074 0.031 0.112], Final Value =
\$1573559.85, Sharpe Ratio = -19.82

Simulation Run = 5567
Weights = [0.117 0.167 0.092 0.006 0.174 0.094 0.003 0.174 0.173], Final Value =
\$1450091.22, Sharpe Ratio = -26.61

Simulation Run = 5568
Weights = [0.203 0.126 0.195 0.027 0.043 0.031 0.103 0.232 0.041], Final Value =
\$1493159.42, Sharpe Ratio = -17.62

Simulation Run = 5569
Weights = [0.088 0.269 0.104 0.118 0.125 0.157 0.026 0.006 0.107], Final Value =
\$1500899.63, Sharpe Ratio = -23.79

Simulation Run = 5570
Weights = [0.167 0.015 0.092 0.146 0.073 0.074 0.233 0.059 0.142], Final Value =
\$1509975.74, Sharpe Ratio = -14.36

Simulation Run = 5571
Weights = [0.059 0.098 0.105 0.134 0.208 0.005 0.181 0.119 0.09], Final Value =
\$1518369.97, Sharpe Ratio = -18.15

Simulation Run = 5572
Weights = [0.101 0.164 0.202 0.042 0.065 0.046 0.12 0.129 0.13], Final Value =
\$1395448.59, Sharpe Ratio = -18.98

Simulation Run = 5573
Weights = [0.221 0.201 0.08 0.08 0.113 0.11 0.046 0.071 0.079], Final Value =
\$1549231.69, Sharpe Ratio = -21.79

Simulation Run = 5574
Weights = [0.135 0.094 0.201 0.041 0.114 0.036 0.025 0.178 0.177], Final Value =
\$1394949.55, Sharpe Ratio = -23.02

Simulation Run = 5575
Weights = [0.124 0.029 0.135 0.202 0.066 0.13 0.032 0.28 0.003], Final Value =
\$1649908.97, Sharpe Ratio = -17.78

Simulation Run = 5576
Weights = [0.139 0.011 0.025 0.057 0.158 0.031 0.17 0.197 0.211], Final Value =
\$1465641.72, Sharpe Ratio = -18.51

Simulation Run = 5577
Weights = [0.087 0.257 0.133 0.091 0.002 0.284 0.012 0.044 0.091], Final Value =
\$1518385.94, Sharpe Ratio = -18.10

Simulation Run = 5578
Weights = [0.047 0.066 0.193 0.117 0.042 0.181 0.089 0.159 0.106], Final Value =
\$1500986.53, Sharpe Ratio = -16.78

Simulation Run = 5579
Weights = [0.033 0.142 0.143 0.059 0.079 0.03 0.22 0.137 0.157], Final Value =
\$1385096.96, Sharpe Ratio = -16.22

Simulation Run = 5580
Weights = [0.163 0.168 0.257 0.059 0.09 0.043 0.174 0.047 0.001], Final Value =
\$1500213.13, Sharpe Ratio = -15.20

Simulation Run = 5581

Weights = [0.004 0.07 0.209 0.081 0.053 0.177 0.012 0.21 0.184], Final Value = \$1416810.78, Sharpe Ratio = -19.92

Simulation Run = 5582

Weights = [0.151 0.191 0.193 0.139 0.044 0.157 0.091 0.023 0.01], Final Value = \$1562308.85, Sharpe Ratio = -16.88

Simulation Run = 5583

Weights = [0.005 0.141 0.076 0.035 0.175 0.104 0.129 0.19 0.146], Final Value = \$1470597.60, Sharpe Ratio = -20.49

Simulation Run = 5584

Weights = [0.007 0.112 0.167 0.058 0.102 0.096 0.201 0.074 0.184], Final Value = \$1386054.87, Sharpe Ratio = -16.28

Simulation Run = 5585

Weights = [0.097 0.182 0.112 0.089 0.006 0.215 0.086 0.174 0.038], Final Value = \$1569339.47, Sharpe Ratio = -16.71

Simulation Run = 5586

Weights = [0.056 0.1 0.148 0.142 0.16 0.149 0.112 0.058 0.075], Final Value = \$1558237.14, Sharpe Ratio = -18.04

Simulation Run = 5587

Weights = [0.047 0.095 0.069 0.182 0.18 0.161 0.03 0.148 0.089], Final Value = \$1602961.46, Sharpe Ratio = -21.84

Simulation Run = 5588

Weights = [0.038 0.161 0.07 0.041 0.078 0.19 0.225 0.157 0.039], Final Value = \$1570962.26, Sharpe Ratio = -13.89

Simulation Run = 5589

Weights = [0.015 0.202 0.055 0.163 0.154 0.217 0.004 0.021 0.167], Final Value = \$1514545.85, Sharpe Ratio = -23.74

Simulation Run = 5590

Weights = [0.061 0.084 0.147 0.15 0.2 0.2 0.091 0.04 0.027], Final Value = \$1637986.72, Sharpe Ratio = -17.24

Simulation Run = 5591
Weights = [0.161 0.161 0.037 0.154 0.073 0.181 0.048 0.087 0.098], Final Value =
\$1582788.61, Sharpe Ratio = -20.17

Simulation Run = 5592
Weights = [0.039 0.144 0.161 0.116 0.074 0.168 0.051 0.151 0.095], Final Value =
\$1506049.50, Sharpe Ratio = -19.58

Simulation Run = 5593
Weights = [0.02 0.08 0.145 0.087 0.139 0.188 0.167 0.112 0.061], Final Value =
\$1566230.98, Sharpe Ratio = -15.30

Simulation Run = 5594
Weights = [0.152 0.111 0.155 0.065 0.032 0.159 0.03 0.144 0.153], Final Value =
\$1462484.98, Sharpe Ratio = -19.76

Simulation Run = 5595
Weights = [0.079 0.203 0.135 0.195 0.014 0.017 0.095 0.191 0.07], Final Value =
\$1473429.24, Sharpe Ratio = -20.51

Simulation Run = 5596
Weights = [0.03 0.181 0.2 0.019 0.201 0.133 0.073 0.072 0.091], Final Value =
\$1476254.50, Sharpe Ratio = -20.60

Simulation Run = 5597
Weights = [0.075 0.136 0.153 0.18 0.021 0.127 0.117 0.055 0.137], Final Value =
\$1460606.49, Sharpe Ratio = -18.02

Simulation Run = 5598
Weights = [0.173 0.158 0.142 0.1 0.043 0.081 0.09 0.006 0.208], Final Value =
\$1385617.46, Sharpe Ratio = -20.88

Simulation Run = 5599
Weights = [0.161 0.185 0.021 0.106 0.132 0.109 0.13 0.137 0.02], Final Value =
\$1625403.33, Sharpe Ratio = -18.48

Simulation Run = 5600
Weights = [0.061 0.068 0.179 0.024 0.194 0.216 0.004 0.036 0.217], Final Value =

\$1444600.97, Sharpe Ratio = -21.10

Simulation Run = 5601

Weights = [0.051 0.11 0.075 0.169 0.147 0.012 0.114 0.145 0.177], Final Value = \$1448568.41, Sharpe Ratio = -22.69

Simulation Run = 5602

Weights = [0.006 0.24 0.085 0.044 0.067 0.155 0.159 0.112 0.133], Final Value = \$1443298.08, Sharpe Ratio = -17.88

Simulation Run = 5603

Weights = [0.165 0.184 0.044 0.028 0.195 0.11 0.034 0.224 0.017], Final Value = \$1625688.37, Sharpe Ratio = -22.39

Simulation Run = 5604

Weights = [0.205 0.029 0.24 0.095 0.09 0.024 0.139 0.129 0.048], Final Value = \$1515102.50, Sharpe Ratio = -15.70

Simulation Run = 5605

Weights = [0.108 0.005 0.081 0.149 0.12 0.121 0.177 0.108 0.131], Final Value = \$1550198.98, Sharpe Ratio = -15.96

Simulation Run = 5606

Weights = [0.134 0.23 0.168 0.163 0.132 0.031 0.104 0.03 0.007], Final Value = \$1541676.51, Sharpe Ratio = -19.83

Simulation Run = 5607

Weights = [0.016 0.218 0.11 0.108 0.049 0.059 0.229 0.006 0.204], Final Value = \$1344879.79, Sharpe Ratio = -16.54

Simulation Run = 5608

Weights = [0.194 0.112 0.218 0.042 0.193 0.035 0.034 0.024 0.15], Final Value = \$1432628.33, Sharpe Ratio = -22.52

Simulation Run = 5609

Weights = [0.012 0.112 0.101 0.203 0.068 0.138 0.282 0.009 0.074], Final Value = \$1542674.34, Sharpe Ratio = -12.91

Simulation Run = 5610
Weights = [0.129 0.046 0.034 0.033 0.112 0.224 0.119 0.134 0.169], Final Value =
\$1543979.49, Sharpe Ratio = -16.70

Simulation Run = 5611
Weights = [0.068 0.164 0.086 0.119 0.142 0.009 0.064 0.167 0.181], Final Value =
\$1418562.68, Sharpe Ratio = -26.42

Simulation Run = 5612
Weights = [0.018 0.058 0.039 0.059 0.246 0.225 0.004 0.224 0.128], Final Value =
\$1603158.60, Sharpe Ratio = -21.48

Simulation Run = 5613
Weights = [0.053 0.083 0.13 0.118 0.157 0.129 0.133 0.024 0.175], Final Value =
\$1466820.69, Sharpe Ratio = -18.80

Simulation Run = 5614
Weights = [0.183 0.097 0.057 0.196 0.008 0.086 0.065 0.2 0.11], Final Value =
\$1544650.57, Sharpe Ratio = -19.99

Simulation Run = 5615
Weights = [0.156 0.077 0.101 0.058 0.177 0.08 0.173 0.004 0.174], Final Value =
\$1470158.39, Sharpe Ratio = -17.65

Simulation Run = 5616
Weights = [0.016 0.129 0.15 0.153 0.166 0.081 0.114 0.04 0.15], Final Value =
\$1454337.68, Sharpe Ratio = -20.67

Simulation Run = 5617
Weights = [0.166 0.081 0.088 0.125 0.078 0.109 0.157 0.102 0.094], Final Value =
\$1549970.51, Sharpe Ratio = -16.50

Simulation Run = 5618
Weights = [0.1 0.195 0.007 0.205 0.001 0.027 0.193 0.19 0.082], Final Value =
\$1519073.54, Sharpe Ratio = -17.21

Simulation Run = 5619
Weights = [0.128 0.141 0.102 0.149 0.09 0.086 0.136 0.003 0.166], Final Value =
\$1456300.25, Sharpe Ratio = -19.30

Simulation Run = 5620
Weights = [0.178 0.137 0.196 0.099 0.029 0.047 0.029 0.048 0.237], Final Value =
\$1332582.81, Sharpe Ratio = -23.00

Simulation Run = 5621
Weights = [0.01 0.113 0.034 0.14 0.087 0.127 0.172 0.208 0.109], Final Value =
\$1537040.32, Sharpe Ratio = -17.12

Simulation Run = 5622
Weights = [0.029 0.164 0.208 0.09 0.03 0.061 0.203 0.1 0.117], Final Value =
\$1394014.04, Sharpe Ratio = -15.58

Simulation Run = 5623
Weights = [0.085 0.066 0.041 0.131 0.22 0.037 0.139 0.131 0.15], Final Value =
\$1521201.50, Sharpe Ratio = -20.71

Simulation Run = 5624
Weights = [0.095 0.139 0.163 0.14 0.045 0.183 0.019 0.053 0.163], Final Value =
\$1459796.85, Sharpe Ratio = -20.46

Simulation Run = 5625
Weights = [0.059 0.034 0.056 0.17 0.178 0.268 0.175 0.023 0.038], Final Value =
\$1697693.70, Sharpe Ratio = -14.04

Simulation Run = 5626
Weights = [0.132 0.113 0.036 0.138 0.157 0.131 0.042 0.129 0.12], Final Value =
\$1571896.21, Sharpe Ratio = -22.66

Simulation Run = 5627
Weights = [0.052 0.187 0.037 0.146 0.145 0.117 0.003 0.201 0.112], Final Value =
\$1541615.18, Sharpe Ratio = -26.30

Simulation Run = 5628
Weights = [0.115 0.027 0.014 0.017 0.257 0.215 0.06 0.252 0.043], Final Value =
\$1700301.04, Sharpe Ratio = -18.11

Simulation Run = 5629

Weights = [0.009 0.023 0.2 0.163 0.08 0.009 0.079 0.284 0.153], Final Value = \$1420360.15, Sharpe Ratio = -20.10

Simulation Run = 5630

Weights = [0.085 0.069 0.127 0.157 0.132 0.13 0.134 0.158 0.008], Final Value = \$1629350.99, Sharpe Ratio = -16.39

Simulation Run = 5631

Weights = [0.019 0.103 0.145 0.146 0.072 0.17 0.152 0.095 0.098], Final Value = \$1516799.01, Sharpe Ratio = -16.13

Simulation Run = 5632

Weights = [0.134 0.222 0.109 0.083 0.112 0.014 0.257 0.059 0.01], Final Value = \$1528642.38, Sharpe Ratio = -14.57

Simulation Run = 5633

Weights = [0.114 0.112 0.173 0.05 0.163 0.099 0.175 0.02 0.094], Final Value = \$1496022.97, Sharpe Ratio = -16.41

Simulation Run = 5634

Weights = [0.051 0.082 0.16 0.152 0.221 0.096 0.09 0.036 0.111], Final Value = \$1523895.57, Sharpe Ratio = -20.45

Simulation Run = 5635

Weights = [0.265 0.034 0.057 0.124 0.028 0.265 0.13 0.002 0.094], Final Value = \$1637635.97, Sharpe Ratio = -13.94

Simulation Run = 5636

Weights = [0.122 0.143 0.01 0.195 0.178 0.013 0.093 0.195 0.051], Final Value = \$1605474.44, Sharpe Ratio = -22.62

Simulation Run = 5637

Weights = [0.103 0.122 0.003 0.157 0.187 0.044 0.055 0.155 0.174], Final Value = \$1509562.71, Sharpe Ratio = -26.69

Simulation Run = 5638

Weights = [0.175 0.145 0.013 0.158 0.051 0.01 0.213 0.167 0.068], Final Value = \$1548750.39, Sharpe Ratio = -16.08

Simulation Run = 5639
Weights = [0.052 0.158 0.12 0.198 0.124 0.095 0.006 0.041 0.205], Final Value =
\$1427574.33, Sharpe Ratio = -26.48

Simulation Run = 5640
Weights = [0.27 0.051 0.084 0.114 0.137 0.056 0.155 0.12 0.014], Final Value =
\$1641218.15, Sharpe Ratio = -16.04

Simulation Run = 5641
Weights = [0.157 0.043 0.115 0.131 0.004 0.123 0.197 0.088 0.142], Final Value =
\$1490976.37, Sharpe Ratio = -14.57

Simulation Run = 5642
Weights = [0.167 0.228 0.021 0.095 0.04 0.166 0.096 0.029 0.158], Final Value =
\$1488678.99, Sharpe Ratio = -19.87

Simulation Run = 5643
Weights = [0.206 0.031 0.082 0.179 0.091 0.168 0.188 0.047 0.008], Final Value =
\$1682565.41, Sharpe Ratio = -13.74

Simulation Run = 5644
Weights = [0.211 0.037 0.052 0.082 0.113 0.062 0.035 0.219 0.189], Final Value =
\$1493111.27, Sharpe Ratio = -23.01

Simulation Run = 5645
Weights = [0.158 0.188 0.153 0.105 0.127 0.053 0.01 0.14 0.066], Final Value =
\$1513962.87, Sharpe Ratio = -23.65

Simulation Run = 5646
Weights = [0.022 0.142 0.078 0.183 0.126 0.108 0.155 0.176 0.01], Final Value =
\$1612189.65, Sharpe Ratio = -17.24

Simulation Run = 5647
Weights = [0.031 0.161 0.144 0.014 0.182 0.158 0.097 0.096 0.117], Final Value =
\$1484571.69, Sharpe Ratio = -19.83

Simulation Run = 5648
Weights = [0.146 0.039 0.073 0.158 0.157 0.052 0.142 0.135 0.099], Final Value =

\$1567264.37, Sharpe Ratio = -18.32

Simulation Run = 5649

Weights = [0.174 0.206 0.131 0.001 0.1 0.197 0.062 0.092 0.037], Final Value = \$1565912.61, Sharpe Ratio = -18.15

Simulation Run = 5650

Weights = [0.06 0.132 0.18 0.151 0.1 0.102 0.091 0.067 0.116], Final Value = \$1471732.88, Sharpe Ratio = -19.59

Simulation Run = 5651

Weights = [0.199 0.179 0.166 0.161 0.005 0.093 0.033 0.157 0.007], Final Value = \$1565684.15, Sharpe Ratio = -18.98

Simulation Run = 5652

Weights = [0.011 0.005 0.177 0.179 0.172 0.069 0.086 0.094 0.207], Final Value = \$1432373.36, Sharpe Ratio = -20.86

Simulation Run = 5653

Weights = [0.057 0.132 0.218 0.129 0.109 0.11 0.176 0.019 0.049], Final Value = \$1509343.20, Sharpe Ratio = -15.48

Simulation Run = 5654

Weights = [0.075 0.132 0.131 0.029 0.183 0.151 0.073 0.107 0.12], Final Value = \$1505572.89, Sharpe Ratio = -20.61

Simulation Run = 5655

Weights = [0.072 0.001 0.073 0.004 0.256 0.001 0.099 0.218 0.276], Final Value = \$1385754.67, Sharpe Ratio = -23.98

Simulation Run = 5656

Weights = [0.151 0.087 0.097 0.138 0.061 0.08 0.049 0.188 0.149], Final Value = \$1489670.84, Sharpe Ratio = -21.73

Simulation Run = 5657

Weights = [0.172 0.155 0.154 0.071 0.081 0.012 0.008 0.156 0.191], Final Value = \$1381273.95, Sharpe Ratio = -25.70

Simulation Run = 5658
Weights = [0.103 0.27 0.079 0.067 0.055 0.274 0.026 0.11 0.016], Final Value =
\$1611375.82, Sharpe Ratio = -18.04

Simulation Run = 5659
Weights = [0.224 0.095 0.016 0.137 0.001 0.082 0.134 0.184 0.127], Final Value =
\$1533002.70, Sharpe Ratio = -17.58

Simulation Run = 5660
Weights = [0.171 0.14 0.189 0.035 0.103 0.043 0.087 0.096 0.136], Final Value =
\$1422209.50, Sharpe Ratio = -20.34

Simulation Run = 5661
Weights = [0.206 0.198 0.05 0.068 0.043 0.126 0.038 0.169 0.103], Final Value =
\$1526478.65, Sharpe Ratio = -21.51

Simulation Run = 5662
Weights = [0.131 0.079 0.062 0.069 0.049 0.14 0.154 0.16 0.157], Final Value =
\$1493397.57, Sharpe Ratio = -16.71

Simulation Run = 5663
Weights = [0.093 0.155 0.009 0.015 0.216 0.122 0.205 0.177 0.007], Final Value =
\$1640630.95, Sharpe Ratio = -15.75

Simulation Run = 5664
Weights = [0.203 0.111 0.112 0.117 0.023 0.121 0.061 0.137 0.117], Final Value =
\$1513608.20, Sharpe Ratio = -19.24

Simulation Run = 5665
Weights = [0.134 0.128 0.147 0.117 0.049 0.101 0.077 0.113 0.134], Final Value =
\$1465107.61, Sharpe Ratio = -19.92

Simulation Run = 5666
Weights = [0.088 0.197 0.064 0.081 0.201 0.03 0.231 0.048 0.06], Final Value =
\$1530654.92, Sharpe Ratio = -16.45

Simulation Run = 5667
Weights = [0.171 0.136 0.157 0.122 0.129 0.113 0.07 0.029 0.073], Final Value =
\$1543087.69, Sharpe Ratio = -19.65

Simulation Run = 5668
Weights = [0.129 0.001 0.074 0.111 0.11 0.057 0.205 0.072 0.241], Final Value =
\$1424442.03, Sharpe Ratio = -16.48

Simulation Run = 5669
Weights = [0.086 0.147 0.152 0.037 0.143 0.076 0.085 0.109 0.165], Final Value =
\$1418228.60, Sharpe Ratio = -21.94

Simulation Run = 5670
Weights = [0.085 0.107 0.048 0.095 0.067 0.163 0.101 0.181 0.154], Final Value =
\$1508733.31, Sharpe Ratio = -19.03

Simulation Run = 5671
Weights = [0.036 0.042 0.112 0.088 0.145 0.106 0.125 0.173 0.173], Final Value =
\$1469815.14, Sharpe Ratio = -19.16

Simulation Run = 5672
Weights = [0.205 0.027 0.177 0.027 0.285 0.059 0.15 0.054 0.015], Final Value =
\$1615743.56, Sharpe Ratio = -16.33

Simulation Run = 5673
Weights = [0.211 0.204 0.114 0.112 0.148 0.043 0.116 0.046 0.005], Final Value =
\$1582555.70, Sharpe Ratio = -19.22

Simulation Run = 5674
Weights = [0.092 0.196 0.177 0.026 0.057 0.164 0.017 0.219 0.052], Final Value =
\$1510262.50, Sharpe Ratio = -19.88

Simulation Run = 5675
Weights = [0.078 0.103 0.174 0.005 0.205 0.061 0.116 0.161 0.097], Final Value =
\$1482054.98, Sharpe Ratio = -19.47

Simulation Run = 5676
Weights = [0.012 0.025 0.156 0.099 0.204 0.12 0.156 0.051 0.178], Final Value =
\$1465841.13, Sharpe Ratio = -17.68

Simulation Run = 5677

Weights = [0.084 0.159 0.009 0.102 0.148 0.16 0.112 0.145 0.083], Final Value = \$1591838.09, Sharpe Ratio = -19.36

Simulation Run = 5678

Weights = [0.048 0.12 0.14 0.133 0.107 0.099 0.055 0.148 0.149], Final Value = \$1461675.04, Sharpe Ratio = -22.22

Simulation Run = 5679

Weights = [0.038 0.115 0.128 0.018 0.159 0.176 0.138 0.088 0.141], Final Value = \$1483275.20, Sharpe Ratio = -17.59

Simulation Run = 5680

Weights = [0.062 0.047 0.175 0.1 0.112 0.167 0.097 0.172 0.068], Final Value = \$1557800.44, Sharpe Ratio = -16.88

Simulation Run = 5681

Weights = [0.071 0.013 0.132 0.043 0.185 0.213 0.099 0.085 0.16], Final Value = \$1527146.45, Sharpe Ratio = -17.47

Simulation Run = 5682

Weights = [0.144 0.029 0.153 0.19 0.098 0.084 0.067 0.101 0.134], Final Value = \$1513219.01, Sharpe Ratio = -19.64

Simulation Run = 5683

Weights = [0.142 0.195 0.07 0.151 0.02 0.062 0.174 0.172 0.013], Final Value = \$1567590.91, Sharpe Ratio = -16.44

Simulation Run = 5684

Weights = [0.117 0.047 0.128 0.128 0.197 0.186 0.044 0.114 0.038], Final Value = \$1649076.31, Sharpe Ratio = -18.49

Simulation Run = 5685

Weights = [0.047 0.206 0.233 0.001 0.156 0.126 0.132 0.064 0.035], Final Value = \$1487489.11, Sharpe Ratio = -17.21

Simulation Run = 5686

Weights = [0.076 0.055 0.126 0.107 0.058 0.149 0.127 0.153 0.149], Final Value = \$1485968.64, Sharpe Ratio = -17.18

Simulation Run = 5687
Weights = [0.07 0.076 0.156 0.183 0.045 0.192 0.206 0.002 0.071], Final Value =
\$1557334.65, Sharpe Ratio = -13.60

Simulation Run = 5688
Weights = [0.18 0.112 0.026 0.15 0.13 0.182 0.109 0.004 0.105], Final Value =
\$1606053.15, Sharpe Ratio = -18.05

Simulation Run = 5689
Weights = [0.136 0.139 0.218 0.142 0.041 0.033 0.065 0.038 0.187], Final Value =
\$1363602.37, Sharpe Ratio = -21.13

Simulation Run = 5690
Weights = [0.091 0.123 0.076 0.066 0.152 0.101 0.089 0.155 0.146], Final Value =
\$1492724.27, Sharpe Ratio = -21.72

Simulation Run = 5691
Weights = [0.205 0.038 0.101 0.078 0.139 0.101 0.056 0.151 0.132], Final Value =
\$1539673.94, Sharpe Ratio = -20.35

Simulation Run = 5692
Weights = [0.085 0.085 0.113 0.162 0.176 0.061 0.089 0.113 0.116], Final Value =
\$1524351.13, Sharpe Ratio = -21.38

Simulation Run = 5693
Weights = [0.008 0.164 0.089 0.124 0.15 0.065 0.112 0.121 0.167], Final Value =
\$1439236.32, Sharpe Ratio = -22.57

Simulation Run = 5694
Weights = [0.16 0.117 0.084 0.168 0.05 0.125 0.087 0.13 0.078], Final Value =
\$1567301.68, Sharpe Ratio = -18.68

Simulation Run = 5695
Weights = [0.184 0.06 0.022 0.139 0.165 0.06 0.139 0.144 0.087], Final Value =
\$1600616.24, Sharpe Ratio = -18.58

Simulation Run = 5696
Weights = [0.013 0.029 0.205 0.15 0.141 0.142 0.152 0.065 0.101], Final Value =

\$1515543.16, Sharpe Ratio = -15.90

Simulation Run = 5697

Weights = [0.158 0.038 0.021 0.207 0.058 0.256 0.005 0.247 0.01], Final Value = \$1741087.21, Sharpe Ratio = -16.62

Simulation Run = 5698

Weights = [0.05 0.169 0.067 0.191 0.16 0.089 0.189 0.031 0.054], Final Value = \$1572943.04, Sharpe Ratio = -17.18

Simulation Run = 5699

Weights = [0.116 0.15 0.169 0.007 0.16 0.009 0.212 0.159 0.019], Final Value = \$1510482.28, Sharpe Ratio = -15.58

Simulation Run = 5700

Weights = [0.084 0.061 0.084 0. 0.12 0.177 0.176 0.171 0.127], Final Value = \$1523319.23, Sharpe Ratio = -15.49

Simulation Run = 5701

Weights = [0.041 0.035 0.131 0.053 0.097 0.197 0.195 0.139 0.114], Final Value = \$1526182.95, Sharpe Ratio = -14.25

Simulation Run = 5702

Weights = [0.171 0.068 0.109 0.127 0.141 0.282 0.062 0.024 0.017], Final Value = \$1697902.97, Sharpe Ratio = -15.59

Simulation Run = 5703

Weights = [0.185 0.167 0.102 0.071 0.108 0.11 0.087 0.026 0.144], Final Value = \$1479196.14, Sharpe Ratio = -20.69

Simulation Run = 5704

Weights = [0.187 0.089 0.017 0.043 0.187 0.112 0.069 0.111 0.185], Final Value = \$1517136.81, Sharpe Ratio = -22.28

Simulation Run = 5705

Weights = [0.051 0.108 0.124 0.119 0.177 0.14 0.121 0.106 0.052], Final Value = \$1581723.76, Sharpe Ratio = -18.05

Simulation Run = 5706
Weights = [0.128 0.15 0.047 0.052 0.135 0.161 0.188 0.063 0.075], Final Value =
\$1573262.73, Sharpe Ratio = -15.73

Simulation Run = 5707
Weights = [0.176 0.128 0.128 0.219 0.029 0.012 0.019 0.171 0.117], Final Value =
\$1483791.28, Sharpe Ratio = -22.86

Simulation Run = 5708
Weights = [0.068 0.1 0.126 0.097 0.062 0.134 0.2 0.144 0.068], Final Value =
\$1532109.28, Sharpe Ratio = -14.76

Simulation Run = 5709
Weights = [0.263 0.129 0.093 0. 0.11 0.182 0.009 0.19 0.024], Final Value =
\$1632310.02, Sharpe Ratio = -18.50

Simulation Run = 5710
Weights = [0.041 0.112 0.17 0.104 0.085 0.073 0.151 0.112 0.151], Final Value =
\$1420428.54, Sharpe Ratio = -17.96

Simulation Run = 5711
Weights = [0.11 0.187 0.017 0.184 0.129 0.163 0.123 0.04 0.047], Final Value =
\$1628190.80, Sharpe Ratio = -18.48

Simulation Run = 5712
Weights = [0.033 0.209 0.055 0.178 0.013 0.162 0.094 0.077 0.178], Final Value =
\$1450714.83, Sharpe Ratio = -20.51

Simulation Run = 5713
Weights = [0.019 0.164 0.133 0.131 0.096 0.032 0.172 0.191 0.06], Final Value =
\$1491155.36, Sharpe Ratio = -17.65

Simulation Run = 5714
Weights = [0.149 0.144 0.219 0.102 0.175 0.039 0.019 0.113 0.04], Final Value =
\$1524611.15, Sharpe Ratio = -21.56

Simulation Run = 5715
Weights = [0.168 0.115 0.071 0.115 0.017 0.022 0.188 0.11 0.194], Final Value =
\$1408651.49, Sharpe Ratio = -17.24

Simulation Run = 5716
Weights = [0.178 0.227 0.217 0.075 0.083 0.139 0.018 0.006 0.058], Final Value =
\$1498601.29, Sharpe Ratio = -20.16

Simulation Run = 5717
Weights = [0.135 0.113 0.063 0.174 0.041 0.137 0.081 0.178 0.078], Final Value =
\$1578051.41, Sharpe Ratio = -18.83

Simulation Run = 5718
Weights = [0.173 0.117 0.066 0.023 0.008 0.191 0.219 0.124 0.078], Final Value =
\$1552536.18, Sharpe Ratio = -13.26

Simulation Run = 5719
Weights = [0.053 0.083 0.129 0.103 0.091 0.084 0.149 0.152 0.156], Final Value =
\$1448908.46, Sharpe Ratio = -18.12

Simulation Run = 5720
Weights = [0.069 0.075 0.082 0.098 0.214 0.081 0.194 0.011 0.176], Final Value =
\$1478836.84, Sharpe Ratio = -17.56

Simulation Run = 5721
Weights = [0.09 0.13 0.134 0.153 0.116 0.108 0.076 0.112 0.082], Final Value =
\$1535592.91, Sharpe Ratio = -20.22

Simulation Run = 5722
Weights = [0.017 0.197 0.157 0.184 0.073 0.109 0.059 0.191 0.013], Final Value =
\$1554910.89, Sharpe Ratio = -19.95

Simulation Run = 5723
Weights = [0.186 0.143 0.112 0.006 0.185 0.011 0.188 0.047 0.123], Final Value =
\$1462777.21, Sharpe Ratio = -17.61

Simulation Run = 5724
Weights = [0.198 0.147 0.181 0.044 0.165 0.012 0.115 0.138 0.001], Final Value =
\$1551633.63, Sharpe Ratio = -18.37

Simulation Run = 5725

Weights = [0.002 0.116 0.165 0.165 0.067 0.143 0.082 0.13 0.13], Final Value = \$1472102.01, Sharpe Ratio = -19.22

Simulation Run = 5726

Weights = [0.126 0.061 0.171 0.053 0.133 0.12 0.141 0.001 0.194], Final Value = \$1427833.70, Sharpe Ratio = -17.62

Simulation Run = 5727

Weights = [0.063 0.285 0.138 0.085 0.011 0.07 0.179 0.067 0.102], Final Value = \$1406648.71, Sharpe Ratio = -17.45

Simulation Run = 5728

Weights = [0.021 0.152 0.11 0.17 0.166 0.169 0. 0.083 0.129], Final Value = \$1528324.12, Sharpe Ratio = -23.58

Simulation Run = 5729

Weights = [0.086 0.165 0.07 0.135 0.051 0.086 0.185 0.104 0.119], Final Value = \$1484157.13, Sharpe Ratio = -17.02

Simulation Run = 5730

Weights = [0.133 0.026 0.158 0.148 0.176 0.17 0.054 0.129 0.007], Final Value = \$1665368.08, Sharpe Ratio = -17.34

Simulation Run = 5731

Weights = [0.208 0.152 0.06 0.16 0.118 0.135 0.017 0.138 0.013], Final Value = \$1656590.55, Sharpe Ratio = -20.69

Simulation Run = 5732

Weights = [0.08 0.13 0.059 0.137 0.107 0.11 0.101 0.139 0.136], Final Value = \$1510873.52, Sharpe Ratio = -20.76

Simulation Run = 5733

Weights = [0.139 0.126 0.179 0.165 0.154 0.128 0.047 0.029 0.033], Final Value = \$1588905.56, Sharpe Ratio = -19.44

Simulation Run = 5734

Weights = [0.039 0.042 0.155 0.134 0.136 0.153 0.072 0.114 0.154], Final Value = \$1496235.69, Sharpe Ratio = -19.49

Simulation Run = 5735
Weights = [0.076 0.105 0.176 0.188 0.13 0.194 0.06 0.036 0.034], Final Value =
\$1607392.18, Sharpe Ratio = -17.65

Simulation Run = 5736
Weights = [0.109 0.129 0.1 0.136 0.061 0.11 0.129 0.131 0.095], Final Value =
\$1522048.91, Sharpe Ratio = -18.01

Simulation Run = 5737
Weights = [0.176 0.105 0.044 0.163 0.155 0.019 0.115 0.179 0.044], Final Value =
\$1605490.44, Sharpe Ratio = -19.93

Simulation Run = 5738
Weights = [0.165 0.062 0.068 0.023 0.163 0.065 0.141 0.155 0.159], Final Value =
\$1490959.32, Sharpe Ratio = -18.89

Simulation Run = 5739
Weights = [0.131 0.146 0.152 0.032 0.004 0.134 0.039 0.182 0.18], Final Value =
\$1403486.70, Sharpe Ratio = -20.64

Simulation Run = 5740
Weights = [0.28 0.119 0.005 0.075 0.05 0.298 0.073 0.048 0.052], Final Value =
\$1686579.66, Sharpe Ratio = -14.93

Simulation Run = 5741
Weights = [0.127 0.073 0.119 0.166 0.179 0.075 0.069 0.032 0.16], Final Value =
\$1499315.53, Sharpe Ratio = -22.27

Simulation Run = 5742
Weights = [0.175 0.017 0.04 0.039 0.095 0.066 0.241 0.167 0.161], Final Value =
\$1495498.65, Sharpe Ratio = -14.47

Simulation Run = 5743
Weights = [0.1 0.16 0.124 0.09 0.128 0.077 0.065 0.072 0.184], Final Value =
\$1420542.34, Sharpe Ratio = -23.75

Simulation Run = 5744
Weights = [0.086 0.139 0.11 0.136 0.173 0.146 0.062 0.001 0.146], Final Value =

\$1508937.86, Sharpe Ratio = -21.98

Simulation Run = 5745

Weights = [0.252 0.001 0.035 0. 0.121 0.199 0.18 0.001 0.21], Final Value = \$1520621.76, Sharpe Ratio = -14.67

Simulation Run = 5746

Weights = [0.082 0.017 0.073 0.145 0.14 0.112 0.125 0.151 0.156], Final Value = \$1528710.09, Sharpe Ratio = -18.74

Simulation Run = 5747

Weights = [0.039 0.103 0.025 0.137 0.22 0.233 0.08 0.119 0.043], Final Value = \$1681363.56, Sharpe Ratio = -18.37

Simulation Run = 5748

Weights = [0.148 0.066 0. 0.079 0.19 0.215 0.094 0.021 0.186], Final Value = \$1565950.22, Sharpe Ratio = -18.85

Simulation Run = 5749

Weights = [0.058 0.024 0.121 0.157 0.018 0.197 0.126 0.105 0.193], Final Value = \$1472763.59, Sharpe Ratio = -16.35

Simulation Run = 5750

Weights = [0.042 0.066 0.111 0.032 0.167 0.172 0.163 0.075 0.172], Final Value = \$1479510.86, Sharpe Ratio = -16.83

Simulation Run = 5751

Weights = [0.197 0.105 0.11 0.121 0.09 0.083 0.056 0.071 0.167], Final Value = \$1474217.34, Sharpe Ratio = -21.79

Simulation Run = 5752

Weights = [0.035 0.089 0.228 0.06 0.22 0.183 0.127 0.028 0.03], Final Value = \$1572126.98, Sharpe Ratio = -16.06

Simulation Run = 5753

Weights = [0.168 0.171 0.076 0.103 0.126 0.17 0.118 0.007 0.062], Final Value = \$1589289.80, Sharpe Ratio = -17.78

Simulation Run = 5754
Weights = [0.066 0.127 0.097 0.179 0.153 0.007 0.008 0.174 0.189], Final Value =
\$1435498.65, Sharpe Ratio = -28.47

Simulation Run = 5755
Weights = [0.054 0.08 0.022 0.186 0.05 0.149 0.14 0.181 0.138], Final Value =
\$1543073.88, Sharpe Ratio = -17.59

Simulation Run = 5756
Weights = [0.153 0.169 0.02 0.012 0.188 0.089 0.152 0.15 0.067], Final Value =
\$1572455.14, Sharpe Ratio = -18.52

Simulation Run = 5757
Weights = [0.029 0.141 0.006 0.25 0.269 0.104 0.054 0.04 0.108], Final Value =
\$1608875.93, Sharpe Ratio = -24.95

Simulation Run = 5758
Weights = [0.102 0.2 0.087 0.144 0.16 0.093 0.056 0.019 0.138], Final Value =
\$1491002.56, Sharpe Ratio = -24.57

Simulation Run = 5759
Weights = [0.068 0.076 0.026 0.119 0.159 0.12 0.212 0.02 0.2], Final Value =
\$1484762.83, Sharpe Ratio = -16.49

Simulation Run = 5760
Weights = [0.113 0.068 0.133 0.116 0.138 0.134 0.082 0.182 0.032], Final Value =
\$1608972.63, Sharpe Ratio = -18.05

Simulation Run = 5761
Weights = [0.202 0.205 0.196 0.107 0.036 0.111 0.076 0.038 0.029], Final Value =
\$1524559.49, Sharpe Ratio = -18.05

Simulation Run = 5762
Weights = [0.136 0.062 0.101 0.042 0.159 0.195 0.137 0.075 0.093], Final Value =
\$1580498.28, Sharpe Ratio = -16.15

Simulation Run = 5763
Weights = [0.045 0. 0.17 0.119 0.138 0.104 0.224 0.079 0.122], Final Value =
\$1499856.52, Sharpe Ratio = -14.38

Simulation Run = 5764
Weights = [0.074 0.004 0.172 0.16 0.096 0.087 0.051 0.198 0.159], Final Value =
\$1475935.41, Sharpe Ratio = -20.20

Simulation Run = 5765
Weights = [0.173 0.161 0.129 0.05 0.008 0.115 0.124 0.06 0.18], Final Value =
\$1406691.79, Sharpe Ratio = -18.15

Simulation Run = 5766
Weights = [0.156 0.022 0.028 0.16 0.057 0.174 0.034 0.161 0.208], Final Value =
\$1523539.42, Sharpe Ratio = -20.39

Simulation Run = 5767
Weights = [0.05 0.112 0.114 0.194 0.177 0.037 0.078 0.158 0.081], Final Value =
\$1540121.74, Sharpe Ratio = -22.18

Simulation Run = 5768
Weights = [0.037 0.168 0.133 0.096 0.063 0.094 0.228 0.042 0.138], Final Value =
\$1425267.30, Sharpe Ratio = -15.34

Simulation Run = 5769
Weights = [0.24 0.008 0.054 0.105 0.199 0.038 0.098 0.105 0.152], Final Value =
\$1548276.40, Sharpe Ratio = -20.44

Simulation Run = 5770
Weights = [0.157 0.003 0.162 0.054 0.144 0.175 0.17 0.113 0.022], Final Value =
\$1627750.23, Sharpe Ratio = -13.99

Simulation Run = 5771
Weights = [0.22 0.001 0.124 0.066 0.035 0.042 0.204 0.214 0.094], Final Value =
\$1517001.76, Sharpe Ratio = -14.36

Simulation Run = 5772
Weights = [0.084 0.001 0.156 0.116 0.161 0.165 0.09 0.111 0.116], Final Value =
\$1554290.38, Sharpe Ratio = -17.69

Simulation Run = 5773

Weights = [0.051 0.041 0.045 0.032 0.431 0.243 0.013 0.064 0.081], Final Value = \$1696086.52, Sharpe Ratio = -20.20

Simulation Run = 5774

Weights = [0.096 0.049 0.226 0.218 0.043 0.002 0.107 0.189 0.069], Final Value = \$1487736.84, Sharpe Ratio = -17.29

Simulation Run = 5775

Weights = [0.144 0.089 0.09 0.214 0.06 0.059 0.119 0.188 0.037], Final Value = \$1593942.10, Sharpe Ratio = -17.85

Simulation Run = 5776

Weights = [0.024 0.152 0.244 0.232 0.147 0.062 0.053 0.055 0.032], Final Value = \$1524513.84, Sharpe Ratio = -19.63

Simulation Run = 5777

Weights = [0.063 0.009 0.174 0.092 0.128 0.229 0.022 0.078 0.203], Final Value = \$1478461.02, Sharpe Ratio = -18.95

Simulation Run = 5778

Weights = [0.183 0.047 0.144 0.096 0.095 0.185 0.077 0.168 0.006], Final Value = \$1648625.94, Sharpe Ratio = -16.02

Simulation Run = 5779

Weights = [0.125 0.059 0.072 0.178 0.032 0.114 0.152 0.101 0.168], Final Value = \$1492987.63, Sharpe Ratio = -17.11

Simulation Run = 5780

Weights = [0.177 0.098 0.151 0.036 0.171 0.167 0.025 0.081 0.094], Final Value = \$1554687.27, Sharpe Ratio = -19.98

Simulation Run = 5781

Weights = [0.102 0.144 0.192 0.178 0.044 0.011 0.024 0.113 0.192], Final Value = \$1367790.68, Sharpe Ratio = -23.82

Simulation Run = 5782

Weights = [0.059 0.07 0.169 0.074 0.174 0.078 0.044 0.156 0.176], Final Value = \$1438014.01, Sharpe Ratio = -22.99

Simulation Run = 5783
Weights = [0.138 0.052 0.153 0.083 0.122 0.191 0.157 0.101 0.004], Final Value =
\$1637922.54, Sharpe Ratio = -14.33

Simulation Run = 5784
Weights = [0.013 0.114 0.129 0.118 0.112 0.102 0.043 0.15 0.218], Final Value =
\$1400805.68, Sharpe Ratio = -24.23

Simulation Run = 5785
Weights = [0.05 0.019 0.189 0.151 0.198 0.187 0.124 0.057 0.024], Final Value =
\$1632529.85, Sharpe Ratio = -15.60

Simulation Run = 5786
Weights = [0.056 0.135 0.101 0.129 0.126 0.158 0.035 0.157 0.104], Final Value =
\$1541145.24, Sharpe Ratio = -21.64

Simulation Run = 5787
Weights = [0.038 0.132 0.133 0.151 0.037 0.119 0.16 0.12 0.11], Final Value =
\$1480200.36, Sharpe Ratio = -16.73

Simulation Run = 5788
Weights = [0.006 0.187 0.054 0.122 0.022 0.13 0.135 0.131 0.214], Final Value =
\$1397201.74, Sharpe Ratio = -19.75

Simulation Run = 5789
Weights = [0.07 0.005 0.071 0.125 0.112 0.082 0.182 0.228 0.126], Final Value =
\$1533298.39, Sharpe Ratio = -16.37

Simulation Run = 5790
Weights = [0.176 0.119 0.173 0.112 0.087 0.018 0.036 0.198 0.079], Final Value =
\$1493988.61, Sharpe Ratio = -21.49

Simulation Run = 5791
Weights = [0.072 0.041 0.276 0.126 0.018 0.014 0.116 0.105 0.233], Final Value =
\$1297510.38, Sharpe Ratio = -17.94

Simulation Run = 5792
Weights = [0.196 0.166 0.173 0.18 0.064 0.06 0.015 0.054 0.091], Final Value =

\$1497883.66, Sharpe Ratio = -21.92

Simulation Run = 5793

Weights = [0.14 0.02 0.12 0.135 0.147 0.036 0.113 0.21 0.079], Final Value = \$1559844.73, Sharpe Ratio = -18.64

Simulation Run = 5794

Weights = [0.024 0.141 0.134 0.103 0.224 0.038 0.093 0.097 0.145], Final Value = \$1454235.21, Sharpe Ratio = -23.30

Simulation Run = 5795

Weights = [0.147 0.069 0.226 0.065 0.014 0.193 0.225 0.008 0.053], Final Value = \$1525749.62, Sharpe Ratio = -12.28

Simulation Run = 5796

Weights = [0.149 0.052 0.224 0.076 0.021 0.032 0.095 0.232 0.12], Final Value = \$1429182.37, Sharpe Ratio = -17.78

Simulation Run = 5797

Weights = [0.028 0.204 0.128 0.107 0.114 0.162 0.096 0.1 0.061], Final Value = \$1533415.40, Sharpe Ratio = -19.22

Simulation Run = 5798

Weights = [0.103 0.01 0.192 0.119 0.109 0.154 0.055 0.074 0.184], Final Value = \$1465982.51, Sharpe Ratio = -18.99

Simulation Run = 5799

Weights = [0.032 0.202 0.053 0.014 0.137 0.182 0.197 0.179 0.005], Final Value = \$1603409.88, Sharpe Ratio = -15.14

Simulation Run = 5800

Weights = [0.054 0.138 0.073 0.126 0.174 0.104 0.102 0.095 0.132], Final Value = \$1512818.85, Sharpe Ratio = -21.57

Simulation Run = 5801

Weights = [0.146 0.122 0.023 0.132 0.037 0.14 0.186 0.039 0.176], Final Value = \$1489941.03, Sharpe Ratio = -16.23

Simulation Run = 5802
Weights = [0.08 0.237 0.168 0.136 0.037 0.112 0.057 0.01 0.163], Final Value =
\$1396454.69, Sharpe Ratio = -22.14

Simulation Run = 5803
Weights = [0.169 0.149 0.123 0.174 0.154 0.095 0.006 0. 0.128], Final Value =
\$1518849.76, Sharpe Ratio = -24.20

Simulation Run = 5804
Weights = [0.036 0.163 0.157 0.188 0.035 0.035 0.118 0.217 0.052], Final Value =
\$1493601.94, Sharpe Ratio = -18.72

Simulation Run = 5805
Weights = [0.109 0.082 0.268 0.173 0.048 0.087 0.074 0.148 0.01], Final Value =
\$1540082.94, Sharpe Ratio = -16.49

Simulation Run = 5806
Weights = [0.055 0.153 0.227 0.086 0.227 0.023 0.052 0.069 0.107], Final Value =
\$1444444.55, Sharpe Ratio = -22.76

Simulation Run = 5807
Weights = [0.203 0.149 0.055 0.141 0.065 0.117 0.145 0.102 0.023], Final Value =
\$1618187.29, Sharpe Ratio = -16.57

Simulation Run = 5808
Weights = [0.12 0.06 0.082 0.019 0.162 0.131 0.083 0.198 0.145], Final Value =
\$1517743.05, Sharpe Ratio = -20.06

Simulation Run = 5809
Weights = [0.139 0.094 0.093 0.017 0.254 0.034 0.071 0.203 0.094], Final Value =
\$1538936.83, Sharpe Ratio = -22.80

Simulation Run = 5810
Weights = [0.027 0.14 0.098 0.064 0.176 0.169 0.116 0.066 0.144], Final Value =
\$1497022.86, Sharpe Ratio = -19.43

Simulation Run = 5811
Weights = [0.133 0.005 0.028 0.18 0.182 0.182 0.025 0.076 0.19], Final Value =
\$1577723.31, Sharpe Ratio = -21.51

Simulation Run = 5812
Weights = [0.163 0.197 0.007 0.062 0.055 0.154 0.157 0.171 0.034], Final Value =
\$1602880.53, Sharpe Ratio = -16.29

Simulation Run = 5813
Weights = [0.113 0.046 0.06 0.112 0.146 0.021 0.112 0.179 0.21], Final Value =
\$1446149.42, Sharpe Ratio = -21.93

Simulation Run = 5814
Weights = [0.176 0.192 0.111 0.115 0.136 0.095 0.084 0.082 0.009], Final Value =
\$1597523.52, Sharpe Ratio = -19.75

Simulation Run = 5815
Weights = [0.112 0.165 0.084 0.035 0.117 0.093 0.131 0.146 0.116], Final Value =
\$1487388.42, Sharpe Ratio = -19.31

Simulation Run = 5816
Weights = [0.195 0.135 0.035 0.001 0.15 0.077 0.011 0.247 0.15], Final Value =
\$1503518.03, Sharpe Ratio = -25.09

Simulation Run = 5817
Weights = [0.029 0.062 0.133 0.218 0.168 0.074 0.244 0.006 0.066], Final Value =
\$1559932.56, Sharpe Ratio = -14.41

Simulation Run = 5818
Weights = [0.171 0.069 0.1 0.071 0.119 0.148 0.166 0.008 0.148], Final Value =
\$1512233.23, Sharpe Ratio = -16.21

Simulation Run = 5819
Weights = [0.118 0.12 0.107 0.236 0.186 0.078 0.089 0.03 0.036], Final Value =
\$1615975.29, Sharpe Ratio = -20.11

Simulation Run = 5820
Weights = [0.182 0.16 0.037 0.155 0.068 0.053 0.169 0.106 0.07], Final Value =
\$1555717.50, Sharpe Ratio = -17.45

Simulation Run = 5821

Weights = [0.182 0.107 0.185 0.122 0.031 0.166 0.036 0.098 0.073], Final Value = \$1540324.12, Sharpe Ratio = -17.86

Simulation Run = 5822

Weights = [0.147 0.075 0.171 0.097 0.127 0.079 0.034 0.172 0.098], Final Value = \$1514509.73, Sharpe Ratio = -20.95

Simulation Run = 5823

Weights = [0.031 0.166 0.207 0.014 0.117 0.034 0.083 0.168 0.18], Final Value = \$1342380.54, Sharpe Ratio = -22.21

Simulation Run = 5824

Weights = [0.126 0.081 0.024 0.232 0.086 0.068 0.123 0.081 0.18], Final Value = \$1505791.80, Sharpe Ratio = -20.34

Simulation Run = 5825

Weights = [0.296 0.129 0.117 0.121 0.049 0.016 0.071 0.191 0.01], Final Value = \$1585444.37, Sharpe Ratio = -18.78

Simulation Run = 5826

Weights = [0.043 0.167 0.192 0.146 0.056 0.127 0.109 0.019 0.141], Final Value = \$1427981.64, Sharpe Ratio = -18.66

Simulation Run = 5827

Weights = [0.118 0.125 0.118 0.052 0.107 0.172 0.1 0.129 0.078], Final Value = \$1550331.65, Sharpe Ratio = -17.79

Simulation Run = 5828

Weights = [0.128 0.132 0.095 0.072 0.146 0.118 0.168 0.121 0.019], Final Value = \$1600847.83, Sharpe Ratio = -16.23

Simulation Run = 5829

Weights = [0.107 0.123 0.039 0.129 0.024 0.072 0.1 0.183 0.222], Final Value = \$1414738.76, Sharpe Ratio = -21.67

Simulation Run = 5830

Weights = [0.055 0.008 0.098 0.179 0.085 0.055 0.208 0.102 0.21], Final Value = \$1435118.69, Sharpe Ratio = -16.21

Simulation Run = 5831
Weights = [0.072 0.104 0.048 0.107 0.141 0.156 0.116 0.109 0.145], Final Value =
\$1530838.71, Sharpe Ratio = -19.28

Simulation Run = 5832
Weights = [0.06 0.079 0.221 0.155 0.012 0.172 0.043 0.154 0.103], Final Value =
\$1490928.56, Sharpe Ratio = -17.55

Simulation Run = 5833
Weights = [0.074 0.011 0.077 0.099 0.153 0.178 0.101 0.123 0.184], Final Value =
\$1521132.59, Sharpe Ratio = -18.65

Simulation Run = 5834
Weights = [0.157 0.029 0.092 0.154 0.093 0.167 0.119 0.173 0.016], Final Value =
\$1664980.51, Sharpe Ratio = -15.66

Simulation Run = 5835
Weights = [0.264 0.021 0.116 0.124 0.059 0.082 0.014 0.108 0.212], Final Value =
\$1461730.53, Sharpe Ratio = -21.51

Simulation Run = 5836
Weights = [0.026 0.063 0.023 0.184 0.121 0.117 0.178 0.123 0.165], Final Value =
\$1520226.13, Sharpe Ratio = -17.46

Simulation Run = 5837
Weights = [0.053 0.168 0.135 0.137 0.131 0.086 0.125 0.144 0.022], Final Value =
\$1560753.68, Sharpe Ratio = -18.56

Simulation Run = 5838
Weights = [0.152 0.044 0.069 0.094 0.092 0.122 0.127 0.112 0.187], Final Value =
\$1487870.63, Sharpe Ratio = -18.25

Simulation Run = 5839
Weights = [0.119 0.001 0.052 0.097 0.184 0.2 0.007 0.209 0.131], Final Value =
\$1611737.24, Sharpe Ratio = -20.27

Simulation Run = 5840
Weights = [0.161 0.047 0.11 0.125 0.156 0.095 0.115 0.085 0.107], Final Value =

\$1554738.77, Sharpe Ratio = -18.51

Simulation Run = 5841

Weights = [0.111 0.014 0.058 0.108 0.042 0.185 0.172 0.111 0.2], Final Value = \$1493036.33, Sharpe Ratio = -15.39

Simulation Run = 5842

Weights = [0.17 0.119 0.201 0.088 0.01 0.143 0.088 0.082 0.098], Final Value = \$1481597.31, Sharpe Ratio = -17.00

Simulation Run = 5843

Weights = [0.125 0.204 0.166 0.193 0.041 0.041 0.09 0.034 0.107], Final Value = \$1448690.29, Sharpe Ratio = -20.60

Simulation Run = 5844

Weights = [0.183 0.09 0.169 0.175 0.079 0.103 0.049 0.064 0.088], Final Value = \$1536966.75, Sharpe Ratio = -19.35

Simulation Run = 5845

Weights = [0.136 0.183 0.033 0.126 0.17 0.087 0.13 0.021 0.113], Final Value = \$1537870.33, Sharpe Ratio = -20.59

Simulation Run = 5846

Weights = [0.18 0.056 0.179 0.026 0.174 0.103 0.048 0.121 0.114], Final Value = \$1511631.42, Sharpe Ratio = -20.05

Simulation Run = 5847

Weights = [0.019 0.186 0.011 0.049 0.109 0.091 0.183 0.146 0.206], Final Value = \$1413404.10, Sharpe Ratio = -18.88

Simulation Run = 5848

Weights = [0.13 0.125 0.169 0.108 0.014 0.218 0.115 0.044 0.077], Final Value = \$1535365.89, Sharpe Ratio = -15.44

Simulation Run = 5849

Weights = [0.173 0.032 0.177 0.277 0.156 0.006 0.065 0.056 0.059], Final Value = \$1577427.23, Sharpe Ratio = -19.31

Simulation Run = 5850
Weights = [0.111 0.087 0.109 0.138 0.179 0.065 0.07 0.175 0.065], Final Value =
\$1574316.42, Sharpe Ratio = -21.20

Simulation Run = 5851
Weights = [0.013 0.095 0.119 0.335 0.003 0.055 0.227 0.145 0.008], Final Value =
\$1586050.99, Sharpe Ratio = -13.93

Simulation Run = 5852
Weights = [0.057 0.154 0.083 0.102 0.026 0.101 0.155 0.232 0.09], Final Value =
\$1498393.42, Sharpe Ratio = -17.36

Simulation Run = 5853
Weights = [0.064 0.072 0.232 0.023 0.055 0.254 0.092 0.077 0.131], Final Value =
\$1471947.60, Sharpe Ratio = -15.40

Simulation Run = 5854
Weights = [0.081 0.144 0.182 0.01 0.19 0.103 0.046 0.167 0.077], Final Value =
\$1503188.34, Sharpe Ratio = -21.46

Simulation Run = 5855
Weights = [0.122 0.009 0.141 0.137 0.171 0.037 0.182 0.186 0.015], Final Value =
\$1608390.47, Sharpe Ratio = -15.51

Simulation Run = 5856
Weights = [0.158 0.038 0.042 0.192 0.172 0.095 0.065 0.164 0.075], Final Value =
\$1635877.98, Sharpe Ratio = -20.55

Simulation Run = 5857
Weights = [0.068 0.003 0.199 0.177 0.162 0.055 0.022 0.122 0.193], Final Value =
\$1441481.40, Sharpe Ratio = -22.38

Simulation Run = 5858
Weights = [0.024 0.116 0.046 0.025 0.162 0.134 0.15 0.172 0.171], Final Value =
\$1475801.35, Sharpe Ratio = -18.85

Simulation Run = 5859
Weights = [0.238 0.016 0.233 0.076 0.04 0.045 0.121 0.111 0.12], Final Value =
\$1456539.61, Sharpe Ratio = -16.17

Simulation Run = 5860
Weights = [0.038 0.123 0.097 0.122 0.085 0.079 0.175 0.134 0.147], Final Value =
\$1455562.37, Sharpe Ratio = -17.71

Simulation Run = 5861
Weights = [0.156 0. 0.199 0.11 0.126 0.032 0.143 0.132 0.101], Final Value =
\$1499714.43, Sharpe Ratio = -16.66

Simulation Run = 5862
Weights = [0.134 0.174 0.137 0.044 0.038 0.064 0.169 0.164 0.077], Final Value =
\$1470065.88, Sharpe Ratio = -16.69

Simulation Run = 5863
Weights = [0.216 0.106 0.125 0.304 0.092 0.029 0.071 0.03 0.028], Final Value =
\$1610967.04, Sharpe Ratio = -19.27

Simulation Run = 5864
Weights = [0.05 0.023 0.111 0.112 0.062 0.132 0.149 0.225 0.136], Final Value =
\$1504324.91, Sharpe Ratio = -16.52

Simulation Run = 5865
Weights = [0.025 0.182 0.081 0.123 0.041 0.124 0.406 0.015 0.003], Final Value =
\$1559814.50, Sharpe Ratio = -10.26

Simulation Run = 5866
Weights = [0.21 0.091 0.173 0.059 0.143 0.116 0.02 0.06 0.128], Final Value =
\$1501294.68, Sharpe Ratio = -20.99

Simulation Run = 5867
Weights = [0.077 0.169 0.109 0.046 0.145 0.108 0.06 0.151 0.135], Final Value =
\$1471716.12, Sharpe Ratio = -22.98

Simulation Run = 5868
Weights = [0.107 0.036 0.131 0.087 0.141 0.16 0.125 0.035 0.178], Final Value =
\$1487985.54, Sharpe Ratio = -17.69

Simulation Run = 5869

Weights = [0.096 0.031 0.085 0.191 0.157 0.18 0.061 0.126 0.072], Final Value = \$1638483.29, Sharpe Ratio = -18.59

Simulation Run = 5870

Weights = [0.196 0.018 0.156 0.073 0.123 0.071 0.153 0.156 0.054], Final Value = \$1566444.81, Sharpe Ratio = -15.81

Simulation Run = 5871

Weights = [0.039 0.157 0.168 0.033 0.159 0.185 0.134 0.056 0.069], Final Value = \$1524767.90, Sharpe Ratio = -16.90

Simulation Run = 5872

Weights = [0.069 0.129 0.067 0.119 0.103 0.163 0.13 0.106 0.114], Final Value = \$1538176.65, Sharpe Ratio = -18.02

Simulation Run = 5873

Weights = [0.051 0.077 0.026 0.27 0.08 0.193 0.112 0.131 0.059], Final Value = \$1653172.83, Sharpe Ratio = -17.03

Simulation Run = 5874

Weights = [0.187 0.151 0.013 0.008 0.058 0.148 0.28 0.102 0.053], Final Value = \$1578273.61, Sharpe Ratio = -12.54

Simulation Run = 5875

Weights = [0.163 0.045 0.17 0.216 0.028 0.185 0.051 0.136 0.005], Final Value = \$1646093.43, Sharpe Ratio = -15.90

Simulation Run = 5876

Weights = [0.155 0.169 0.136 0.031 0.162 0.156 0.079 0.091 0.02], Final Value = \$1592389.57, Sharpe Ratio = -18.56

Simulation Run = 5877

Weights = [0.045 0.105 0.102 0.162 0.128 0.133 0.135 0.093 0.098], Final Value = \$1544030.63, Sharpe Ratio = -18.04

Simulation Run = 5878

Weights = [0.095 0.09 0.032 0.079 0.167 0.062 0.223 0.047 0.205], Final Value = \$1450007.36, Sharpe Ratio = -16.79

Simulation Run = 5879
Weights = [0.028 0.041 0. 0.29 0.057 0.155 0.066 0.172 0.19], Final Value =
\$1543351.16, Sharpe Ratio = -20.72

Simulation Run = 5880
Weights = [0.075 0.122 0.109 0.043 0.04 0.19 0.147 0.22 0.054], Final Value =
\$1555384.75, Sharpe Ratio = -15.43

Simulation Run = 5881
Weights = [0.119 0.004 0.145 0.133 0.136 0.134 0.175 0.028 0.126], Final Value =
\$1534578.15, Sharpe Ratio = -15.49

Simulation Run = 5882
Weights = [0.147 0.223 0.212 0.017 0.234 0.016 0.028 0.001 0.122], Final Value =
\$1418010.27, Sharpe Ratio = -24.97

Simulation Run = 5883
Weights = [0.24 0.174 0.105 0.213 0.172 0.046 0.003 0.04 0.007], Final Value =
\$1633458.61, Sharpe Ratio = -22.80

Simulation Run = 5884
Weights = [0.108 0.04 0.155 0.014 0.167 0.138 0.117 0.117 0.144], Final Value =
\$1491054.48, Sharpe Ratio = -17.87

Simulation Run = 5885
Weights = [0.169 0.112 0.15 0.034 0.13 0.037 0.173 0.038 0.157], Final Value =
\$1425343.25, Sharpe Ratio = -17.53

Simulation Run = 5886
Weights = [0.181 0.16 0.127 0.168 0.063 0.062 0.012 0.13 0.098], Final Value =
\$1509387.87, Sharpe Ratio = -23.00

Simulation Run = 5887
Weights = [0.12 0.113 0.011 0.222 0.055 0.028 0.145 0.075 0.231], Final Value =
\$1430173.09, Sharpe Ratio = -20.63

Simulation Run = 5888
Weights = [0.092 0.215 0.151 0.059 0.013 0.026 0.188 0.24 0.016], Final Value =

\$1482211.42, Sharpe Ratio = -16.01

Simulation Run = 5889

Weights = [0.11 0.182 0.026 0.071 0.148 0.087 0.243 0.105 0.028], Final Value = \$1589233.34, Sharpe Ratio = -14.90

Simulation Run = 5890

Weights = [0.166 0.117 0.162 0.112 0.172 0.15 0.071 0.001 0.049], Final Value = \$1588588.65, Sharpe Ratio = -18.67

Simulation Run = 5891

Weights = [0.189 0.189 0.024 0.095 0.098 0.007 0.099 0.171 0.129], Final Value = \$1485833.36, Sharpe Ratio = -22.83

Simulation Run = 5892

Weights = [0.052 0.149 0.237 0.047 0.036 0.19 0.052 0.089 0.148], Final Value = \$1411563.13, Sharpe Ratio = -18.30

Simulation Run = 5893

Weights = [0.093 0.127 0.016 0.035 0.053 0.172 0.305 0.126 0.073], Final Value = \$1561881.12, Sharpe Ratio = -12.02

Simulation Run = 5894

Weights = [0.023 0.189 0.086 0.165 0.02 0.13 0.108 0.153 0.124], Final Value = \$1475750.93, Sharpe Ratio = -19.57

Simulation Run = 5895

Weights = [0.106 0.124 0.004 0.091 0.139 0.156 0.156 0.143 0.081], Final Value = \$1600035.17, Sharpe Ratio = -17.14

Simulation Run = 5896

Weights = [0.12 0.005 0.044 0.054 0.193 0.182 0.137 0.145 0.12], Final Value = \$1600564.92, Sharpe Ratio = -16.70

Simulation Run = 5897

Weights = [0.189 0.128 0.136 0.083 0.067 0.054 0.176 0.079 0.088], Final Value = \$1492787.56, Sharpe Ratio = -16.32

Simulation Run = 5898
Weights = [0.154 0.162 0.046 0.141 0.005 0.131 0.096 0.118 0.147], Final Value =
\$1493840.15, Sharpe Ratio = -19.47

Simulation Run = 5899
Weights = [0.106 0.126 0.145 0.013 0.209 0.04 0.18 0.171 0.01], Final Value =
\$1560154.42, Sharpe Ratio = -16.62

Simulation Run = 5900
Weights = [0.075 0.141 0.185 0.069 0.075 0.127 0.054 0.134 0.141], Final Value =
\$1437493.19, Sharpe Ratio = -20.52

Simulation Run = 5901
Weights = [0.099 0.135 0.031 0.057 0.188 0.205 0.172 0.007 0.107], Final Value =
\$1581936.12, Sharpe Ratio = -16.24

Simulation Run = 5902
Weights = [0.274 0.086 0.06 0.195 0.088 0.077 0.074 0.083 0.063], Final Value =
\$1616457.40, Sharpe Ratio = -19.18

Simulation Run = 5903
Weights = [0.142 0.083 0.165 0.06 0.006 0.225 0.009 0.063 0.247], Final Value =
\$1398478.94, Sharpe Ratio = -19.10

Simulation Run = 5904
Weights = [0.185 0.08 0.048 0.067 0.206 0.028 0.2 0.105 0.081], Final Value =
\$1567753.04, Sharpe Ratio = -16.64

Simulation Run = 5905
Weights = [0.116 0.11 0.169 0.09 0.056 0.12 0.165 0.172 0.001], Final Value =
\$1573069.97, Sharpe Ratio = -14.93

Simulation Run = 5906
Weights = [0.128 0.048 0.109 0.106 0.136 0.136 0.082 0.193 0.064], Final Value =
\$1597289.70, Sharpe Ratio = -18.38

Simulation Run = 5907
Weights = [0.008 0.132 0.145 0.167 0.106 0.168 0.107 0.074 0.094], Final Value =
\$1525103.50, Sharpe Ratio = -18.19

Simulation Run = 5908
Weights = [0.155 0.145 0.01 0.092 0.081 0.137 0.057 0.2 0.122], Final Value =
\$1550230.29, Sharpe Ratio = -21.33

Simulation Run = 5909
Weights = [0.163 0.156 0.075 0.064 0.183 0.152 0.028 0.12 0.059], Final Value =
\$1602852.73, Sharpe Ratio = -21.59

Simulation Run = 5910
Weights = [0.125 0.145 0.028 0.118 0.135 0.068 0.09 0.113 0.177], Final Value =
\$1478882.42, Sharpe Ratio = -23.36

Simulation Run = 5911
Weights = [0.137 0.114 0.031 0.041 0.18 0.187 0.152 0.097 0.06], Final Value =
\$1625627.84, Sharpe Ratio = -16.35

Simulation Run = 5912
Weights = [0.039 0.152 0.062 0.144 0.162 0.018 0.111 0.126 0.185], Final Value =
\$1433810.70, Sharpe Ratio = -23.88

Simulation Run = 5913
Weights = [0.131 0.119 0.121 0.002 0.113 0.082 0.004 0.235 0.193], Final Value =
\$1416987.75, Sharpe Ratio = -24.94

Simulation Run = 5914
Weights = [0.06 0.105 0.216 0.04 0.109 0.023 0.198 0.155 0.095], Final Value =
\$1427673.21, Sharpe Ratio = -15.81

Simulation Run = 5915
Weights = [0.188 0.131 0.171 0.171 0.112 0.045 0.027 0.064 0.091], Final Value =
\$1510157.86, Sharpe Ratio = -21.96

Simulation Run = 5916
Weights = [0.101 0.121 0.037 0.157 0.134 0.154 0.132 0.139 0.025], Final Value =
\$1649105.62, Sharpe Ratio = -17.34

Simulation Run = 5917

Weights = [0.027 0.171 0.193 0.042 0.162 0.08 0.088 0.153 0.084], Final Value = \$1463561.07, Sharpe Ratio = -20.65

Simulation Run = 5918

Weights = [0.154 0.202 0.063 0.155 0.076 0.037 0.055 0.08 0.177], Final Value = \$1436962.95, Sharpe Ratio = -25.59

Simulation Run = 5919

Weights = [0.17 0.009 0.149 0.093 0.145 0.116 0.044 0.13 0.145], Final Value = \$1520317.07, Sharpe Ratio = -20.04

Simulation Run = 5920

Weights = [0.165 0.128 0.078 0.039 0.11 0.053 0.199 0.109 0.119], Final Value = \$1485731.69, Sharpe Ratio = -16.50

Simulation Run = 5921

Weights = [0.065 0.085 0.174 0.146 0.076 0.002 0.162 0.234 0.056], Final Value = \$1496091.05, Sharpe Ratio = -16.83

Simulation Run = 5922

Weights = [0.162 0.161 0.015 0.13 0.001 0.071 0.009 0.344 0.107], Final Value = \$1527442.20, Sharpe Ratio = -23.66

Simulation Run = 5923

Weights = [0.109 0.113 0.146 0.08 0.148 0.067 0.087 0.165 0.085], Final Value = \$1513005.41, Sharpe Ratio = -20.42

Simulation Run = 5924

Weights = [0.086 0.162 0.135 0.159 0.148 0.071 0.16 0.067 0.011], Final Value = \$1577861.79, Sharpe Ratio = -17.24

Simulation Run = 5925

Weights = [0.139 0.024 0.1 0.125 0.182 0.149 0.137 0.079 0.064], Final Value = \$1623657.13, Sharpe Ratio = -16.51

Simulation Run = 5926

Weights = [0.237 0.155 0.034 0.085 0.199 0.095 0.078 0.088 0.029], Final Value = \$1642286.40, Sharpe Ratio = -20.46

Simulation Run = 5927
Weights = [0.086 0.148 0.051 0.155 0.091 0.153 0.222 0.05 0.044], Final Value =
\$1598502.69, Sharpe Ratio = -14.54

Simulation Run = 5928
Weights = [0.2 0.072 0.115 0.031 0.233 0.077 0.049 0.166 0.057], Final Value =
\$1594296.65, Sharpe Ratio = -20.96

Simulation Run = 5929
Weights = [0.144 0.052 0.128 0.117 0.159 0.029 0.112 0.138 0.121], Final Value =
\$1505650.36, Sharpe Ratio = -19.78

Simulation Run = 5930
Weights = [0.012 0.033 0.013 0.23 0.156 0.212 0.072 0.209 0.064], Final Value =
\$1681833.51, Sharpe Ratio = -18.26

Simulation Run = 5931
Weights = [0.208 0.078 0.067 0.017 0.05 0.053 0.16 0.165 0.202], Final Value =
\$1422067.87, Sharpe Ratio = -17.59

Simulation Run = 5932
Weights = [0.104 0.078 0.219 0.074 0.115 0.03 0.138 0.11 0.132], Final Value =
\$1422106.85, Sharpe Ratio = -17.87

Simulation Run = 5933
Weights = [0.073 0.107 0.145 0.131 0.112 0.166 0.066 0.069 0.132], Final Value =
\$1505960.74, Sharpe Ratio = -19.68

Simulation Run = 5934
Weights = [0.09 0.065 0.002 0.125 0.046 0.1 0.249 0.213 0.109], Final Value =
\$1548756.91, Sharpe Ratio = -14.09

Simulation Run = 5935
Weights = [0.175 0.016 0.16 0.111 0.247 0.134 0.022 0.13 0.006], Final Value =
\$1674348.80, Sharpe Ratio = -18.83

Simulation Run = 5936
Weights = [0.076 0.059 0.092 0.173 0.14 0.19 0.079 0.128 0.062], Final Value =

\$1627657.46, Sharpe Ratio = -17.96

Simulation Run = 5937

Weights = [0.005 0.185 0.071 0.201 0.099 0.146 0.151 0.029 0.113], Final Value = \$1518306.07, Sharpe Ratio = -18.28

Simulation Run = 5938

Weights = [0.008 0.208 0.202 0.036 0.072 0.077 0.108 0.061 0.228], Final Value = \$1292358.57, Sharpe Ratio = -21.10

Simulation Run = 5939

Weights = [0.065 0.06 0.231 0.096 0.073 0.222 0.11 0.063 0.08], Final Value = \$1527854.53, Sharpe Ratio = -15.15

Simulation Run = 5940

Weights = [0.158 0.2 0.203 0.169 0.024 0.162 0.023 0.052 0.009], Final Value = \$1566152.39, Sharpe Ratio = -18.21

Simulation Run = 5941

Weights = [0.204 0.006 0.163 0.122 0.208 0.052 0.088 0.059 0.098], Final Value = \$1556094.54, Sharpe Ratio = -19.08

Simulation Run = 5942

Weights = [0.177 0.079 0.013 0.142 0.19 0.215 0.092 0.032 0.059], Final Value = \$1688079.60, Sharpe Ratio = -17.51

Simulation Run = 5943

Weights = [0.168 0.026 0.227 0.044 0.219 0.168 0.005 0.022 0.121], Final Value = \$1531054.63, Sharpe Ratio = -19.37

Simulation Run = 5944

Weights = [0.062 0.141 0.182 0.182 0.048 0.135 0.053 0.07 0.128], Final Value = \$1466972.19, Sharpe Ratio = -19.95

Simulation Run = 5945

Weights = [0.233 0.175 0.076 0.053 0.15 0.096 0.041 0.05 0.126], Final Value = \$1516385.93, Sharpe Ratio = -23.06

Simulation Run = 5946
Weights = [0.07 0.072 0.156 0.133 0.06 0.177 0.164 0.009 0.16], Final Value =
\$1469764.66, Sharpe Ratio = -15.66

Simulation Run = 5947
Weights = [0.027 0.149 0.076 0.101 0.039 0.166 0.244 0.182 0.015], Final Value =
\$1584541.52, Sharpe Ratio = -13.30

Simulation Run = 5948
Weights = [0.035 0.126 0.109 0.129 0.143 0.146 0.099 0.081 0.132], Final Value =
\$1506993.49, Sharpe Ratio = -20.00

Simulation Run = 5949
Weights = [0.062 0.109 0.148 0.099 0.143 0.127 0.044 0.122 0.146], Final Value =
\$1478180.90, Sharpe Ratio = -21.99

Simulation Run = 5950
Weights = [0.08 0.112 0.139 0.023 0.18 0.095 0.186 0.096 0.089], Final Value =
\$1506159.59, Sharpe Ratio = -16.48

Simulation Run = 5951
Weights = [0.029 0.079 0.104 0.237 0.021 0.196 0.147 0.003 0.183], Final Value =
\$1483328.03, Sharpe Ratio = -16.33

Simulation Run = 5952
Weights = [0.129 0.153 0.107 0.075 0.18 0.084 0.072 0.119 0.082], Final Value =
\$1537657.45, Sharpe Ratio = -21.92

Simulation Run = 5953
Weights = [0.087 0.092 0.126 0.153 0.124 0.018 0.157 0.091 0.152], Final Value =
\$1449931.95, Sharpe Ratio = -18.84

Simulation Run = 5954
Weights = [0.01 0.033 0.194 0.148 0.034 0.098 0.162 0.167 0.153], Final Value =
\$1431988.27, Sharpe Ratio = -16.01

Simulation Run = 5955
Weights = [0.087 0.161 0.083 0.107 0.154 0.143 0.071 0.055 0.139], Final Value =
\$1508494.87, Sharpe Ratio = -21.97

Simulation Run = 5956
Weights = [0.077 0.194 0.204 0.049 0.074 0.066 0.164 0.009 0.163], Final Value =
\$1359196.33, Sharpe Ratio = -17.75

Simulation Run = 5957
Weights = [0.09 0.042 0.125 0.142 0.121 0.135 0.2 0.13 0.016], Final Value =
\$1623024.98, Sharpe Ratio = -14.22

Simulation Run = 5958
Weights = [0.126 0.129 0.078 0.088 0.029 0.112 0.078 0.14 0.219], Final Value =
\$1410243.07, Sharpe Ratio = -21.35

Simulation Run = 5959
Weights = [0.031 0.139 0.137 0.079 0.172 0.161 0.15 0.063 0.069], Final Value =
\$1544608.46, Sharpe Ratio = -17.05

Simulation Run = 5960
Weights = [0.029 0.109 0.184 0.145 0.029 0.192 0.135 0.055 0.121], Final Value =
\$1478446.64, Sharpe Ratio = -15.89

Simulation Run = 5961
Weights = [0.087 0.104 0.069 0.123 0.077 0.107 0.161 0.133 0.14], Final Value =
\$1495971.38, Sharpe Ratio = -17.54

Simulation Run = 5962
Weights = [0.169 0.129 0.173 0.049 0.157 0.02 0.018 0.138 0.148], Final Value =
\$1434376.51, Sharpe Ratio = -24.44

Simulation Run = 5963
Weights = [0.217 0.019 0.063 0.05 0.079 0.017 0.238 0.29 0.027], Final Value =
\$1594114.65, Sharpe Ratio = -13.72

Simulation Run = 5964
Weights = [0.084 0.086 0.147 0.133 0.077 0.116 0.139 0.125 0.093], Final Value =
\$1517342.53, Sharpe Ratio = -16.94

Simulation Run = 5965

Weights = [0.103 0.086 0.145 0.106 0.15 0.173 0.122 0.028 0.087], Final Value = \$1558505.53, Sharpe Ratio = -17.05

Simulation Run = 5966

Weights = [0.025 0.093 0.147 0.136 0.046 0.177 0.184 0.032 0.16], Final Value = \$1456737.11, Sharpe Ratio = -15.30

Simulation Run = 5967

Weights = [0.168 0.151 0.068 0.058 0.022 0.005 0.137 0.153 0.238], Final Value = \$1348438.48, Sharpe Ratio = -20.49

Simulation Run = 5968

Weights = [0.065 0.089 0.173 0.127 0.129 0.125 0.089 0.02 0.182], Final Value = \$1439701.62, Sharpe Ratio = -20.01

Simulation Run = 5969

Weights = [0.063 0.23 0.074 0.157 0.113 0.061 0.189 0.069 0.044], Final Value = \$1536106.64, Sharpe Ratio = -17.52

Simulation Run = 5970

Weights = [0.139 0.136 0.009 0.158 0.122 0.026 0.063 0.192 0.157], Final Value = \$1501950.00, Sharpe Ratio = -25.31

Simulation Run = 5971

Weights = [0.098 0.267 0.033 0.065 0.066 0.131 0.073 0.042 0.224], Final Value = \$1391684.00, Sharpe Ratio = -23.95

Simulation Run = 5972

Weights = [0.082 0.205 0.063 0.065 0.185 0.086 0.159 0.141 0.015], Final Value = \$1587541.73, Sharpe Ratio = -18.29

Simulation Run = 5973

Weights = [0.07 0.154 0.077 0.042 0.103 0.176 0.161 0.125 0.093], Final Value = \$1532257.81, Sharpe Ratio = -16.47

Simulation Run = 5974

Weights = [0.069 0.033 0.039 0.173 0.147 0.133 0.16 0.15 0.096], Final Value = \$1602192.52, Sharpe Ratio = -16.86

Simulation Run = 5975
Weights = [0.1 0.122 0.029 0.164 0.109 0.113 0.132 0.066 0.166], Final Value =
\$1507262.13, Sharpe Ratio = -19.70

Simulation Run = 5976
Weights = [0.068 0.043 0.182 0.16 0.121 0.099 0.055 0.138 0.132], Final Value =
\$1492583.14, Sharpe Ratio = -20.15

Simulation Run = 5977
Weights = [0.075 0.057 0.079 0.115 0.034 0.14 0.196 0.165 0.14], Final Value =
\$1501842.98, Sharpe Ratio = -15.10

Simulation Run = 5978
Weights = [0.145 0.08 0.101 0.145 0.099 0.075 0.142 0.075 0.138], Final Value =
\$1499896.89, Sharpe Ratio = -18.22

Simulation Run = 5979
Weights = [0.047 0.162 0.141 0.141 0.104 0.082 0.093 0.135 0.095], Final Value =
\$1488457.02, Sharpe Ratio = -20.63

Simulation Run = 5980
Weights = [0.017 0.15 0.152 0.073 0.143 0.152 0.157 0.004 0.152], Final Value =
\$1446536.84, Sharpe Ratio = -17.61

Simulation Run = 5981
Weights = [0.24 0.035 0.021 0.015 0.121 0.235 0.243 0.033 0.057], Final Value =
\$1663202.04, Sharpe Ratio = -12.14

Simulation Run = 5982
Weights = [0.185 0.014 0.17 0.179 0.023 0.02 0.132 0.102 0.175], Final Value =
\$1433530.13, Sharpe Ratio = -17.40

Simulation Run = 5983
Weights = [0.118 0.159 0.008 0.106 0.151 0.158 0.044 0.219 0.037], Final Value =
\$1645115.89, Sharpe Ratio = -21.11

Simulation Run = 5984
Weights = [0.013 0.058 0.161 0.133 0.16 0.038 0.183 0.076 0.178], Final Value =

\$1419211.99, Sharpe Ratio = -17.57

Simulation Run = 5985

Weights = [0.181 0.185 0.081 0.046 0.053 0.114 0.11 0.023 0.207], Final Value = \$1407375.64, Sharpe Ratio = -20.08

Simulation Run = 5986

Weights = [0.239 0.013 0.095 0.265 0.145 0.171 0.046 0.025 0.001], Final Value = \$1735515.70, Sharpe Ratio = -16.96

Simulation Run = 5987

Weights = [0.147 0.04 0.188 0.172 0.083 0.002 0.174 0.134 0.061], Final Value = \$1517471.33, Sharpe Ratio = -15.71

Simulation Run = 5988

Weights = [0.03 0.091 0.034 0.225 0.3 0.064 0.02 0.219 0.018], Final Value = \$1684038.61, Sharpe Ratio = -24.16

Simulation Run = 5989

Weights = [0.149 0.141 0.173 0.164 0.11 0.028 0.128 0.033 0.074], Final Value = \$1500048.83, Sharpe Ratio = -18.56

Simulation Run = 5990

Weights = [0.141 0.157 0.008 0.06 0.173 0.07 0.124 0.118 0.149], Final Value = \$1507280.68, Sharpe Ratio = -21.36

Simulation Run = 5991

Weights = [0.14 0.124 0.173 0.178 0.003 0.18 0.007 0.087 0.107], Final Value = \$1515220.98, Sharpe Ratio = -18.93

Simulation Run = 5992

Weights = [0.086 0.167 0.064 0.163 0.163 0.137 0.002 0.155 0.062], Final Value = \$1600537.44, Sharpe Ratio = -23.71

Simulation Run = 5993

Weights = [0.012 0.135 0.112 0.148 0.121 0.178 0.14 0.146 0.007], Final Value = \$1618226.93, Sharpe Ratio = -16.32

Simulation Run = 5994
Weights = [0.162 0.135 0.02 0.188 0.137 0.139 0.079 0.083 0.057], Final Value =
\$1638570.62, Sharpe Ratio = -19.97

Simulation Run = 5995
Weights = [0.182 0.088 0.117 0.138 0.029 0.112 0.072 0.146 0.115], Final Value =
\$1518290.35, Sharpe Ratio = -18.91

Simulation Run = 5996
Weights = [0.153 0.041 0.115 0.107 0.067 0.112 0.131 0.096 0.179], Final Value =
\$1468664.32, Sharpe Ratio = -17.65

Simulation Run = 5997
Weights = [0.1 0.051 0.104 0.175 0.165 0.111 0.138 0.054 0.102], Final Value =
\$1566480.78, Sharpe Ratio = -17.82

Simulation Run = 5998
Weights = [0.088 0.155 0.131 0.169 0.114 0.136 0.099 0.091 0.017], Final Value =
\$1598748.28, Sharpe Ratio = -18.21

Simulation Run = 5999
Weights = [0.024 0.197 0.021 0.166 0.095 0.122 0.158 0.069 0.148], Final Value =
\$1491196.16, Sharpe Ratio = -19.15

Simulation Run = 6000
Weights = [0.14 0.061 0.04 0.089 0.207 0.121 0.205 0.031 0.105], Final Value =
\$1585531.29, Sharpe Ratio = -15.76

Simulation Run = 6001
Weights = [0.041 0.001 0.169 0.043 0.185 0.157 0.089 0.169 0.145], Final Value =
\$1503856.26, Sharpe Ratio = -18.41

Simulation Run = 6002
Weights = [0.062 0.19 0.146 0.089 0.1 0.016 0.144 0.136 0.118], Final Value =
\$1421621.56, Sharpe Ratio = -19.76

Simulation Run = 6003
Weights = [0.126 0.127 0.195 0.057 0.192 0.097 0.081 0.097 0.029], Final Value =
\$1557545.88, Sharpe Ratio = -19.02

Simulation Run = 6004

Weights = [0.254 0.037 0.172 0.04 0.035 0.089 0.022 0.237 0.114], Final Value = \$1499389.59, Sharpe Ratio = -18.89

Simulation Run = 6005

Weights = [0.159 0.079 0.017 0.228 0.008 0.109 0.15 0.243 0.009], Final Value = \$1661783.95, Sharpe Ratio = -15.70

Simulation Run = 6006

Weights = [0.134 0.117 0.149 0.098 0.083 0.101 0.14 0.066 0.112], Final Value = \$1486151.77, Sharpe Ratio = -17.46

Simulation Run = 6007

Weights = [0.041 0.161 0.138 0.074 0.089 0.012 0.174 0.05 0.262], Final Value = \$1292198.99, Sharpe Ratio = -19.56

Simulation Run = 6008

Weights = [0.099 0.099 0.123 0.15 0.037 0.137 0.171 0.079 0.104], Final Value = \$1514612.07, Sharpe Ratio = -15.69

Simulation Run = 6009

Weights = [0.045 0.176 0.039 0.036 0.177 0.1 0.215 0.191 0.022], Final Value = \$1586532.20, Sharpe Ratio = -15.91

Simulation Run = 6010

Weights = [0.157 0.185 0.072 0.018 0.038 0.039 0.09 0.196 0.204], Final Value = \$1376836.26, Sharpe Ratio = -22.58

Simulation Run = 6011

Weights = [0.115 0.021 0.099 0.065 0.139 0.108 0.161 0.18 0.112], Final Value = \$1540952.60, Sharpe Ratio = -16.53

Simulation Run = 6012

Weights = [0.139 0.158 0.089 0.117 0.126 0.038 0.038 0.067 0.229], Final Value = \$1395155.92, Sharpe Ratio = -27.22

Simulation Run = 6013

Weights = [0.05 0.177 0.158 0.061 0.026 0.125 0.096 0.146 0.162], Final Value = \$1398987.80, Sharpe Ratio = -19.59

Simulation Run = 6014

Weights = [0.115 0.195 0.069 0.126 0.13 0.13 0.142 0.048 0.046], Final Value = \$1580518.50, Sharpe Ratio = -18.06

Simulation Run = 6015

Weights = [0.128 0.149 0.102 0.038 0.163 0.097 0.123 0.141 0.059], Final Value = \$1550103.23, Sharpe Ratio = -18.88

Simulation Run = 6016

Weights = [0.076 0.245 0.085 0.089 0.013 0.076 0.292 0.073 0.051], Final Value = \$1483382.95, Sharpe Ratio = -13.26

Simulation Run = 6017

Weights = [0.078 0.062 0.221 0.041 0.018 0.062 0.034 0.239 0.244], Final Value = \$1312622.04, Sharpe Ratio = -21.45

Simulation Run = 6018

Weights = [0.154 0.236 0.028 0.005 0.078 0.245 0.118 0.097 0.038], Final Value = \$1605856.45, Sharpe Ratio = -16.22

Simulation Run = 6019

Weights = [0.049 0.155 0.143 0.03 0.197 0.033 0.188 0.09 0.116], Final Value = \$1446080.31, Sharpe Ratio = -17.91

Simulation Run = 6020

Weights = [0.097 0.091 0.11 0.115 0.122 0.128 0.082 0.13 0.126], Final Value = \$1519160.48, Sharpe Ratio = -20.05

Simulation Run = 6021

Weights = [0.192 0.014 0.073 0.019 0.093 0.012 0.152 0.243 0.202], Final Value = \$1431627.89, Sharpe Ratio = -18.25

Simulation Run = 6022

Weights = [0.067 0.096 0.153 0.096 0.201 0.029 0.142 0.131 0.087], Final Value = \$1504302.00, Sharpe Ratio = -18.99

Simulation Run = 6023
Weights = [0.035 0.027 0.24 0.08 0.252 0.025 0.047 0.265 0.028], Final Value =
\$1549408.14, Sharpe Ratio = -19.76

Simulation Run = 6024
Weights = [0.007 0.106 0.113 0.06 0.253 0.075 0.056 0.067 0.263], Final Value =
\$1378614.49, Sharpe Ratio = -26.67

Simulation Run = 6025
Weights = [0.129 0.049 0.055 0.1 0.162 0.187 0.15 0.162 0.006], Final Value =
\$1689247.52, Sharpe Ratio = -15.29

Simulation Run = 6026
Weights = [0.164 0.137 0.137 0.119 0.077 0.095 0.145 0.105 0.021], Final Value =
\$1572817.40, Sharpe Ratio = -16.49

Simulation Run = 6027
Weights = [0.125 0.098 0.147 0.138 0.074 0.1 0.151 0.158 0.01], Final Value =
\$1588097.06, Sharpe Ratio = -15.81

Simulation Run = 6028
Weights = [0.213 0.005 0.022 0.01 0.278 0.169 0.079 0.015 0.208], Final Value =
\$1555810.53, Sharpe Ratio = -19.84

Simulation Run = 6029
Weights = [0.119 0.162 0.105 0.075 0.18 0.177 0.004 0.06 0.118], Final Value =
\$1539999.04, Sharpe Ratio = -22.73

Simulation Run = 6030
Weights = [0.057 0.157 0.17 0.099 0.085 0.075 0.173 0.153 0.031], Final Value =
\$1515468.04, Sharpe Ratio = -16.22

Simulation Run = 6031
Weights = [0.082 0.112 0.113 0.058 0.146 0.136 0.144 0.06 0.148], Final Value =
\$1481361.44, Sharpe Ratio = -18.07

Simulation Run = 6032
Weights = [0.1 0.061 0.11 0.115 0.206 0.003 0.086 0.227 0.092], Final Value =

\$1533099.53, Sharpe Ratio = -21.86

Simulation Run = 6033

Weights = [0.059 0.042 0.094 0.117 0.175 0.144 0.075 0.069 0.226], Final Value = \$1463444.25, Sharpe Ratio = -21.60

Simulation Run = 6034

Weights = [0.14 0.171 0.148 0.023 0.121 0.019 0.13 0.119 0.129], Final Value = \$1422845.58, Sharpe Ratio = -19.99

Simulation Run = 6035

Weights = [0.082 0.08 0.034 0.027 0.143 0.187 0.069 0.32 0.06], Final Value = \$1621896.28, Sharpe Ratio = -18.65

Simulation Run = 6036

Weights = [0.075 0.027 0.158 0.144 0.043 0.131 0.067 0.15 0.204], Final Value = \$1433288.31, Sharpe Ratio = -19.43

Simulation Run = 6037

Weights = [0.082 0.158 0.189 0.014 0.187 0.067 0.083 0.08 0.141], Final Value = \$1423282.98, Sharpe Ratio = -21.77

Simulation Run = 6038

Weights = [0.183 0.031 0.103 0.077 0.12 0.091 0.046 0.173 0.177], Final Value = \$1489393.21, Sharpe Ratio = -21.49

Simulation Run = 6039

Weights = [0.106 0.049 0.058 0.127 0.186 0.126 0.14 0.152 0.055], Final Value = \$1630993.52, Sharpe Ratio = -17.36

Simulation Run = 6040

Weights = [0.064 0.147 0.18 0.15 0.026 0.077 0.164 0.033 0.159], Final Value = \$1398175.21, Sharpe Ratio = -17.15

Simulation Run = 6041

Weights = [0.009 0.233 0.128 0.042 0.12 0.125 0.075 0.259 0.011], Final Value = \$1544512.26, Sharpe Ratio = -20.47

Simulation Run = 6042
Weights = [0.106 0.023 0.083 0.002 0.123 0.079 0.212 0.103 0.27], Final Value =
\$1372741.95, Sharpe Ratio = -16.30

Simulation Run = 6043
Weights = [0.182 0.223 0.127 0.038 0.012 0.118 0.119 0.156 0.023], Final Value =
\$1531434.17, Sharpe Ratio = -17.11

Simulation Run = 6044
Weights = [0.074 0.04 0.104 0.103 0.142 0.171 0.197 0.031 0.137], Final Value =
\$1531666.95, Sharpe Ratio = -15.10

Simulation Run = 6045
Weights = [0.054 0.096 0.165 0.068 0.135 0.111 0.158 0.119 0.094], Final Value =
\$1497040.86, Sharpe Ratio = -16.81

Simulation Run = 6046
Weights = [0.196 0.008 0.017 0.125 0.206 0.101 0.155 0.016 0.176], Final Value =
\$1559460.11, Sharpe Ratio = -17.98

Simulation Run = 6047
Weights = [0.136 0.173 0.132 0.055 0.12 0.106 0.125 0.079 0.075], Final Value =
\$1513685.74, Sharpe Ratio = -18.49

Simulation Run = 6048
Weights = [0.151 0.24 0.179 0.111 0.096 0.044 0.083 0.039 0.057], Final Value =
\$1478788.96, Sharpe Ratio = -20.86

Simulation Run = 6049
Weights = [0.156 0.091 0.171 0.074 0.111 0.171 0.121 0.045 0.06], Final Value =
\$1562400.48, Sharpe Ratio = -16.13

Simulation Run = 6050
Weights = [0.01 0.019 0.222 0.098 0.032 0.203 0.262 0.033 0.12], Final Value =
\$1472082.15, Sharpe Ratio = -11.95

Simulation Run = 6051
Weights = [0.144 0.02 0.136 0.07 0.166 0.023 0.129 0.155 0.158], Final Value =
\$1468094.24, Sharpe Ratio = -19.18

Simulation Run = 6052
Weights = [0.139 0.123 0.105 0.086 0.057 0.088 0.133 0.11 0.159], Final Value =
\$1449639.97, Sharpe Ratio = -18.61

Simulation Run = 6053
Weights = [0.026 0.299 0.034 0.094 0.044 0.16 0. 0.299 0.044], Final Value =
\$1549416.07, Sharpe Ratio = -23.75

Simulation Run = 6054
Weights = [0.104 0.072 0.08 0.186 0.001 0.102 0.121 0.184 0.15], Final Value =
\$1491108.55, Sharpe Ratio = -18.12

Simulation Run = 6055
Weights = [0.132 0.059 0.175 0.098 0.015 0.108 0.119 0.104 0.189], Final Value =
\$1410932.61, Sharpe Ratio = -17.46

Simulation Run = 6056
Weights = [0.091 0.137 0.213 0.04 0.235 0.034 0.036 0.131 0.084], Final Value =
\$1479674.00, Sharpe Ratio = -22.84

Simulation Run = 6057
Weights = [0.036 0.147 0.057 0.133 0.212 0.057 0.108 0.197 0.053], Final Value =
\$1578579.98, Sharpe Ratio = -21.66

Simulation Run = 6058
Weights = [0.199 0.191 0.178 0.164 0.025 0.082 0.094 0.01 0.058], Final Value =
\$1507913.45, Sharpe Ratio = -18.29

Simulation Run = 6059
Weights = [0.091 0.138 0.088 0.063 0.109 0.142 0.128 0.113 0.127], Final Value =
\$1500909.60, Sharpe Ratio = -18.46

Simulation Run = 6060
Weights = [0.066 0.213 0.005 0.09 0.211 0.18 0.032 0.183 0.019], Final Value =
\$1657292.14, Sharpe Ratio = -22.21

Simulation Run = 6061

Weights = [0.093 0.032 0.187 0.03 0.132 0.141 0.196 0.128 0.061], Final Value = \$1542188.22, Sharpe Ratio = -14.18

Simulation Run = 6062

Weights = [0.125 0.095 0.126 0.005 0.16 0.183 0.054 0.073 0.18], Final Value = \$1475231.85, Sharpe Ratio = -20.29

Simulation Run = 6063

Weights = [0.201 0.045 0.146 0.198 0.135 0.01 0.02 0.117 0.128], Final Value = \$1513711.40, Sharpe Ratio = -22.49

Simulation Run = 6064

Weights = [0.093 0.064 0.115 0.144 0.22 0.081 0.185 0.083 0.015], Final Value = \$1627186.43, Sharpe Ratio = -15.99

Simulation Run = 6065

Weights = [0.075 0.143 0.166 0.123 0.069 0.019 0.149 0.124 0.132], Final Value = \$1416682.44, Sharpe Ratio = -18.58

Simulation Run = 6066

Weights = [0.185 0.127 0.043 0.169 0.089 0.007 0.178 0.074 0.129], Final Value = \$1501267.76, Sharpe Ratio = -18.07

Simulation Run = 6067

Weights = [0.134 0.206 0.085 0.109 0.182 0.086 0.077 0.01 0.111], Final Value = \$1513490.83, Sharpe Ratio = -23.24

Simulation Run = 6068

Weights = [0.116 0.082 0.054 0.119 0.103 0.213 0. 0.123 0.189], Final Value = \$1524673.56, Sharpe Ratio = -21.37

Simulation Run = 6069

Weights = [0.183 0.088 0.099 0.13 0.072 0.118 0.061 0.149 0.101], Final Value = \$1550626.41, Sharpe Ratio = -19.59

Simulation Run = 6070

Weights = [0.065 0.183 0.04 0.148 0.125 0.185 0.069 0.081 0.104], Final Value = \$1565843.10, Sharpe Ratio = -20.84

Simulation Run = 6071
Weights = [0.078 0.133 0.192 0.14 0.027 0.067 0.136 0.023 0.204], Final Value =
\$1356135.87, Sharpe Ratio = -18.49

Simulation Run = 6072
Weights = [0.165 0.171 0.097 0.068 0.01 0.155 0.133 0.092 0.11], Final Value =
\$1496768.09, Sharpe Ratio = -16.83

Simulation Run = 6073
Weights = [0.175 0.187 0.149 0.061 0.024 0.092 0.105 0.2 0.008], Final Value =
\$1544802.20, Sharpe Ratio = -17.46

Simulation Run = 6074
Weights = [0.006 0.13 0.152 0.176 0.062 0.126 0.043 0.144 0.16], Final Value =
\$1445859.64, Sharpe Ratio = -21.74

Simulation Run = 6075
Weights = [0.165 0.035 0.111 0.092 0.125 0.119 0.166 0.186 0.001], Final Value =
\$1643943.72, Sharpe Ratio = -14.96

Simulation Run = 6076
Weights = [0.093 0.053 0.149 0.111 0.137 0.064 0.172 0.136 0.085], Final Value =
\$1522247.94, Sharpe Ratio = -16.48

Simulation Run = 6077
Weights = [0.228 0.101 0.111 0.006 0.071 0.073 0.122 0.105 0.184], Final Value =
\$1428021.82, Sharpe Ratio = -18.63

Simulation Run = 6078
Weights = [0.031 0.075 0.006 0.278 0.172 0.016 0.12 0.138 0.164], Final Value =
\$1525738.86, Sharpe Ratio = -22.42

Simulation Run = 6079
Weights = [0.174 0.061 0.025 0.227 0.115 0.021 0.148 0.181 0.05], Final Value =
\$1622838.29, Sharpe Ratio = -17.91

Simulation Run = 6080
Weights = [0.01 0.131 0.093 0.1 0.19 0.125 0.143 0.099 0.109], Final Value =

\$1523592.09, Sharpe Ratio = -18.91

Simulation Run = 6081

Weights = [0.115 0.023 0.017 0.23 0.199 0.125 0.209 0.02 0.062], Final Value = \$1668338.70, Sharpe Ratio = -15.17

Simulation Run = 6082

Weights = [0.059 0.08 0.103 0.169 0.167 0.013 0.145 0.125 0.139], Final Value = \$1482957.30, Sharpe Ratio = -19.85

Simulation Run = 6083

Weights = [0.177 0.155 0.158 0.165 0.111 0.096 0.026 0.111 0.001], Final Value = \$1604394.46, Sharpe Ratio = -20.09

Simulation Run = 6084

Weights = [0.014 0.071 0.062 0.103 0.249 0.075 0.147 0.012 0.268], Final Value = \$1408000.54, Sharpe Ratio = -21.46

Simulation Run = 6085

Weights = [0.058 0.173 0.138 0.2 0.046 0.036 0.011 0.216 0.123], Final Value = \$1451408.66, Sharpe Ratio = -24.58

Simulation Run = 6086

Weights = [0.021 0.134 0.171 0.047 0.07 0.191 0.079 0.157 0.131], Final Value = \$1461171.34, Sharpe Ratio = -18.38

Simulation Run = 6087

Weights = [0.003 0.178 0.072 0.195 0.061 0.172 0.119 0.148 0.051], Final Value = \$1577085.12, Sharpe Ratio = -17.87

Simulation Run = 6088

Weights = [0.149 0.152 0.078 0.182 0.064 0.085 0.109 0.029 0.152], Final Value = \$1481735.66, Sharpe Ratio = -20.37

Simulation Run = 6089

Weights = [0.133 0.043 0.127 0.045 0.233 0.078 0.07 0.23 0.04], Final Value = \$1604085.84, Sharpe Ratio = -19.88

Simulation Run = 6090
Weights = [0.057 0.06 0.004 0.158 0.128 0.161 0.098 0.175 0.159], Final Value =
\$1558715.86, Sharpe Ratio = -19.81

Simulation Run = 6091
Weights = [0.149 0.185 0.006 0. 0.068 0.18 0.041 0.211 0.16], Final Value =
\$1500382.60, Sharpe Ratio = -21.17

Simulation Run = 6092
Weights = [0.091 0.146 0.03 0.102 0.192 0.132 0.127 0.057 0.123], Final Value =
\$1550251.52, Sharpe Ratio = -19.92

Simulation Run = 6093
Weights = [0.037 0.13 0.104 0.111 0.153 0.115 0.124 0.2 0.026], Final Value =
\$1589579.61, Sharpe Ratio = -18.32

Simulation Run = 6094
Weights = [0.138 0.122 0.147 0.151 0.023 0.163 0.013 0.089 0.153], Final Value =
\$1478393.11, Sharpe Ratio = -20.45

Simulation Run = 6095
Weights = [0.012 0.192 0.154 0.165 0.015 0.133 0.095 0.064 0.17], Final Value =
\$1403502.72, Sharpe Ratio = -19.88

Simulation Run = 6096
Weights = [0.1 0.148 0.189 0.152 0.111 0.06 0.032 0.127 0.079], Final Value =
\$1495537.40, Sharpe Ratio = -21.81

Simulation Run = 6097
Weights = [0.07 0.113 0.079 0.135 0.006 0.183 0.111 0.126 0.178], Final Value =
\$1470163.35, Sharpe Ratio = -17.85

Simulation Run = 6098
Weights = [0.007 0.079 0.112 0.157 0.149 0.167 0.151 0.168 0.01], Final Value =
\$1635004.46, Sharpe Ratio = -15.90

Simulation Run = 6099
Weights = [0.074 0.033 0.142 0.174 0.057 0.11 0.069 0.014 0.328], Final Value =
\$1328290.10, Sharpe Ratio = -21.87

Simulation Run = 6100
Weights = [0.045 0.059 0.014 0.188 0.058 0.132 0.181 0.131 0.194], Final Value =
\$1494051.96, Sharpe Ratio = -16.86

Simulation Run = 6101
Weights = [0.072 0.12 0.117 0.065 0.152 0.144 0.061 0.127 0.141], Final Value =
\$1494345.06, Sharpe Ratio = -21.37

Simulation Run = 6102
Weights = [0.076 0.074 0.103 0.138 0.086 0.165 0.095 0.09 0.172], Final Value =
\$1490486.52, Sharpe Ratio = -18.97

Simulation Run = 6103
Weights = [0.11 0.031 0.175 0.055 0.07 0.181 0.161 0.178 0.04], Final Value =
\$1576467.09, Sharpe Ratio = -14.13

Simulation Run = 6104
Weights = [0.232 0.128 0.015 0. 0.183 0.037 0.252 0.1 0.052], Final Value =
\$1581743.80, Sharpe Ratio = -14.49

Simulation Run = 6105
Weights = [0.09 0.215 0.121 0.075 0.091 0.066 0.144 0.07 0.128], Final Value =
\$1432640.82, Sharpe Ratio = -19.48

Simulation Run = 6106
Weights = [0.133 0.186 0.028 0.164 0.17 0.025 0.087 0.026 0.182], Final Value =
\$1465359.30, Sharpe Ratio = -25.66

Simulation Run = 6107
Weights = [0.162 0.011 0.094 0.216 0.201 0.022 0.169 0.018 0.106], Final Value =
\$1571403.29, Sharpe Ratio = -17.41

Simulation Run = 6108
Weights = [0.174 0. 0.139 0.173 0.079 0.156 0.134 0.069 0.077], Final Value =
\$1596624.36, Sharpe Ratio = -15.36

Simulation Run = 6109

Weights = [0.09 0.127 0.139 0.032 0.03 0.196 0.201 0.028 0.158], Final Value = \$1443463.31, Sharpe Ratio = -14.41

Simulation Run = 6110

Weights = [0. 0.191 0.153 0.098 0.142 0.141 0.092 0.061 0.122], Final Value = \$1464548.92, Sharpe Ratio = -20.61

Simulation Run = 6111

Weights = [0.194 0.083 0.094 0.167 0.117 0.024 0.083 0.133 0.105], Final Value = \$1534050.48, Sharpe Ratio = -20.98

Simulation Run = 6112

Weights = [0.02 0.185 0.061 0.125 0.012 0.137 0.148 0.142 0.171], Final Value = \$1434876.38, Sharpe Ratio = -18.35

Simulation Run = 6113

Weights = [0.173 0.056 0.146 0.083 0.088 0.025 0.138 0.156 0.136], Final Value = \$1461281.58, Sharpe Ratio = -18.04

Simulation Run = 6114

Weights = [0.126 0.096 0.181 0.034 0.169 0.13 0.055 0.075 0.134], Final Value = \$1481686.88, Sharpe Ratio = -20.41

Simulation Run = 6115

Weights = [0.042 0.092 0.067 0.122 0.113 0.042 0.18 0.178 0.162], Final Value = \$1457727.10, Sharpe Ratio = -18.26

Simulation Run = 6116

Weights = [0.134 0.007 0.089 0.04 0.005 0.216 0.219 0.177 0.113], Final Value = \$1549030.83, Sharpe Ratio = -12.69

Simulation Run = 6117

Weights = [0.177 0.14 0.021 0.15 0.071 0.102 0.108 0.194 0.037], Final Value = \$1619620.41, Sharpe Ratio = -18.57

Simulation Run = 6118

Weights = [0.11 0.036 0.138 0.023 0.222 0.038 0.163 0.176 0.093], Final Value = \$1521677.72, Sharpe Ratio = -17.47

Simulation Run = 6119
Weights = [0.159 0.107 0.184 0.005 0.017 0.041 0.248 0.044 0.194], Final Value =
\$1340814.63, Sharpe Ratio = -14.14

Simulation Run = 6120
Weights = [0.126 0.122 0.082 0.207 0.105 0.015 0.078 0.059 0.207], Final Value =
\$1428176.48, Sharpe Ratio = -24.24

Simulation Run = 6121
Weights = [0.034 0.166 0.074 0.031 0.217 0.075 0.05 0.168 0.185], Final Value =
\$1439074.62, Sharpe Ratio = -26.94

Simulation Run = 6122
Weights = [0.172 0.044 0.106 0.084 0.172 0.16 0.052 0.096 0.115], Final Value =
\$1575383.12, Sharpe Ratio = -19.54

Simulation Run = 6123
Weights = [0.14 0.107 0.193 0.202 0.037 0.066 0.042 0.161 0.052], Final Value =
\$1531029.88, Sharpe Ratio = -19.18

Simulation Run = 6124
Weights = [0.091 0.059 0.106 0.097 0.15 0.173 0.06 0.097 0.167], Final Value =
\$1512226.34, Sharpe Ratio = -20.27

Simulation Run = 6125
Weights = [0.181 0.044 0.088 0.11 0.081 0.023 0.147 0.169 0.158], Final Value =
\$1474493.05, Sharpe Ratio = -18.25

Simulation Run = 6126
Weights = [0.054 0.113 0.177 0.156 0.119 0.191 0.005 0.171 0.014], Final Value =
\$1612956.79, Sharpe Ratio = -18.73

Simulation Run = 6127
Weights = [0.156 0.083 0.16 0.24 0.031 0.018 0.226 0.004 0.082], Final Value =
\$1501407.50, Sharpe Ratio = -14.42

Simulation Run = 6128
Weights = [0.071 0.188 0.102 0.214 0.084 0.112 0.003 0.111 0.115], Final Value =

\$1511288.83, Sharpe Ratio = -24.33

Simulation Run = 6129

Weights = [0.016 0.084 0.262 0.048 0.234 0.052 0.024 0.208 0.071], Final Value = \$1482960.73, Sharpe Ratio = -21.09

Simulation Run = 6130

Weights = [0.116 0.073 0.191 0.092 0.041 0.085 0.148 0.032 0.223], Final Value = \$1361443.88, Sharpe Ratio = -17.41

Simulation Run = 6131

Weights = [0.173 0.058 0.141 0.089 0.06 0.175 0.155 0.118 0.031], Final Value = \$1604520.21, Sharpe Ratio = -14.43

Simulation Run = 6132

Weights = [0.206 0.076 0.063 0.053 0.067 0.103 0.142 0.189 0.1], Final Value = \$1545520.03, Sharpe Ratio = -16.82

Simulation Run = 6133

Weights = [0.175 0.023 0.041 0.111 0.123 0.135 0.141 0.133 0.119], Final Value = \$1584501.52, Sharpe Ratio = -16.89

Simulation Run = 6134

Weights = [0.017 0.243 0.068 0.127 0.166 0.063 0.188 0.045 0.083], Final Value = \$1499809.81, Sharpe Ratio = -18.56

Simulation Run = 6135

Weights = [0.036 0.145 0.043 0.139 0.113 0.14 0.145 0.115 0.124], Final Value = \$1526355.61, Sharpe Ratio = -18.54

Simulation Run = 6136

Weights = [0.119 0.073 0.016 0.124 0.13 0.157 0.148 0.115 0.118], Final Value = \$1584186.65, Sharpe Ratio = -17.20

Simulation Run = 6137

Weights = [0.11 0.183 0.156 0.011 0.009 0.127 0.187 0.022 0.195], Final Value = \$1356895.39, Sharpe Ratio = -16.01

Simulation Run = 6138
Weights = [0.035 0.171 0.179 0.027 0.116 0.095 0.16 0.16 0.056], Final Value =
\$1482299.90, Sharpe Ratio = -16.97

Simulation Run = 6139
Weights = [0.111 0.155 0.095 0.056 0.069 0.156 0.054 0.155 0.148], Final Value =
\$1477065.58, Sharpe Ratio = -20.91

Simulation Run = 6140
Weights = [0.013 0.229 0.141 0.042 0.128 0.137 0.059 0.126 0.125], Final Value =
\$1445421.59, Sharpe Ratio = -22.56

Simulation Run = 6141
Weights = [0.092 0.171 0.143 0.166 0.042 0.075 0.148 0.134 0.029], Final Value =
\$1534643.59, Sharpe Ratio = -16.99

Simulation Run = 6142
Weights = [0.189 0.094 0.015 0.169 0.229 0.038 0.121 0.014 0.131], Final Value =
\$1569317.88, Sharpe Ratio = -21.29

Simulation Run = 6143
Weights = [0.17 0.091 0.159 0.039 0.104 0.152 0.162 0.075 0.049], Final Value =
\$1561612.79, Sharpe Ratio = -15.06

Simulation Run = 6144
Weights = [0.059 0.201 0.132 0.18 0.03 0.089 0.185 0.117 0.005], Final Value =
\$1549386.06, Sharpe Ratio = -15.68

Simulation Run = 6145
Weights = [0.155 0.106 0.158 0.197 0.033 0.045 0.164 0.141 0.001], Final Value =
\$1575000.49, Sharpe Ratio = -15.49

Simulation Run = 6146
Weights = [0.136 0.045 0.212 0.17 0.052 0.148 0.054 0.004 0.179], Final Value =
\$1451135.87, Sharpe Ratio = -18.51

Simulation Run = 6147
Weights = [0.191 0.213 0.118 0.076 0.026 0.182 0.053 0.003 0.138], Final Value =
\$1474462.39, Sharpe Ratio = -19.63

Simulation Run = 6148
Weights = [0.009 0.006 0.102 0.085 0.025 0.185 0.215 0.157 0.214], Final Value =
\$1436222.63, Sharpe Ratio = -14.17

Simulation Run = 6149
Weights = [0.066 0.179 0.157 0.005 0.041 0.062 0.174 0.158 0.16], Final Value =
\$1367024.83, Sharpe Ratio = -17.40

Simulation Run = 6150
Weights = [0.068 0.084 0.059 0.112 0.174 0.086 0.167 0.068 0.182], Final Value =
\$1478004.96, Sharpe Ratio = -18.77

Simulation Run = 6151
Weights = [0.141 0.146 0.232 0.077 0.038 0.147 0.057 0.111 0.052], Final Value =
\$1504741.82, Sharpe Ratio = -17.55

Simulation Run = 6152
Weights = [0.079 0.099 0.058 0.188 0.09 0.028 0.201 0.116 0.141], Final Value =
\$1485733.36, Sharpe Ratio = -17.15

Simulation Run = 6153
Weights = [0.052 0.07 0.087 0.187 0.075 0.102 0.12 0.1 0.208], Final Value =
\$1445947.32, Sharpe Ratio = -19.82

Simulation Run = 6154
Weights = [0.002 0.188 0.162 0.122 0.011 0.086 0.196 0.18 0.054], Final Value =
\$1470064.05, Sharpe Ratio = -15.50

Simulation Run = 6155
Weights = [0.213 0.09 0.213 0.047 0.092 0.094 0.005 0.143 0.103], Final Value =
\$1487638.93, Sharpe Ratio = -20.17

Simulation Run = 6156
Weights = [0.003 0.18 0.158 0.123 0.073 0.118 0.169 0.092 0.083], Final Value =
\$1475883.01, Sharpe Ratio = -16.72

Simulation Run = 6157

Weights = [0.203 0.091 0.028 0.009 0.136 0.154 0.109 0.118 0.154], Final Value = \$1534784.96, Sharpe Ratio = -18.47

Simulation Run = 6158

Weights = [0.128 0.174 0.054 0.135 0.136 0.069 0.141 0.075 0.088], Final Value = \$1539437.48, Sharpe Ratio = -19.58

Simulation Run = 6159

Weights = [0.045 0.102 0.043 0.171 0.101 0.199 0.059 0.175 0.105], Final Value = \$1589469.00, Sharpe Ratio = -19.62

Simulation Run = 6160

Weights = [0.183 0.107 0.056 0.181 0.113 0.086 0.089 0.023 0.163], Final Value = \$1513371.90, Sharpe Ratio = -21.33

Simulation Run = 6161

Weights = [0.15 0.062 0.143 0.029 0.045 0.176 0.184 0.109 0.101], Final Value = \$1517959.62, Sharpe Ratio = -14.17

Simulation Run = 6162

Weights = [0.051 0.197 0.005 0.161 0.161 0.076 0.12 0.063 0.165], Final Value = \$1488248.88, Sharpe Ratio = -22.99

Simulation Run = 6163

Weights = [0.171 0.041 0.186 0.037 0.172 0.059 0.039 0.101 0.194], Final Value = \$1426485.44, Sharpe Ratio = -22.19

Simulation Run = 6164

Weights = [0.026 0.122 0.069 0.25 0.04 0.273 0.072 0.043 0.105], Final Value = \$1594588.39, Sharpe Ratio = -17.00

Simulation Run = 6165

Weights = [0.13 0.1 0.122 0.128 0.1 0.126 0.04 0.134 0.12], Final Value = \$1521949.16, Sharpe Ratio = -21.04

Simulation Run = 6166

Weights = [0.093 0.162 0.186 0.147 0.012 0.044 0.1 0.15 0.106], Final Value = \$1432925.90, Sharpe Ratio = -19.19

Simulation Run = 6167
Weights = [0.011 0.037 0.218 0.155 0.015 0.23 0.222 0.089 0.023], Final Value =
\$1576202.86, Sharpe Ratio = -12.01

Simulation Run = 6168
Weights = [0.189 0.176 0.15 0.002 0.123 0.068 0.147 0.02 0.124], Final Value =
\$1444227.24, Sharpe Ratio = -18.19

Simulation Run = 6169
Weights = [0.178 0.117 0.182 0.025 0.086 0.105 0.161 0.072 0.075], Final Value =
\$1498321.79, Sharpe Ratio = -15.78

Simulation Run = 6170
Weights = [0.012 0.212 0.17 0.155 0.137 0.047 0.005 0.091 0.17], Final Value =
\$1393931.26, Sharpe Ratio = -27.03

Simulation Run = 6171
Weights = [0.024 0.202 0.164 0.094 0.056 0.253 0.037 0.168 0.003], Final Value =
\$1590847.46, Sharpe Ratio = -17.23

Simulation Run = 6172
Weights = [0.168 0.025 0.084 0.174 0.121 0.1 0.147 0.08 0.1], Final Value =
\$1580472.89, Sharpe Ratio = -16.91

Simulation Run = 6173
Weights = [0.022 0.098 0.076 0.218 0.101 0.046 0.165 0.213 0.063], Final Value =
\$1556679.94, Sharpe Ratio = -17.69

Simulation Run = 6174
Weights = [0.189 0.024 0.098 0.15 0.231 0.017 0.176 0.083 0.032], Final Value =
\$1627283.79, Sharpe Ratio = -16.57

Simulation Run = 6175
Weights = [0.135 0.076 0.106 0.143 0.114 0.075 0.024 0.179 0.149], Final Value =
\$1500347.22, Sharpe Ratio = -23.33

Simulation Run = 6176
Weights = [0.103 0.045 0.226 0.219 0.2 0.057 0.01 0.07 0.07], Final Value =

\$1552360.31, Sharpe Ratio = -20.54

Simulation Run = 6177

Weights = [0.241 0.227 0.136 0.088 0.042 0.066 0.143 0.041 0.015], Final Value = \$1540137.18, Sharpe Ratio = -16.97

Simulation Run = 6178

Weights = [0.205 0.043 0.039 0.106 0.099 0.069 0.206 0.072 0.161], Final Value = \$1511023.62, Sharpe Ratio = -15.77

Simulation Run = 6179

Weights = [0.086 0.036 0.108 0.201 0.113 0.086 0.003 0.144 0.222], Final Value = \$1454940.88, Sharpe Ratio = -24.65

Simulation Run = 6180

Weights = [0.177 0.163 0.104 0.085 0.027 0.103 0.077 0.089 0.176], Final Value = \$1432177.43, Sharpe Ratio = -20.76

Simulation Run = 6181

Weights = [0.128 0.183 0.006 0.008 0.169 0.184 0.114 0.081 0.127], Final Value = \$1547725.92, Sharpe Ratio = -19.05

Simulation Run = 6182

Weights = [0.079 0.012 0.084 0.115 0.163 0.051 0.108 0.185 0.203], Final Value = \$1461735.43, Sharpe Ratio = -21.24

Simulation Run = 6183

Weights = [0.009 0.022 0.012 0.008 0.287 0.246 0.176 0.239 0.001], Final Value = \$1731534.64, Sharpe Ratio = -14.46

Simulation Run = 6184

Weights = [0.129 0.102 0.05 0.172 0.08 0.097 0.094 0.102 0.175], Final Value = \$1492216.25, Sharpe Ratio = -21.05

Simulation Run = 6185

Weights = [0.094 0.011 0.014 0.182 0.029 0.164 0.125 0.229 0.151], Final Value = \$1562626.41, Sharpe Ratio = -16.95

Simulation Run = 6186
Weights = [0.066 0.044 0.181 0.05 0.116 0.146 0.182 0.098 0.118], Final Value =
\$1488515.08, Sharpe Ratio = -15.10

Simulation Run = 6187
Weights = [0.158 0.088 0.136 0.124 0.006 0.066 0.098 0.217 0.107], Final Value =
\$1487085.08, Sharpe Ratio = -18.36

Simulation Run = 6188
Weights = [0.168 0.134 0.072 0.105 0.078 0.077 0.12 0.1 0.147], Final Value =
\$1481542.43, Sharpe Ratio = -19.71

Simulation Run = 6189
Weights = [0.028 0.048 0.02 0.138 0.124 0.161 0.127 0.181 0.174], Final Value =
\$1530349.39, Sharpe Ratio = -18.67

Simulation Run = 6190
Weights = [0.064 0.237 0.181 0.004 0.044 0.258 0.012 0.181 0.02], Final Value =
\$1547787.48, Sharpe Ratio = -17.64

Simulation Run = 6191
Weights = [0.156 0.178 0.109 0.134 0.062 0.143 0.036 0.136 0.045], Final Value =
\$1574273.97, Sharpe Ratio = -20.14

Simulation Run = 6192
Weights = [0.172 0.032 0.168 0.026 0.142 0.118 0.02 0.103 0.22], Final Value =
\$1426846.45, Sharpe Ratio = -21.76

Simulation Run = 6193
Weights = [0.15 0.053 0.156 0.118 0.156 0.154 0.007 0.076 0.13], Final Value =
\$1538703.28, Sharpe Ratio = -20.77

Simulation Run = 6194
Weights = [0.016 0.113 0.098 0.107 0.147 0.148 0.128 0.123 0.12], Final Value =
\$1518316.93, Sharpe Ratio = -18.65

Simulation Run = 6195
Weights = [0.032 0.011 0.014 0.007 0.191 0.317 0.203 0.159 0.066], Final Value =
\$1679222.04, Sharpe Ratio = -12.81

Simulation Run = 6196
Weights = [0.146 0.142 0.053 0.108 0.042 0.126 0.137 0.074 0.171], Final Value =
\$1471031.83, Sharpe Ratio = -18.35

Simulation Run = 6197
Weights = [0.024 0.142 0.029 0.129 0.106 0.194 0.043 0.186 0.147], Final Value =
\$1534722.84, Sharpe Ratio = -21.70

Simulation Run = 6198
Weights = [0.109 0.118 0.048 0.195 0.018 0.111 0.144 0.165 0.091], Final Value =
\$1551765.47, Sharpe Ratio = -17.29

Simulation Run = 6199
Weights = [0.159 0.149 0.099 0.21 0.102 0.106 0.048 0.052 0.077], Final Value =
\$1569865.58, Sharpe Ratio = -21.31

Simulation Run = 6200
Weights = [0.072 0.156 0.223 0.108 0.046 0.208 0.11 0.06 0.016], Final Value =
\$1552924.78, Sharpe Ratio = -15.35

Simulation Run = 6201
Weights = [0.101 0.186 0.136 0.188 0.042 0.171 0.07 0.042 0.064], Final Value =
\$1548904.13, Sharpe Ratio = -18.63

Simulation Run = 6202
Weights = [0.195 0.075 0.056 0.146 0.09 0.159 0.168 0.014 0.098], Final Value =
\$1590532.91, Sharpe Ratio = -15.60

Simulation Run = 6203
Weights = [0.094 0.056 0.162 0.124 0.038 0.204 0.186 0.079 0.057], Final Value =
\$1569665.59, Sharpe Ratio = -13.55

Simulation Run = 6204
Weights = [0.01 0.024 0.257 0.166 0.017 0.101 0.131 0.157 0.136], Final Value =
\$1424902.03, Sharpe Ratio = -15.86

Simulation Run = 6205

Weights = [0.13 0.201 0.011 0.128 0.052 0.201 0.2 0.057 0.02], Final Value = \$1632716.37, Sharpe Ratio = -14.45

Simulation Run = 6206

Weights = [0.123 0.176 0.133 0.033 0.134 0.15 0.018 0.136 0.097], Final Value = \$1514098.51, Sharpe Ratio = -22.00

Simulation Run = 6207

Weights = [0.126 0.197 0.125 0.106 0.175 0.124 0.05 0.041 0.056], Final Value = \$1560018.65, Sharpe Ratio = -21.82

Simulation Run = 6208

Weights = [0.086 0.006 0.169 0.145 0.138 0.125 0.011 0.163 0.156], Final Value = \$1503914.05, Sharpe Ratio = -21.06

Simulation Run = 6209

Weights = [0.222 0.14 0.229 0.107 0.119 0.002 0.068 0.051 0.061], Final Value = \$1485527.43, Sharpe Ratio = -19.63

Simulation Run = 6210

Weights = [0.199 0.055 0.181 0.016 0.011 0.112 0.099 0.107 0.219], Final Value = \$1379856.61, Sharpe Ratio = -17.72

Simulation Run = 6211

Weights = [0.169 0.121 0.042 0.031 0.031 0.105 0.193 0.227 0.081], Final Value = \$1536982.05, Sharpe Ratio = -15.25

Simulation Run = 6212

Weights = [0.258 0.109 0.086 0.003 0.086 0.09 0.127 0.08 0.161], Final Value = \$1469825.58, Sharpe Ratio = -18.08

Simulation Run = 6213

Weights = [0.119 0.012 0.197 0.074 0.183 0.038 0.197 0.178 0.002], Final Value = \$1584361.18, Sharpe Ratio = -14.61

Simulation Run = 6214

Weights = [0.15 0.112 0.081 0.089 0.048 0.078 0.132 0.158 0.152], Final Value = \$1466466.91, Sharpe Ratio = -18.66

Simulation Run = 6215
Weights = [0.11 0.163 0.15 0.078 0.114 0.056 0.186 0.024 0.117], Final Value =
\$1447285.39, Sharpe Ratio = -17.04

Simulation Run = 6216
Weights = [0.209 0.013 0.02 0.222 0.173 0.226 0.067 0.001 0.069], Final Value =
\$1717343.82, Sharpe Ratio = -17.13

Simulation Run = 6217
Weights = [0.122 0.066 0.143 0.161 0.164 0.004 0.135 0.103 0.102], Final Value =
\$1507972.13, Sharpe Ratio = -19.00

Simulation Run = 6218
Weights = [0.183 0.05 0.031 0.062 0.185 0.083 0.09 0.17 0.146], Final Value =
\$1548415.91, Sharpe Ratio = -20.90

Simulation Run = 6219
Weights = [0.114 0.19 0.084 0.109 0.162 0.016 0.191 0.047 0.087], Final Value =
\$1498196.18, Sharpe Ratio = -18.09

Simulation Run = 6220
Weights = [0.054 0.088 0.003 0.086 0.233 0.129 0.014 0.262 0.132], Final Value =
\$1580005.89, Sharpe Ratio = -25.14

Simulation Run = 6221
Weights = [0.08 0.213 0.084 0.192 0.027 0.015 0.161 0.12 0.108], Final Value =
\$1455196.84, Sharpe Ratio = -19.00

Simulation Run = 6222
Weights = [0.159 0.125 0.163 0.063 0.12 0.066 0.047 0.148 0.11], Final Value =
\$1479934.83, Sharpe Ratio = -21.67

Simulation Run = 6223
Weights = [0.124 0.038 0.221 0.244 0.05 0.108 0.159 0.053 0.002], Final Value =
\$1597497.54, Sharpe Ratio = -14.20

Simulation Run = 6224
Weights = [0.106 0.071 0.09 0.077 0.16 0.155 0.129 0.068 0.145], Final Value =

\$1525101.51, Sharpe Ratio = -18.07

Simulation Run = 6225

Weights = [0.026 0.154 0.15 0.121 0.076 0.137 0.149 0.075 0.112], Final Value = \$1473702.38, Sharpe Ratio = -17.29

Simulation Run = 6226

Weights = [0.193 0.002 0.068 0.256 0.04 0.018 0.017 0.218 0.188], Final Value = \$1498214.57, Sharpe Ratio = -22.80

Simulation Run = 6227

Weights = [0.211 0.123 0.096 0.213 0.038 0.055 0.107 0.096 0.062], Final Value = \$1563811.62, Sharpe Ratio = -18.44

Simulation Run = 6228

Weights = [0.133 0.008 0.211 0.204 0.013 0.194 0.216 0.018 0.003], Final Value = \$1620728.41, Sharpe Ratio = -11.98

Simulation Run = 6229

Weights = [0.091 0.2 0.019 0.177 0.079 0.163 0.147 0.084 0.039], Final Value = \$1613541.12, Sharpe Ratio = -17.23

Simulation Run = 6230

Weights = [0.217 0.106 0.029 0.072 0.107 0.005 0.123 0.154 0.186], Final Value = \$1456226.85, Sharpe Ratio = -20.98

Simulation Run = 6231

Weights = [0.104 0.061 0.023 0.09 0.139 0.165 0.177 0.054 0.187], Final Value = \$1516041.49, Sharpe Ratio = -16.62

Simulation Run = 6232

Weights = [0.116 0.198 0.227 0.044 0.108 0.024 0.045 0.044 0.195], Final Value = \$1327082.36, Sharpe Ratio = -23.74

Simulation Run = 6233

Weights = [0.082 0.168 0.069 0.14 0.115 0.168 0.081 0.042 0.135], Final Value = \$1521174.52, Sharpe Ratio = -20.69

Simulation Run = 6234
Weights = [0.246 0.234 0.025 0.117 0.163 0.092 0.057 0.023 0.042], Final Value =
\$1612017.87, Sharpe Ratio = -22.44

Simulation Run = 6235
Weights = [0.005 0.084 0.214 0.086 0.106 0.131 0.156 0.113 0.105], Final Value =
\$1466881.21, Sharpe Ratio = -16.11

Simulation Run = 6236
Weights = [0.017 0.146 0.187 0.084 0.072 0.081 0.221 0.058 0.135], Final Value =
\$1404457.27, Sharpe Ratio = -15.27

Simulation Run = 6237
Weights = [0.091 0.159 0.134 0.086 0.126 0.1 0.061 0.098 0.146], Final Value =
\$1457137.61, Sharpe Ratio = -22.56

Simulation Run = 6238
Weights = [0.066 0.166 0.121 0.054 0.182 0.222 0.039 0.148 0.001], Final Value =
\$1638216.91, Sharpe Ratio = -18.75

Simulation Run = 6239
Weights = [0.076 0.047 0.032 0.05 0.174 0.164 0.02 0.191 0.246], Final Value =
\$1471603.78, Sharpe Ratio = -23.85

Simulation Run = 6240
Weights = [0.008 0.133 0.168 0.117 0.151 0.039 0.043 0.223 0.12], Final Value =
\$1452203.92, Sharpe Ratio = -23.78

Simulation Run = 6241
Weights = [0.155 0.21 0.188 0.094 0.044 0.084 0.008 0.037 0.179], Final Value =
\$1379939.03, Sharpe Ratio = -23.71

Simulation Run = 6242
Weights = [0.076 0.19 0.138 0.149 0.054 0.042 0.176 0.087 0.087], Final Value =
\$1463164.09, Sharpe Ratio = -17.34

Simulation Run = 6243
Weights = [0.226 0.202 0.029 0.126 0.092 0.103 0.195 0.003 0.024], Final Value =
\$1610578.30, Sharpe Ratio = -15.70

Simulation Run = 6244
Weights = [0.112 0.071 0.152 0.129 0.168 0.072 0.037 0.093 0.165], Final Value =
\$1470879.06, Sharpe Ratio = -23.14

Simulation Run = 6245
Weights = [0.158 0.042 0.019 0.157 0.014 0.206 0.208 0.045 0.153], Final Value =
\$1559089.81, Sharpe Ratio = -13.81

Simulation Run = 6246
Weights = [0.157 0.1 0.133 0.163 0.188 0.067 0.008 0.053 0.13], Final Value =
\$1520285.71, Sharpe Ratio = -24.25

Simulation Run = 6247
Weights = [0.136 0.043 0.086 0.165 0.091 0.229 0.158 0.025 0.066], Final Value =
\$1634979.50, Sharpe Ratio = -14.47

Simulation Run = 6248
Weights = [0.15 0.056 0.012 0.134 0.171 0.101 0.026 0.159 0.193], Final Value =
\$1529614.23, Sharpe Ratio = -24.73

Simulation Run = 6249
Weights = [0.168 0.168 0.041 0.082 0.172 0.107 0.049 0.053 0.161], Final Value =
\$1506038.77, Sharpe Ratio = -24.35

Simulation Run = 6250
Weights = [0.16 0.158 0.079 0.271 0.092 0.006 0.076 0.131 0.028], Final Value =
\$1591941.43, Sharpe Ratio = -21.14

Simulation Run = 6251
Weights = [0.005 0.043 0.196 0.012 0.074 0.233 0.184 0.179 0.074], Final Value =
\$1526361.56, Sharpe Ratio = -13.42

Simulation Run = 6252
Weights = [0.079 0.186 0.175 0.148 0.135 0.027 0.019 0.111 0.119], Final Value =
\$1445211.09, Sharpe Ratio = -24.97

Simulation Run = 6253

Weights = [0.039 0.204 0.014 0.055 0.121 0.124 0.198 0.047 0.197], Final Value = \$1431984.44, Sharpe Ratio = -17.69

Simulation Run = 6254

Weights = [0.063 0.143 0.109 0.131 0.185 0.058 0.105 0.079 0.126], Final Value = \$1489843.59, Sharpe Ratio = -21.92

Simulation Run = 6255

Weights = [0.184 0.148 0.148 0.053 0.168 0.114 0.048 0.009 0.128], Final Value = \$1493354.92, Sharpe Ratio = -21.79

Simulation Run = 6256

Weights = [0.108 0.1 0.048 0.217 0.013 0.029 0.093 0.187 0.204], Final Value = \$1434344.46, Sharpe Ratio = -22.07

Simulation Run = 6257

Weights = [0.004 0.066 0.054 0.194 0.025 0.204 0.194 0.172 0.088], Final Value = \$1581960.91, Sharpe Ratio = -14.29

Simulation Run = 6258

Weights = [0.114 0.119 0.222 0.053 0.006 0.11 0.067 0.282 0.026], Final Value = \$1511396.33, Sharpe Ratio = -17.13

Simulation Run = 6259

Weights = [0.124 0.071 0.152 0.15 0.003 0.12 0.183 0.022 0.176], Final Value = \$1435100.36, Sharpe Ratio = -15.41

Simulation Run = 6260

Weights = [0.111 0.141 0.143 0.088 0.187 0.132 0.021 0.148 0.03], Final Value = \$1594178.57, Sharpe Ratio = -21.22

Simulation Run = 6261

Weights = [0.087 0.17 0.107 0.103 0.164 0.071 0.083 0.04 0.174], Final Value = \$1439941.45, Sharpe Ratio = -23.67

Simulation Run = 6262

Weights = [0.015 0.093 0.173 0.141 0.11 0.253 0.013 0.047 0.154], Final Value = \$1505347.58, Sharpe Ratio = -18.95

Simulation Run = 6263
Weights = [0.138 0.199 0.034 0.125 0.088 0.09 0.08 0.107 0.139], Final Value =
\$1496079.08, Sharpe Ratio = -22.81

Simulation Run = 6264
Weights = [0.095 0.038 0.18 0.204 0.059 0.103 0.179 0.013 0.128], Final Value =
\$1488354.91, Sharpe Ratio = -15.32

Simulation Run = 6265
Weights = [0.151 0.055 0.004 0.08 0.234 0.089 0.003 0.163 0.221], Final Value =
\$1509152.06, Sharpe Ratio = -27.01

Simulation Run = 6266
Weights = [0.196 0.107 0.234 0.045 0.054 0.236 0.027 0.012 0.089], Final Value =
\$1521749.29, Sharpe Ratio = -16.49

Simulation Run = 6267
Weights = [0.028 0.04 0.212 0.045 0.15 0.167 0.068 0.11 0.178], Final Value =
\$1439588.34, Sharpe Ratio = -18.97

Simulation Run = 6268
Weights = [0.012 0.05 0.192 0.182 0.106 0.102 0.033 0.229 0.092], Final Value =
\$1517333.11, Sharpe Ratio = -20.01

Simulation Run = 6269
Weights = [0.053 0.106 0.146 0.198 0.119 0.104 0.003 0.135 0.135], Final Value =
\$1497346.19, Sharpe Ratio = -23.28

Simulation Run = 6270
Weights = [0.12 0.128 0.165 0.11 0.016 0.093 0.16 0.151 0.057], Final Value =
\$1506483.97, Sharpe Ratio = -15.79

Simulation Run = 6271
Weights = [0.152 0.065 0.001 0.123 0.189 0.201 0.083 0.164 0.021], Final Value =
\$1719125.74, Sharpe Ratio = -17.57

Simulation Run = 6272
Weights = [0.189 0.067 0.1 0.13 0.059 0.091 0.046 0.133 0.184], Final Value =

\$1471190.49, Sharpe Ratio = -21.48

Simulation Run = 6273

Weights = [0.187 0.05 0.187 0.203 0.097 0.086 0.012 0.121 0.055], Final Value = \$1577114.37, Sharpe Ratio = -19.37

Simulation Run = 6274

Weights = [0.103 0.189 0.067 0.134 0.197 0.079 0.036 0.164 0.031], Final Value = \$1602261.13, Sharpe Ratio = -24.07

Simulation Run = 6275

Weights = [0.154 0.133 0.111 0.159 0.119 0.095 0.106 0.099 0.023], Final Value = \$1601723.74, Sharpe Ratio = -18.41

Simulation Run = 6276

Weights = [0.127 0.151 0.225 0.114 0.006 0.142 0.061 0.115 0.059], Final Value = \$1496091.29, Sharpe Ratio = -17.50

Simulation Run = 6277

Weights = [0.015 0.191 0.017 0.003 0.322 0.057 0.049 0.275 0.07], Final Value = \$1568645.07, Sharpe Ratio = -26.74

Simulation Run = 6278

Weights = [0.1 0.062 0.204 0.157 0.124 0.037 0.037 0.126 0.153], Final Value = \$1443592.17, Sharpe Ratio = -21.83

Simulation Run = 6279

Weights = [0.023 0.155 0.183 0.048 0.081 0.165 0.12 0.124 0.101], Final Value = \$1467397.60, Sharpe Ratio = -17.37

Simulation Run = 6280

Weights = [0.186 0.033 0.015 0.223 0.147 0.193 0.051 0.109 0.042], Final Value = \$1718707.60, Sharpe Ratio = -18.06

Simulation Run = 6281

Weights = [0.072 0.246 0.177 0.225 0.165 0.001 0.004 0.092 0.019], Final Value = \$1529941.52, Sharpe Ratio = -24.20

Simulation Run = 6282
Weights = [0.183 0.215 0.048 0.001 0.087 0.169 0.069 0.048 0.179], Final Value =
\$1459930.03, Sharpe Ratio = -20.86

Simulation Run = 6283
Weights = [0.101 0.209 0.043 0.063 0.18 0.02 0.194 0.043 0.147], Final Value =
\$1451486.23, Sharpe Ratio = -18.99

Simulation Run = 6284
Weights = [0.167 0.095 0.043 0.163 0.207 0.028 0.016 0.145 0.136], Final Value =
\$1547254.43, Sharpe Ratio = -26.51

Simulation Run = 6285
Weights = [0.127 0.184 0.176 0.207 0.099 0.038 0.1 0.005 0.062], Final Value =
\$1504605.44, Sharpe Ratio = -19.72

Simulation Run = 6286
Weights = [0.103 0.03 0.098 0.098 0.201 0.1 0.079 0.222 0.068], Final Value =
\$1600378.84, Sharpe Ratio = -19.78

Simulation Run = 6287
Weights = [0.072 0.123 0.129 0.124 0.086 0.185 0.081 0.002 0.196], Final Value =
\$1447994.01, Sharpe Ratio = -19.62

Simulation Run = 6288
Weights = [0.034 0.059 0.181 0.172 0.139 0.084 0.188 0.121 0.022], Final Value =
\$1571962.31, Sharpe Ratio = -15.12

Simulation Run = 6289
Weights = [0.166 0.044 0.146 0.041 0.143 0.145 0.148 0.038 0.129], Final Value =
\$1515931.64, Sharpe Ratio = -16.31

Simulation Run = 6290
Weights = [0.005 0.067 0.1 0.27 0.094 0.27 0.016 0.063 0.114], Final Value =
\$1606491.33, Sharpe Ratio = -18.12

Simulation Run = 6291
Weights = [0.147 0.049 0.023 0.1 0.123 0.106 0.163 0.157 0.133], Final Value =
\$1553570.19, Sharpe Ratio = -17.18

Simulation Run = 6292
Weights = [0.052 0.025 0.249 0.199 0.163 0.09 0.073 0.01 0.14], Final Value =
\$1471854.00, Sharpe Ratio = -18.84

Simulation Run = 6293
Weights = [0.074 0.145 0.142 0.037 0.097 0.209 0.146 0.026 0.124], Final Value =
\$1490587.22, Sharpe Ratio = -16.18

Simulation Run = 6294
Weights = [0.111 0.143 0.144 0.072 0.157 0.139 0.12 0.038 0.075], Final Value =
\$1537386.91, Sharpe Ratio = -18.12

Simulation Run = 6295
Weights = [0.044 0.16 0.022 0.008 0.114 0.105 0.205 0.168 0.174], Final Value =
\$1444658.08, Sharpe Ratio = -16.95

Simulation Run = 6296
Weights = [0.203 0.055 0.141 0.132 0.035 0.148 0.028 0.056 0.202], Final Value =
\$1459127.85, Sharpe Ratio = -19.93

Simulation Run = 6297
Weights = [0.191 0.076 0.05 0.021 0.133 0.128 0.114 0.174 0.113], Final Value =
\$1557541.12, Sharpe Ratio = -18.19

Simulation Run = 6298
Weights = [0.105 0.108 0.164 0.186 0.137 0.048 0.044 0.028 0.181], Final Value =
\$1434281.77, Sharpe Ratio = -23.60

Simulation Run = 6299
Weights = [0.069 0.25 0.026 0.111 0.092 0.113 0.098 0.194 0.047], Final Value =
\$1561751.47, Sharpe Ratio = -21.10

Simulation Run = 6300
Weights = [0.123 0.058 0.027 0.096 0.031 0.092 0.225 0.238 0.11], Final Value =
\$1534188.96, Sharpe Ratio = -14.56

Simulation Run = 6301

Weights = [0.217 0.038 0.218 0.075 0.042 0.033 0.056 0.167 0.154], Final Value = \$1424107.77, Sharpe Ratio = -19.15

Simulation Run = 6302

Weights = [0.181 0.158 0.093 0.13 0.034 0.079 0.125 0.037 0.163], Final Value = \$1447798.32, Sharpe Ratio = -19.23

Simulation Run = 6303

Weights = [0.089 0.005 0.177 0.198 0.046 0.041 0.21 0.011 0.223], Final Value = \$1384585.33, Sharpe Ratio = -15.41

Simulation Run = 6304

Weights = [0.091 0.194 0.097 0.144 0.047 0.151 0.027 0.114 0.136], Final Value = \$1485580.08, Sharpe Ratio = -22.42

Simulation Run = 6305

Weights = [0.088 0.133 0.125 0.107 0.152 0.176 0.106 0.007 0.106], Final Value = \$1537565.22, Sharpe Ratio = -18.50

Simulation Run = 6306

Weights = [0.023 0.194 0.193 0.114 0.005 0.185 0.013 0.185 0.088], Final Value = \$1474217.13, Sharpe Ratio = -19.51

Simulation Run = 6307

Weights = [0.128 0.027 0.177 0.091 0.098 0.154 0.016 0.193 0.116], Final Value = \$1526978.43, Sharpe Ratio = -19.22

Simulation Run = 6308

Weights = [0.196 0.067 0.004 0.041 0.152 0.081 0.085 0.188 0.185], Final Value = \$1509797.59, Sharpe Ratio = -21.58

Simulation Run = 6309

Weights = [0.177 0.17 0.031 0.064 0.083 0.071 0.095 0.118 0.192], Final Value = \$1442825.18, Sharpe Ratio = -22.28

Simulation Run = 6310

Weights = [0.011 0.09 0.041 0.192 0.138 0.15 0.159 0.043 0.176], Final Value = \$1511468.12, Sharpe Ratio = -18.15

Simulation Run = 6311
Weights = [0.095 0.194 0.154 0.073 0.098 0.086 0.079 0.155 0.067], Final Value =
\$1494685.02, Sharpe Ratio = -20.57

Simulation Run = 6312
Weights = [0.083 0.005 0.101 0.009 0.08 0.199 0.24 0.223 0.061], Final Value =
\$1586973.61, Sharpe Ratio = -12.50

Simulation Run = 6313
Weights = [0.014 0.233 0.002 0.014 0.136 0.246 0.216 0.006 0.134], Final Value =
\$1518971.17, Sharpe Ratio = -14.90

Simulation Run = 6314
Weights = [0.02 0.196 0.07 0.099 0.093 0.169 0.121 0.083 0.149], Final Value =
\$1475086.96, Sharpe Ratio = -19.40

Simulation Run = 6315
Weights = [0.198 0.104 0.109 0.046 0.178 0.1 0.185 0.003 0.076], Final Value =
\$1557906.28, Sharpe Ratio = -15.97

Simulation Run = 6316
Weights = [0.121 0.05 0.032 0.155 0.055 0.19 0.177 0.059 0.162], Final Value =
\$1542979.08, Sharpe Ratio = -15.37

Simulation Run = 6317
Weights = [0.072 0.18 0.006 0.053 0.061 0.225 0.133 0.227 0.043], Final Value =
\$1612127.71, Sharpe Ratio = -16.18

Simulation Run = 6318
Weights = [0.131 0.075 0.18 0.181 0.06 0.053 0.135 0.005 0.18], Final Value =
\$1418412.25, Sharpe Ratio = -18.10

Simulation Run = 6319
Weights = [0.123 0.137 0.06 0.131 0.149 0.138 0.005 0.156 0.102], Final Value =
\$1571993.66, Sharpe Ratio = -23.53

Simulation Run = 6320
Weights = [0.164 0.047 0.243 0.062 0.15 0.083 0.118 0.028 0.105], Final Value =

\$1481095.52, Sharpe Ratio = -17.01

Simulation Run = 6321

Weights = [0.08 0.011 0.082 0.054 0.166 0.133 0.149 0.162 0.164], Final Value = \$1512970.55, Sharpe Ratio = -17.45

Simulation Run = 6322

Weights = [0.163 0.065 0.045 0.131 0.105 0.277 0.023 0.107 0.085], Final Value = \$1657989.82, Sharpe Ratio = -17.28

Simulation Run = 6323

Weights = [0.209 0.145 0.193 0.103 0.087 0.118 0.112 0.024 0.008], Final Value = \$1574601.45, Sharpe Ratio = -16.48

Simulation Run = 6324

Weights = [0.079 0.144 0.028 0.079 0.11 0.188 0.11 0.097 0.165], Final Value = \$1509700.53, Sharpe Ratio = -19.13

Simulation Run = 6325

Weights = [0.052 0.145 0.164 0.093 0.067 0.228 0.052 0.186 0.013], Final Value = \$1595308.99, Sharpe Ratio = -16.99

Simulation Run = 6326

Weights = [0.246 0.027 0.098 0.053 0.153 0.108 0.145 0.098 0.071], Final Value = \$1598042.72, Sharpe Ratio = -16.16

Simulation Run = 6327

Weights = [0.14 0.064 0.146 0.152 0.053 0.113 0.074 0.134 0.123], Final Value = \$1507084.51, Sharpe Ratio = -18.87

Simulation Run = 6328

Weights = [0.042 0.172 0.081 0.008 0.166 0.097 0.128 0.138 0.168], Final Value = \$1435682.21, Sharpe Ratio = -20.91

Simulation Run = 6329

Weights = [0.126 0.078 0.154 0.055 0.141 0.043 0.169 0.146 0.088], Final Value = \$1498110.77, Sharpe Ratio = -16.87

Simulation Run = 6330
Weights = [0.188 0.071 0.016 0.017 0.095 0.154 0.155 0.201 0.103], Final Value =
\$1577554.61, Sharpe Ratio = -16.00

Simulation Run = 6331
Weights = [0.079 0.209 0.014 0.109 0.103 0.076 0.198 0.136 0.075], Final Value =
\$1535809.47, Sharpe Ratio = -17.22

Simulation Run = 6332
Weights = [0.053 0.198 0.094 0.172 0.173 0.055 0.194 0.017 0.044], Final Value =
\$1550252.45, Sharpe Ratio = -17.38

Simulation Run = 6333
Weights = [0.036 0.044 0.144 0.012 0.216 0.125 0.142 0.192 0.089], Final Value =
\$1537481.64, Sharpe Ratio = -17.34

Simulation Run = 6334
Weights = [0.17 0.185 0.098 0.127 0.019 0.172 0.11 0.053 0.067], Final Value =
\$1553075.65, Sharpe Ratio = -17.16

Simulation Run = 6335
Weights = [0.169 0.057 0.163 0.175 0.048 0.224 0.034 0.006 0.123], Final Value =
\$1551983.66, Sharpe Ratio = -17.33

Simulation Run = 6336
Weights = [0.052 0.231 0.177 0.134 0.113 0.047 0.13 0.047 0.069], Final Value =
\$1462473.91, Sharpe Ratio = -19.53

Simulation Run = 6337
Weights = [0.156 0.011 0.144 0.09 0.164 0.058 0.163 0.151 0.063], Final Value =
\$1567250.37, Sharpe Ratio = -16.19

Simulation Run = 6338
Weights = [0.09 0.221 0.025 0.175 0.062 0.017 0.218 0.178 0.014], Final Value =
\$1565774.67, Sharpe Ratio = -16.24

Simulation Run = 6339
Weights = [0.194 0.091 0.032 0.063 0.118 0.169 0.189 0.096 0.048], Final Value =
\$1632712.07, Sharpe Ratio = -14.65

Simulation Run = 6340
Weights = [0.22 0.118 0.188 0.08 0.038 0.104 0.036 0.13 0.087], Final Value =
\$1501198.39, Sharpe Ratio = -19.10

Simulation Run = 6341
Weights = [0.061 0.171 0.155 0.146 0.15 0.031 0.123 0.15 0.013], Final Value =
\$1547398.87, Sharpe Ratio = -19.14

Simulation Run = 6342
Weights = [0.28 0.025 0.131 0.033 0.075 0.013 0.126 0.231 0.087], Final Value =
\$1522254.72, Sharpe Ratio = -16.95

Simulation Run = 6343
Weights = [0.201 0.132 0.182 0.065 0.207 0.107 0.046 0.057 0.002], Final Value =
\$1608393.34, Sharpe Ratio = -19.43

Simulation Run = 6344
Weights = [0.014 0.02 0.189 0.08 0.052 0.042 0.178 0.21 0.214], Final Value =
\$1353162.52, Sharpe Ratio = -16.67

Simulation Run = 6345
Weights = [0.125 0.044 0.155 0.124 0.201 0.053 0.173 0.09 0.034], Final Value =
\$1586351.38, Sharpe Ratio = -16.18

Simulation Run = 6346
Weights = [0.112 0.083 0.267 0.127 0.003 0.014 0.202 0.105 0.087], Final Value =
\$1416305.70, Sharpe Ratio = -14.31

Simulation Run = 6347
Weights = [0.04 0.036 0.262 0.055 0.02 0.185 0.086 0.194 0.12], Final Value =
\$1450587.08, Sharpe Ratio = -15.77

Simulation Run = 6348
Weights = [0.04 0.054 0.149 0.074 0.085 0.152 0.152 0.119 0.175], Final Value =
\$1447199.20, Sharpe Ratio = -16.64

Simulation Run = 6349

Weights = [0.128 0.113 0.141 0.109 0.15 0.16 0.001 0.134 0.064], Final Value = \$1582888.39, Sharpe Ratio = -20.82

Simulation Run = 6350

Weights = [0.112 0.137 0.118 0.096 0.152 0.133 0.068 0.032 0.153], Final Value = \$1486452.65, Sharpe Ratio = -21.61

Simulation Run = 6351

Weights = [0.175 0.186 0.007 0.117 0.128 0.049 0.114 0.043 0.18], Final Value = \$1470204.44, Sharpe Ratio = -22.60

Simulation Run = 6352

Weights = [0.077 0.196 0.176 0.158 0.056 0.029 0.153 0.028 0.128], Final Value = \$1407781.61, Sharpe Ratio = -18.51

Simulation Run = 6353

Weights = [0.134 0.12 0.14 0.085 0.104 0.047 0.084 0.275 0.01], Final Value = \$1568972.00, Sharpe Ratio = -19.19

Simulation Run = 6354

Weights = [0.24 0.043 0.019 0.154 0.05 0.033 0.163 0.191 0.108], Final Value = \$1561764.46, Sharpe Ratio = -16.80

Simulation Run = 6355

Weights = [0.013 0.093 0.006 0.158 0.251 0.031 0.229 0.054 0.166], Final Value = \$1506294.53, Sharpe Ratio = -17.47

Simulation Run = 6356

Weights = [0.032 0.009 0.1 0.02 0.206 0.037 0.254 0.311 0.031], Final Value = \$1577243.65, Sharpe Ratio = -14.07

Simulation Run = 6357

Weights = [0.118 0.074 0.057 0.119 0.004 0.199 0.09 0.144 0.194], Final Value = \$1486927.16, Sharpe Ratio = -17.84

Simulation Run = 6358

Weights = [0.052 0.004 0.271 0.076 0.084 0.227 0.038 0.218 0.032], Final Value = \$1574805.38, Sharpe Ratio = -15.31

Simulation Run = 6359
Weights = [0.195 0.103 0.089 0.089 0.058 0.103 0.159 0.053 0.152], Final Value =
\$1481861.45, Sharpe Ratio = -16.94

Simulation Run = 6360
Weights = [0.005 0.144 0.149 0.096 0.114 0.145 0.116 0.165 0.065], Final Value =
\$1524853.37, Sharpe Ratio = -18.07

Simulation Run = 6361
Weights = [0.17 0.032 0.039 0.124 0.144 0.095 0.254 0.05 0.091], Final Value =
\$1591018.22, Sharpe Ratio = -13.85

Simulation Run = 6362
Weights = [0.018 0.135 0.188 0.18 0.008 0.132 0.195 0.144 0.001], Final Value =
\$1552312.03, Sharpe Ratio = -14.02

Simulation Run = 6363
Weights = [0.076 0.144 0.062 0.21 0.085 0.097 0.211 0.019 0.096], Final Value =
\$1537144.68, Sharpe Ratio = -15.92

Simulation Run = 6364
Weights = [0.08 0.13 0.108 0.022 0.155 0.158 0.115 0.1 0.132], Final Value =
\$1497623.38, Sharpe Ratio = -18.84

Simulation Run = 6365
Weights = [0.034 0.156 0.193 0.114 0.073 0.205 0.079 0.023 0.122], Final Value =
\$1473907.96, Sharpe Ratio = -18.00

Simulation Run = 6366
Weights = [0.116 0.153 0.189 0.085 0.147 0.178 0.041 0.079 0.012], Final Value =
\$1593076.49, Sharpe Ratio = -18.52

Simulation Run = 6367
Weights = [0.065 0.197 0.007 0.087 0.083 0.195 0.145 0.168 0.052], Final Value =
\$1598181.20, Sharpe Ratio = -16.87

Simulation Run = 6368
Weights = [0.09 0.156 0.055 0.169 0.153 0.081 0.119 0.134 0.044], Final Value =

\$1594048.37, Sharpe Ratio = -19.89

Simulation Run = 6369

Weights = [0.056 0.099 0.213 0.162 0.054 0.087 0.173 0.013 0.143], Final Value = \$1421971.15, Sharpe Ratio = -16.10

Simulation Run = 6370

Weights = [0.175 0.015 0.155 0.165 0.188 0.065 0.023 0.184 0.028], Final Value = \$1629541.24, Sharpe Ratio = -19.89

Simulation Run = 6371

Weights = [0.216 0.072 0.061 0.057 0.084 0.1 0.134 0.092 0.185], Final Value = \$1476559.75, Sharpe Ratio = -18.13

Simulation Run = 6372

Weights = [0.212 0.019 0.101 0.092 0.205 0.119 0.031 0.156 0.063], Final Value = \$1634084.44, Sharpe Ratio = -19.91

Simulation Run = 6373

Weights = [0.107 0.021 0.083 0.123 0.139 0.168 0.168 0.072 0.119], Final Value = \$1571960.58, Sharpe Ratio = -15.73

Simulation Run = 6374

Weights = [0.058 0.121 0.203 0.074 0.258 0.063 0.088 0.032 0.104], Final Value = \$1484037.98, Sharpe Ratio = -21.02

Simulation Run = 6375

Weights = [0.064 0.038 0.165 0.011 0.16 0.156 0.11 0.12 0.175], Final Value = \$1457647.53, Sharpe Ratio = -18.12

Simulation Run = 6376

Weights = [0.134 0.155 0.2 0.034 0.127 0.151 0.037 0.104 0.059], Final Value = \$1524719.74, Sharpe Ratio = -19.44

Simulation Run = 6377

Weights = [0.092 0.164 0.152 0.066 0.068 0.142 0.128 0.133 0.056], Final Value = \$1520692.55, Sharpe Ratio = -17.05

Simulation Run = 6378
Weights = [0.111 0.154 0.017 0.205 0.168 0.086 0.034 0.093 0.131], Final Value =
\$1556004.76, Sharpe Ratio = -25.81

Simulation Run = 6379
Weights = [0.178 0.067 0.013 0.125 0.131 0.094 0.099 0.022 0.271], Final Value =
\$1440980.91, Sharpe Ratio = -22.01

Simulation Run = 6380
Weights = [0.121 0.003 0.187 0.17 0.01 0.204 0.039 0.175 0.09], Final Value =
\$1562991.83, Sharpe Ratio = -16.26

Simulation Run = 6381
Weights = [0.078 0.064 0.142 0.08 0.208 0.152 0.118 0.016 0.143], Final Value =
\$1513393.89, Sharpe Ratio = -18.51

Simulation Run = 6382
Weights = [0.122 0.122 0.215 0.098 0.118 0.052 0.174 0.045 0.054], Final Value =
\$1494329.24, Sharpe Ratio = -16.01

Simulation Run = 6383
Weights = [0.191 0.034 0.163 0.005 0.044 0.066 0.21 0.225 0.061], Final Value =
\$1514180.38, Sharpe Ratio = -13.83

Simulation Run = 6384
Weights = [0.099 0.162 0.059 0.038 0.133 0.178 0.198 0.081 0.052], Final Value =
\$1582690.29, Sharpe Ratio = -15.10

Simulation Run = 6385
Weights = [0.183 0.015 0.036 0.075 0.08 0.175 0.109 0.167 0.16], Final Value =
\$1552845.26, Sharpe Ratio = -17.12

Simulation Run = 6386
Weights = [0.133 0.075 0.176 0.068 0.153 0.213 0.013 0.151 0.018], Final Value =
\$1631173.47, Sharpe Ratio = -17.72

Simulation Run = 6387
Weights = [0.121 0.138 0.165 0.082 0.105 0.022 0.156 0.099 0.113], Final Value =
\$1443144.96, Sharpe Ratio = -18.12

Simulation Run = 6388
Weights = [0.057 0.182 0.149 0.025 0.156 0.127 0.094 0.174 0.036], Final Value =
\$1538611.81, Sharpe Ratio = -19.33

Simulation Run = 6389
Weights = [0.129 0.073 0.12 0.072 0.121 0.112 0.065 0.131 0.177], Final Value =
\$1466193.23, Sharpe Ratio = -21.16

Simulation Run = 6390
Weights = [0.055 0.07 0.006 0.292 0.208 0.122 0.075 0.077 0.095], Final Value =
\$1644829.81, Sharpe Ratio = -21.45

Simulation Run = 6391
Weights = [0.163 0.188 0.071 0.182 0.038 0.056 0.162 0.021 0.119], Final Value =
\$1486247.26, Sharpe Ratio = -18.16

Simulation Run = 6392
Weights = [0.188 0.044 0.196 0.068 0.141 0.058 0.155 0.051 0.097], Final Value =
\$1499729.16, Sharpe Ratio = -16.35

Simulation Run = 6393
Weights = [0.071 0.135 0.052 0.043 0.075 0.192 0.211 0.148 0.072], Final Value =
\$1563394.20, Sharpe Ratio = -14.28

Simulation Run = 6394
Weights = [0.015 0.067 0.176 0.132 0.101 0.174 0.188 0.137 0.01], Final Value =
\$1594998.65, Sharpe Ratio = -14.00

Simulation Run = 6395
Weights = [0.148 0.188 0.014 0.059 0.165 0.064 0.097 0.155 0.111], Final Value =
\$1528935.15, Sharpe Ratio = -22.62

Simulation Run = 6396
Weights = [0.197 0.048 0.138 0.03 0.194 0.141 0.122 0.025 0.106], Final Value =
\$1554223.23, Sharpe Ratio = -17.22

Simulation Run = 6397

Weights = [0.083 0. 0.165 0.09 0.121 0.137 0.196 0.112 0.095], Final Value = \$1536306.36, Sharpe Ratio = -14.42

Simulation Run = 6398

Weights = [0.024 0.088 0.111 0.11 0.084 0.068 0.169 0.168 0.179], Final Value = \$1422716.31, Sharpe Ratio = -18.01

Simulation Run = 6399

Weights = [0.202 0.084 0.101 0.055 0.129 0.174 0.06 0.15 0.046], Final Value = \$1621484.96, Sharpe Ratio = -17.92

Simulation Run = 6400

Weights = [0.125 0.04 0.122 0.15 0.183 0.159 0.054 0.046 0.122], Final Value = \$1570524.08, Sharpe Ratio = -19.87

Simulation Run = 6401

Weights = [0.025 0.138 0.179 0.146 0.155 0.085 0.075 0.096 0.101], Final Value = \$1485555.40, Sharpe Ratio = -21.07

Simulation Run = 6402

Weights = [0.088 0.148 0.029 0.102 0.168 0.12 0.058 0.141 0.146], Final Value = \$1525303.23, Sharpe Ratio = -23.82

Simulation Run = 6403

Weights = [0.139 0.138 0.19 0.016 0.061 0.009 0.165 0.137 0.144], Final Value = \$1379429.00, Sharpe Ratio = -17.42

Simulation Run = 6404

Weights = [0.014 0.235 0.089 0.23 0.061 0.089 0.178 0.024 0.081], Final Value = \$1500561.46, Sharpe Ratio = -17.66

Simulation Run = 6405

Weights = [0.123 0.06 0.179 0.048 0.137 0.191 0.161 0.019 0.082], Final Value = \$1548302.18, Sharpe Ratio = -14.90

Simulation Run = 6406

Weights = [0.036 0.16 0.176 0.14 0.004 0.072 0.198 0.166 0.048], Final Value = \$1480047.46, Sharpe Ratio = -15.10

Simulation Run = 6407
Weights = [0.098 0.005 0.035 0.15 0.171 0.115 0.164 0.18 0.082], Final Value =
\$1623166.50, Sharpe Ratio = -16.62

Simulation Run = 6408
Weights = [0.108 0.084 0.15 0.075 0.082 0.16 0.145 0.072 0.124], Final Value =
\$1496320.42, Sharpe Ratio = -16.28

Simulation Run = 6409
Weights = [0.04 0.004 0.16 0.035 0.098 0.163 0.195 0.192 0.113], Final Value =
\$1508172.50, Sharpe Ratio = -14.29

Simulation Run = 6410
Weights = [0.129 0.127 0.044 0.155 0.113 0.131 0.006 0.14 0.154], Final Value =
\$1530188.24, Sharpe Ratio = -24.27

Simulation Run = 6411
Weights = [0.091 0.146 0.128 0.166 0.193 0.001 0.042 0.015 0.218], Final Value =
\$1396294.37, Sharpe Ratio = -27.41

Simulation Run = 6412
Weights = [0.16 0.19 0.055 0.185 0.033 0.063 0.189 0.069 0.057], Final Value =
\$1547115.60, Sharpe Ratio = -16.43

Simulation Run = 6413
Weights = [0.043 0.101 0.023 0.2 0.072 0.201 0.253 0.003 0.104], Final Value =
\$1582301.53, Sharpe Ratio = -13.39

Simulation Run = 6414
Weights = [0.011 0.113 0.198 0.017 0.187 0.031 0.007 0.202 0.234], Final Value =
\$1332106.35, Sharpe Ratio = -26.75

Simulation Run = 6415
Weights = [0.094 0.146 0.249 0.045 0.214 0.049 0.008 0.168 0.027], Final Value =
\$1516356.19, Sharpe Ratio = -21.50

Simulation Run = 6416
Weights = [0.15 0.03 0.047 0.168 0.155 0.131 0.111 0.101 0.108], Final Value =

\$1605214.25, Sharpe Ratio = -18.40

Simulation Run = 6417

Weights = [0.03 0.155 0.082 0.08 0.246 0.01 0.203 0.017 0.176], Final Value = \$1426604.87, Sharpe Ratio = -18.85

Simulation Run = 6418

Weights = [0.052 0.006 0.103 0.088 0.247 0.116 0.078 0.145 0.165], Final Value = \$1524133.33, Sharpe Ratio = -21.28

Simulation Run = 6419

Weights = [0.094 0.033 0.025 0.079 0.185 0.155 0.171 0.13 0.128], Final Value = \$1580466.74, Sharpe Ratio = -16.51

Simulation Run = 6420

Weights = [0.092 0.078 0.075 0.116 0.105 0.037 0.15 0.193 0.153], Final Value = \$1471678.14, Sharpe Ratio = -19.09

Simulation Run = 6421

Weights = [0.034 0.14 0.165 0.053 0.15 0.138 0.149 0.137 0.033], Final Value = \$1546764.39, Sharpe Ratio = -16.65

Simulation Run = 6422

Weights = [0.091 0.168 0.078 0.205 0.199 0.041 0.081 0.068 0.068], Final Value = \$1566042.86, Sharpe Ratio = -23.12

Simulation Run = 6423

Weights = [0.078 0.191 0.12 0.162 0.052 0.147 0.133 0.025 0.092], Final Value = \$1508896.58, Sharpe Ratio = -17.74

Simulation Run = 6424

Weights = [0.211 0.09 0.014 0.171 0.093 0.184 0.119 0.078 0.041], Final Value = \$1676353.75, Sharpe Ratio = -16.33

Simulation Run = 6425

Weights = [0.081 0. 0.027 0.195 0.162 0.187 0.156 0.082 0.109], Final Value = \$1633766.27, Sharpe Ratio = -16.10

Simulation Run = 6426
Weights = [0.106 0.222 0.085 0.223 0.017 0.015 0.004 0.103 0.224], Final Value =
\$1368053.75, Sharpe Ratio = -28.67

Simulation Run = 6427
Weights = [0.126 0.144 0.063 0.262 0.001 0.259 0.012 0.092 0.042], Final Value =
\$1656441.23, Sharpe Ratio = -17.38

Simulation Run = 6428
Weights = [0.084 0.132 0.094 0.091 0.154 0.057 0.034 0.172 0.183], Final Value =
\$1442813.09, Sharpe Ratio = -26.32

Simulation Run = 6429
Weights = [0.089 0.124 0.17 0.032 0.026 0.032 0.185 0.078 0.264], Final Value =
\$1278089.31, Sharpe Ratio = -17.42

Simulation Run = 6430
Weights = [0.077 0.046 0.172 0.138 0.204 0.035 0.116 0.194 0.02], Final Value =
\$1585926.70, Sharpe Ratio = -18.16

Simulation Run = 6431
Weights = [0.112 0.02 0.168 0.058 0.055 0.137 0.138 0.199 0.112], Final Value =
\$1501718.69, Sharpe Ratio = -15.77

Simulation Run = 6432
Weights = [0.02 0.028 0.251 0.127 0.106 0.168 0.129 0.07 0.101], Final Value =
\$1496965.07, Sharpe Ratio = -15.51

Simulation Run = 6433
Weights = [0.117 0.007 0.152 0.02 0.237 0.01 0.095 0.175 0.187], Final Value =
\$1439204.57, Sharpe Ratio = -21.44

Simulation Run = 6434
Weights = [0.217 0.063 0.125 0.134 0.088 0.104 0.183 0.072 0.014], Final Value =
\$1619359.86, Sharpe Ratio = -14.54

Simulation Run = 6435
Weights = [0.211 0.004 0.039 0.111 0.2 0.162 0.077 0.146 0.05], Final Value =
\$1690400.21, Sharpe Ratio = -17.79

Simulation Run = 6436
Weights = [0.117 0.002 0.119 0.053 0.144 0.189 0.041 0.186 0.149], Final Value =
\$1541095.72, Sharpe Ratio = -19.02

Simulation Run = 6437
Weights = [0.156 0.086 0.051 0.14 0.146 0.168 0.159 0.072 0.021], Final Value =
\$1667315.96, Sharpe Ratio = -15.65

Simulation Run = 6438
Weights = [0.104 0.173 0.133 0.081 0.119 0.012 0.195 0.084 0.1], Final Value =
\$1452320.57, Sharpe Ratio = -17.28

Simulation Run = 6439
Weights = [0.072 0.077 0.141 0.047 0.139 0.033 0.11 0.128 0.254], Final Value =
\$1346315.68, Sharpe Ratio = -21.96

Simulation Run = 6440
Weights = [0.069 0.178 0.234 0.002 0.162 0.208 0.067 0.021 0.059], Final Value =
\$1511851.94, Sharpe Ratio = -17.80

Simulation Run = 6441
Weights = [0.007 0.148 0.089 0.107 0.17 0.155 0.101 0.119 0.103], Final Value =
\$1536043.85, Sharpe Ratio = -20.08

Simulation Run = 6442
Weights = [0.113 0.207 0.09 0.077 0.098 0.033 0.114 0.164 0.104], Final Value =
\$1466948.02, Sharpe Ratio = -21.42

Simulation Run = 6443
Weights = [0.065 0.096 0.111 0.174 0.187 0.087 0.1 0.056 0.126], Final Value =
\$1522243.66, Sharpe Ratio = -20.95

Simulation Run = 6444
Weights = [0.083 0.148 0.085 0.138 0.095 0.144 0.187 0.056 0.064], Final Value =
\$1562978.94, Sharpe Ratio = -15.78

Simulation Run = 6445

Weights = [0.001 0.29 0.08 0.295 0.036 0.06 0.161 0.059 0.018], Final Value = \$1541460.81, Sharpe Ratio = -18.22

Simulation Run = 6446

Weights = [0.1 0.106 0.156 0.149 0.115 0.144 0.098 0.071 0.061], Final Value = \$1562983.77, Sharpe Ratio = -17.84

Simulation Run = 6447

Weights = [0.224 0.067 0.077 0.049 0.023 0.061 0.098 0.224 0.176], Final Value = \$1454316.24, Sharpe Ratio = -19.18

Simulation Run = 6448

Weights = [0.097 0.193 0.063 0.025 0.085 0.064 0.158 0.12 0.196], Final Value = \$1392053.40, Sharpe Ratio = -19.62

Simulation Run = 6449

Weights = [0.066 0.104 0.17 0.137 0.136 0.037 0.125 0.144 0.081], Final Value = \$1496689.93, Sharpe Ratio = -18.87

Simulation Run = 6450

Weights = [0.059 0.075 0.165 0.022 0.182 0.138 0.093 0.084 0.183], Final Value = \$1440794.92, Sharpe Ratio = -19.92

Simulation Run = 6451

Weights = [0.027 0.194 0.065 0.035 0.315 0.105 0.008 0.152 0.099], Final Value = \$1548598.53, Sharpe Ratio = -27.29

Simulation Run = 6452

Weights = [0.03 0.032 0.114 0.16 0.251 0.071 0.035 0.249 0.057], Final Value = \$1608599.38, Sharpe Ratio = -22.18

Simulation Run = 6453

Weights = [0.1 0.09 0.206 0.027 0.286 0.101 0.024 0.064 0.102], Final Value = \$1515160.45, Sharpe Ratio = -22.08

Simulation Run = 6454

Weights = [0.059 0.069 0.127 0.191 0.16 0.042 0.197 0.114 0.041], Final Value = \$1572510.78, Sharpe Ratio = -15.97

Simulation Run = 6455
Weights = [0.201 0.031 0.12 0.107 0.107 0.065 0.013 0.265 0.091], Final Value =
\$1558562.97, Sharpe Ratio = -21.07

Simulation Run = 6456
Weights = [0.047 0.139 0.028 0.069 0.17 0.218 0.209 0.036 0.085], Final Value =
\$1592683.78, Sharpe Ratio = -14.83

Simulation Run = 6457
Weights = [0.052 0.164 0.053 0.156 0.014 0.147 0.104 0.153 0.158], Final Value =
\$1474079.02, Sharpe Ratio = -19.63

Simulation Run = 6458
Weights = [0.011 0.172 0.124 0.17 0.188 0.055 0.089 0.03 0.161], Final Value =
\$1444109.31, Sharpe Ratio = -23.80

Simulation Run = 6459
Weights = [0.051 0.157 0.029 0.145 0.049 0.062 0.177 0.149 0.182], Final Value =
\$1436188.89, Sharpe Ratio = -18.61

Simulation Run = 6460
Weights = [0.065 0.159 0.086 0.203 0.03 0.081 0.056 0.127 0.195], Final Value =
\$1424206.77, Sharpe Ratio = -23.71

Simulation Run = 6461
Weights = [0.193 0.032 0.182 0.031 0.032 0.069 0.137 0.142 0.183], Final Value =
\$1406612.33, Sharpe Ratio = -16.77

Simulation Run = 6462
Weights = [0.167 0.185 0.091 0.051 0.043 0.099 0.131 0.156 0.077], Final Value =
\$1510030.53, Sharpe Ratio = -17.93

Simulation Run = 6463
Weights = [0.118 0.164 0.141 0.175 0.118 0.056 0.13 0.063 0.033], Final Value =
\$1552565.80, Sharpe Ratio = -18.42

Simulation Run = 6464
Weights = [0.087 0.012 0.003 0.01 0.109 0.158 0.217 0.196 0.208], Final Value =

\$1489529.19, Sharpe Ratio = -14.87

Simulation Run = 6465

Weights = [0.082 0.222 0.071 0.066 0.068 0.075 0.215 0.04 0.161], Final Value = \$1412441.58, Sharpe Ratio = -16.78

Simulation Run = 6466

Weights = [0.244 0.077 0.257 0.092 0.039 0.086 0.096 0.092 0.017], Final Value = \$1540364.22, Sharpe Ratio = -15.61

Simulation Run = 6467

Weights = [0.017 0.261 0.005 0.125 0.179 0.116 0.012 0.156 0.129], Final Value = \$1516768.29, Sharpe Ratio = -28.76

Simulation Run = 6468

Weights = [0.131 0.086 0.104 0.192 0.052 0.014 0.145 0.143 0.133], Final Value = \$1476277.91, Sharpe Ratio = -18.50

Simulation Run = 6469

Weights = [0.187 0.047 0.029 0.057 0.238 0.136 0.07 0.126 0.111], Final Value = \$1613283.50, Sharpe Ratio = -20.38

Simulation Run = 6470

Weights = [0.179 0.131 0.083 0.133 0.164 0.028 0.033 0.087 0.163], Final Value = \$1480307.71, Sharpe Ratio = -25.95

Simulation Run = 6471

Weights = [0.214 0.058 0.145 0.004 0.032 0.24 0.174 0.127 0.006], Final Value = \$1629095.86, Sharpe Ratio = -12.64

Simulation Run = 6472

Weights = [0.01 0.228 0.103 0.138 0.196 0.015 0.003 0.159 0.148], Final Value = \$1436203.79, Sharpe Ratio = -30.38

Simulation Run = 6473

Weights = [0.18 0.153 0.058 0.09 0.137 0.049 0.117 0.046 0.171], Final Value = \$1463526.32, Sharpe Ratio = -21.52

Simulation Run = 6474
Weights = [0.047 0.168 0.073 0.253 0.144 0.164 0.069 0.063 0.018], Final Value =
\$1647376.32, Sharpe Ratio = -19.72

Simulation Run = 6475
Weights = [0.051 0.098 0.129 0.205 0.049 0.127 0.193 0.039 0.109], Final Value =
\$1508165.25, Sharpe Ratio = -15.35

Simulation Run = 6476
Weights = [0.04 0.042 0.11 0.101 0.193 0.169 0.175 0.113 0.056], Final Value =
\$1608153.80, Sharpe Ratio = -15.47

Simulation Run = 6477
Weights = [0.166 0.022 0.129 0.138 0.12 0.1 0.118 0.023 0.184], Final Value =
\$1480441.11, Sharpe Ratio = -18.49

Simulation Run = 6478
Weights = [0.13 0.184 0.154 0.022 0.127 0.143 0.165 0.068 0.007], Final Value =
\$1565364.79, Sharpe Ratio = -15.72

Simulation Run = 6479
Weights = [0.252 0.131 0.124 0.014 0.033 0.142 0.149 0.04 0.113], Final Value =
\$1496038.41, Sharpe Ratio = -15.70

Simulation Run = 6480
Weights = [0.097 0.119 0.025 0.175 0.052 0.148 0.15 0.102 0.132], Final Value =
\$1538926.35, Sharpe Ratio = -17.41

Simulation Run = 6481
Weights = [0.213 0.036 0.067 0.201 0.237 0.045 0.051 0.081 0.07], Final Value =
\$1638608.88, Sharpe Ratio = -21.69

Simulation Run = 6482
Weights = [0.187 0.104 0.016 0.035 0.062 0.181 0.071 0.134 0.21], Final Value =
\$1484614.37, Sharpe Ratio = -19.53

Simulation Run = 6483
Weights = [0.068 0.168 0.139 0.064 0.187 0.115 0.116 0.093 0.05], Final Value =
\$1545244.37, Sharpe Ratio = -19.10

Simulation Run = 6484
Weights = [0.096 0.153 0.095 0.178 0.066 0.04 0.105 0.14 0.128], Final Value =
\$1471299.96, Sharpe Ratio = -21.15

Simulation Run = 6485
Weights = [0.259 0.013 0.111 0.04 0.24 0.161 0.018 0.12 0.038], Final Value =
\$1674889.85, Sharpe Ratio = -18.63

Simulation Run = 6486
Weights = [0.22 0.29 0.074 0.049 0.009 0.104 0.096 0.155 0.001], Final Value =
\$1559057.48, Sharpe Ratio = -18.63

Simulation Run = 6487
Weights = [0.218 0.069 0.178 0.041 0.2 0.057 0.045 0.009 0.183], Final Value =
\$1444456.77, Sharpe Ratio = -22.26

Simulation Run = 6488
Weights = [0.047 0.155 0.027 0.127 0.241 0.108 0.057 0.015 0.223], Final Value =
\$1465594.71, Sharpe Ratio = -26.86

Simulation Run = 6489
Weights = [0.039 0.064 0.124 0.163 0.011 0.291 0.062 0.169 0.076], Final Value =
\$1599824.76, Sharpe Ratio = -15.41

Simulation Run = 6490
Weights = [0.142 0.13 0.109 0.173 0.156 0.033 0.149 0.066 0.043], Final Value =
\$1569200.40, Sharpe Ratio = -18.27

Simulation Run = 6491
Weights = [0.118 0.193 0.09 0.149 0.016 0.174 0.002 0.084 0.173], Final Value =
\$1463472.28, Sharpe Ratio = -22.51

Simulation Run = 6492
Weights = [0.092 0.073 0.14 0.143 0.138 0.157 0.12 0.075 0.062], Final Value =
\$1584772.81, Sharpe Ratio = -17.00

Simulation Run = 6493

Weights = [0.173 0.074 0.137 0.09 0.14 0.017 0.17 0.021 0.177], Final Value = \$1431453.21, Sharpe Ratio = -17.95

Simulation Run = 6494

Weights = [0.106 0.002 0.001 0.041 0.148 0.209 0.049 0.226 0.218], Final Value = \$1533474.09, Sharpe Ratio = -19.86

Simulation Run = 6495

Weights = [0.2 0.164 0.199 0.025 0.012 0.049 0.115 0.228 0.007], Final Value = \$1509028.48, Sharpe Ratio = -16.68

Simulation Run = 6496

Weights = [0.129 0.121 0.155 0.094 0.154 0.155 0.105 0.037 0.049], Final Value = \$1575368.58, Sharpe Ratio = -17.64

Simulation Run = 6497

Weights = [0.173 0.078 0.035 0.156 0.129 0.139 0.024 0.165 0.101], Final Value = \$1607655.93, Sharpe Ratio = -21.46

Simulation Run = 6498

Weights = [0.048 0.139 0.027 0.142 0.092 0.18 0.15 0.112 0.109], Final Value = \$1559857.99, Sharpe Ratio = -17.23

Simulation Run = 6499

Weights = [0.244 0.053 0.214 0.116 0.038 0.113 0.148 0.055 0.018], Final Value = \$1574840.25, Sharpe Ratio = -14.31

Simulation Run = 6500

Weights = [0.033 0.107 0.104 0.129 0.101 0.224 0.042 0.097 0.165], Final Value = \$1506879.49, Sharpe Ratio = -19.92

Simulation Run = 6501

Weights = [0.026 0.136 0.132 0.171 0.141 0.002 0.145 0.063 0.183], Final Value = \$1399380.88, Sharpe Ratio = -20.71

Simulation Run = 6502

Weights = [0.084 0.042 0.075 0.066 0.052 0.182 0.217 0.171 0.112], Final Value = \$1542094.59, Sharpe Ratio = -13.76

Simulation Run = 6503
Weights = [0.019 0.015 0.169 0.125 0.151 0.114 0.092 0.18 0.136], Final Value =
\$1497365.83, Sharpe Ratio = -19.01

Simulation Run = 6504
Weights = [0.149 0.089 0.06 0.021 0.157 0.164 0.158 0.132 0.07], Final Value =
\$1596067.06, Sharpe Ratio = -16.09

Simulation Run = 6505
Weights = [0.172 0.027 0.211 0.185 0.208 0.003 0.083 0.013 0.098], Final Value =
\$1520329.02, Sharpe Ratio = -19.44

Simulation Run = 6506
Weights = [0.111 0.05 0.04 0.137 0.047 0.152 0.201 0.187 0.075], Final Value =
\$1595376.36, Sharpe Ratio = -14.43

Simulation Run = 6507
Weights = [0.218 0.147 0.09 0.162 0.056 0.034 0.062 0.204 0.028], Final Value =
\$1580962.22, Sharpe Ratio = -20.37

Simulation Run = 6508
Weights = [0.17 0.109 0.095 0.138 0.067 0.141 0.058 0.133 0.088], Final Value =
\$1564905.40, Sharpe Ratio = -19.37

Simulation Run = 6509
Weights = [0.153 0.258 0.031 0.065 0.17 0.016 0.206 0.019 0.081], Final Value =
\$1504914.71, Sharpe Ratio = -17.92

Simulation Run = 6510
Weights = [0.19 0.013 0.204 0.035 0.219 0.065 0.245 0.021 0.008], Final Value =
\$1592566.13, Sharpe Ratio = -13.14

Simulation Run = 6511
Weights = [0.087 0.109 0.095 0.145 0.158 0.026 0.101 0.121 0.158], Final Value =
\$1466219.47, Sharpe Ratio = -22.54

Simulation Run = 6512
Weights = [0.109 0.145 0.126 0.026 0.038 0.204 0.202 0.077 0.072], Final Value =

\$1527083.19, Sharpe Ratio = -13.84

Simulation Run = 6513

Weights = [0.091 0.177 0.035 0.068 0.103 0.191 0.103 0.05 0.182], Final Value = \$1481620.21, Sharpe Ratio = -19.66

Simulation Run = 6514

Weights = [0.134 0.177 0.173 0.223 0.014 0.016 0.008 0.054 0.2], Final Value = \$1368594.95, Sharpe Ratio = -24.62

Simulation Run = 6515

Weights = [0.147 0.149 0.006 0.215 0.212 0.009 0.009 0.111 0.142], Final Value = \$1544198.15, Sharpe Ratio = -29.10

Simulation Run = 6516

Weights = [0.132 0.128 0.151 0.031 0.133 0.127 0.008 0.175 0.115], Final Value = \$1496465.98, Sharpe Ratio = -22.20

Simulation Run = 6517

Weights = [0.101 0.063 0.061 0.076 0.054 0.214 0.05 0.208 0.173], Final Value = \$1516214.85, Sharpe Ratio = -18.87

Simulation Run = 6518

Weights = [0.17 0.09 0.078 0.238 0.144 0.124 0.04 0.004 0.112], Final Value = \$1587490.04, Sharpe Ratio = -21.51

Simulation Run = 6519

Weights = [0.078 0.153 0.034 0.153 0.103 0.08 0.182 0.152 0.066], Final Value = \$1562715.11, Sharpe Ratio = -17.25

Simulation Run = 6520

Weights = [0.193 0.087 0.01 0.091 0.202 0.198 0.114 0.093 0.012], Final Value = \$1716809.74, Sharpe Ratio = -16.62

Simulation Run = 6521

Weights = [0.135 0.123 0.08 0.099 0.086 0.186 0.083 0.079 0.13], Final Value = \$1533483.56, Sharpe Ratio = -18.76

Simulation Run = 6522
Weights = [0.068 0.033 0.055 0.183 0.216 0.029 0.206 0.179 0.029], Final Value =
\$1632535.74, Sharpe Ratio = -16.08

Simulation Run = 6523
Weights = [0.157 0.138 0.164 0.153 0.084 0.054 0.169 0.074 0.007], Final Value =
\$1563632.06, Sharpe Ratio = -15.90

Simulation Run = 6524
Weights = [0.097 0.031 0.134 0.199 0.043 0.134 0.153 0.065 0.143], Final Value =
\$1505966.19, Sharpe Ratio = -16.05

Simulation Run = 6525
Weights = [0.084 0.107 0.224 0.112 0.113 0.027 0.099 0.096 0.137], Final Value =
\$1413222.46, Sharpe Ratio = -19.71

Simulation Run = 6526
Weights = [0.107 0.153 0.061 0.157 0.172 0.13 0.118 0.094 0.007], Final Value =
\$1648589.05, Sharpe Ratio = -18.47

Simulation Run = 6527
Weights = [0.094 0.07 0.123 0.109 0.148 0.172 0.025 0.194 0.064], Final Value =
\$1600229.54, Sharpe Ratio = -19.68

Simulation Run = 6528
Weights = [0.129 0.078 0.167 0.199 0.022 0.029 0.195 0.096 0.085], Final Value =
\$1490230.88, Sharpe Ratio = -15.22

Simulation Run = 6529
Weights = [0.171 0.145 0.066 0.196 0.125 0.055 0.149 0.008 0.085], Final Value =
\$1556180.69, Sharpe Ratio = -18.65

Simulation Run = 6530
Weights = [0.131 0.176 0.206 0.026 0.185 0.222 0.025 0.003 0.025], Final Value =
\$1583162.47, Sharpe Ratio = -18.35

Simulation Run = 6531
Weights = [0.089 0.168 0.081 0.118 0.008 0.096 0.126 0.151 0.163], Final Value =
\$1434030.51, Sharpe Ratio = -19.32

Simulation Run = 6532
Weights = [0.004 0.06 0.11 0.057 0.216 0.105 0.153 0.1 0.195], Final Value =
\$1448016.27, Sharpe Ratio = -19.06

Simulation Run = 6533
Weights = [0.196 0.015 0.186 0.182 0.045 0. 0.02 0.223 0.133], Final Value =
\$1473180.06, Sharpe Ratio = -20.51

Simulation Run = 6534
Weights = [0.118 0.186 0.087 0.16 0.084 0.204 0.06 0.046 0.057], Final Value =
\$1595403.75, Sharpe Ratio = -18.92

Simulation Run = 6535
Weights = [0.167 0.095 0.143 0.02 0.096 0.063 0.141 0.164 0.111], Final Value =
\$1476107.07, Sharpe Ratio = -17.55

Simulation Run = 6536
Weights = [0.195 0.104 0.085 0.071 0.002 0.07 0.21 0.081 0.183], Final Value =
\$1423316.48, Sharpe Ratio = -15.36

Simulation Run = 6537
Weights = [0.078 0.214 0.133 0.215 0.088 0.025 0.006 0.053 0.189], Final Value =
\$1395155.48, Sharpe Ratio = -27.69

Simulation Run = 6538
Weights = [0.017 0.103 0.228 0.02 0.121 0.092 0.134 0.193 0.094], Final Value =
\$1445425.36, Sharpe Ratio = -17.30

Simulation Run = 6539
Weights = [0.118 0.032 0.02 0.053 0.146 0.191 0.222 0.096 0.122], Final Value =
\$1586613.03, Sharpe Ratio = -14.07

Simulation Run = 6540
Weights = [0.161 0.183 0.085 0.1 0.163 0.016 0.045 0.009 0.238], Final Value =
\$1381834.63, Sharpe Ratio = -28.09

Simulation Run = 6541

Weights = [0.212 0.135 0.139 0.026 0.15 0.075 0.043 0.014 0.206], Final Value = \$1412983.13, Sharpe Ratio = -23.51

Simulation Run = 6542

Weights = [0.087 0.18 0.073 0.127 0.033 0.104 0.16 0.187 0.048], Final Value = \$1545089.22, Sharpe Ratio = -16.92

Simulation Run = 6543

Weights = [0.077 0.124 0.022 0.224 0.011 0.092 0.149 0.195 0.106], Final Value = \$1540373.47, Sharpe Ratio = -17.81

Simulation Run = 6544

Weights = [0.057 0.136 0.095 0.181 0.023 0.183 0.009 0.134 0.182], Final Value = \$1471395.08, Sharpe Ratio = -21.76

Simulation Run = 6545

Weights = [0.099 0.043 0.185 0.021 0.149 0.235 0.039 0.084 0.144], Final Value = \$1513632.19, Sharpe Ratio = -17.89

Simulation Run = 6546

Weights = [0.243 0.049 0.036 0.144 0.19 0.067 0.051 0.131 0.09], Final Value = \$1620710.11, Sharpe Ratio = -21.55

Simulation Run = 6547

Weights = [0.08 0.2 0.218 0.201 0.083 0.041 0.066 0.012 0.098], Final Value = \$1441988.77, Sharpe Ratio = -21.02

Simulation Run = 6548

Weights = [0.079 0.033 0.075 0.197 0.13 0.178 0.071 0.125 0.112], Final Value = \$1597659.78, Sharpe Ratio = -18.86

Simulation Run = 6549

Weights = [0.083 0.069 0.05 0.145 0.139 0.159 0.15 0.119 0.086], Final Value = \$1599878.54, Sharpe Ratio = -16.87

Simulation Run = 6550

Weights = [0.082 0.215 0.164 0.011 0.145 0.013 0.199 0.157 0.013], Final Value = \$1493861.12, Sharpe Ratio = -16.48

Simulation Run = 6551
Weights = [0.017 0.08 0.294 0.045 0.05 0.094 0.205 0.193 0.021], Final Value =
\$1473041.68, Sharpe Ratio = -13.40

Simulation Run = 6552
Weights = [0.041 0.059 0.124 0.119 0.148 0.157 0.159 0.151 0.043], Final Value =
\$1599252.80, Sharpe Ratio = -15.78

Simulation Run = 6553
Weights = [0.047 0.361 0.079 0.057 0.18 0.006 0.228 0.009 0.033], Final Value =
\$1476536.06, Sharpe Ratio = -17.42

Simulation Run = 6554
Weights = [0.125 0.113 0.135 0.088 0.129 0.15 0.102 0.144 0.014], Final Value =
\$1609681.14, Sharpe Ratio = -17.25

Simulation Run = 6555
Weights = [0.073 0.04 0.057 0.187 0.108 0.183 0.141 0.181 0.03], Final Value =
\$1665307.10, Sharpe Ratio = -15.66

Simulation Run = 6556
Weights = [0.119 0.108 0.139 0.147 0.108 0.042 0.119 0.082 0.137], Final Value =
\$1465247.67, Sharpe Ratio = -19.80

Simulation Run = 6557
Weights = [0.025 0.077 0.089 0.01 0.204 0.143 0.033 0.184 0.234], Final Value =
\$1431537.42, Sharpe Ratio = -24.39

Simulation Run = 6558
Weights = [0.135 0.191 0.115 0.09 0.063 0.105 0.115 0.106 0.079], Final Value =
\$1506381.55, Sharpe Ratio = -18.80

Simulation Run = 6559
Weights = [0.117 0.148 0.162 0.087 0.098 0.11 0.051 0.133 0.094], Final Value =
\$1496822.40, Sharpe Ratio = -20.73

Simulation Run = 6560
Weights = [0.051 0.023 0.015 0.046 0.218 0.17 0.236 0.17 0.071], Final Value =

\$1633834.44, Sharpe Ratio = -14.04

Simulation Run = 6561

Weights = [0.029 0.16 0.089 0.166 0.105 0.114 0.142 0.038 0.157], Final Value = \$1465737.65, Sharpe Ratio = -19.33

Simulation Run = 6562

Weights = [0.189 0.077 0.025 0.11 0.067 0.104 0.081 0.205 0.141], Final Value = \$1538460.86, Sharpe Ratio = -20.05

Simulation Run = 6563

Weights = [0.181 0.194 0.01 0.112 0.122 0.055 0.047 0.127 0.152], Final Value = \$1498269.74, Sharpe Ratio = -25.85

Simulation Run = 6564

Weights = [0.156 0.103 0.122 0.151 0.166 0.062 0.123 0.069 0.05], Final Value = \$1578450.54, Sharpe Ratio = -18.61

Simulation Run = 6565

Weights = [0.094 0.165 0.212 0.017 0.057 0.191 0.156 0.049 0.058], Final Value = \$1496321.48, Sharpe Ratio = -14.89

Simulation Run = 6566

Weights = [0.207 0.018 0.09 0.194 0.178 0.098 0.092 0.122 0.002], Final Value = \$1694806.22, Sharpe Ratio = -17.55

Simulation Run = 6567

Weights = [0.046 0.162 0.093 0.052 0.175 0.095 0.187 0.091 0.099], Final Value = \$1501665.41, Sharpe Ratio = -17.41

Simulation Run = 6568

Weights = [0.07 0.141 0.146 0.123 0.112 0.123 0.119 0.05 0.117], Final Value = \$1487494.96, Sharpe Ratio = -18.80

Simulation Run = 6569

Weights = [0.014 0.097 0.151 0.224 0.127 0.03 0.043 0.096 0.218], Final Value = \$1395585.11, Sharpe Ratio = -24.87

Simulation Run = 6570
Weights = [0.088 0.031 0.163 0.023 0.167 0.082 0.199 0.094 0.154], Final Value =
\$1453713.65, Sharpe Ratio = -15.83

Simulation Run = 6571
Weights = [0.019 0.283 0.028 0.058 0.014 0.145 0.132 0.277 0.044], Final Value =
\$1526378.17, Sharpe Ratio = -18.39

Simulation Run = 6572
Weights = [0.081 0.176 0.165 0.05 0.056 0.007 0.139 0.176 0.149], Final Value =
\$1372193.74, Sharpe Ratio = -19.50

Simulation Run = 6573
Weights = [0.19 0.136 0.01 0.103 0.03 0.184 0.132 0.097 0.118], Final Value =
\$1563215.47, Sharpe Ratio = -16.64

Simulation Run = 6574
Weights = [0.051 0.136 0.026 0.211 0.096 0.03 0.106 0.202 0.142], Final Value =
\$1497169.53, Sharpe Ratio = -22.64

Simulation Run = 6575
Weights = [0.032 0.089 0.031 0.094 0.146 0.204 0.138 0.144 0.122], Final Value =
\$1571264.54, Sharpe Ratio = -17.26

Simulation Run = 6576
Weights = [0.074 0.092 0.13 0.091 0.179 0.195 0.006 0.203 0.03], Final Value =
\$1630912.03, Sharpe Ratio = -19.63

Simulation Run = 6577
Weights = [0.139 0.042 0.243 0.035 0.128 0.187 0.062 0.04 0.124], Final Value =
\$1491388.92, Sharpe Ratio = -17.14

Simulation Run = 6578
Weights = [0.031 0.002 0.222 0.076 0.091 0. 0.118 0.236 0.224], Final Value =
\$1336203.10, Sharpe Ratio = -19.14

Simulation Run = 6579
Weights = [0.047 0.217 0.253 0.179 0.073 0.109 0.021 0.068 0.03], Final Value =
\$1498323.63, Sharpe Ratio = -19.79

Simulation Run = 6580
Weights = [0.067 0.142 0.124 0.122 0.151 0.102 0.044 0.135 0.113], Final Value =
\$1506765.75, Sharpe Ratio = -22.99

Simulation Run = 6581
Weights = [0.272 0.001 0.056 0.02 0.151 0.071 0.198 0.084 0.147], Final Value =
\$1535256.66, Sharpe Ratio = -15.33

Simulation Run = 6582
Weights = [0.029 0.188 0.07 0.109 0.113 0.121 0.212 0.003 0.155], Final Value =
\$1455646.07, Sharpe Ratio = -16.57

Simulation Run = 6583
Weights = [0.147 0.168 0.279 0.05 0.067 0.057 0.057 0.084 0.091], Final Value =
\$1414243.83, Sharpe Ratio = -19.18

Simulation Run = 6584
Weights = [0.03 0.135 0.041 0.163 0.076 0. 0.124 0.259 0.173], Final Value =
\$1434530.14, Sharpe Ratio = -22.30

Simulation Run = 6585
Weights = [0.21 0.115 0.05 0.114 0.107 0.158 0.021 0.097 0.128], Final Value =
\$1565775.40, Sharpe Ratio = -21.32

Simulation Run = 6586
Weights = [0.066 0.251 0.018 0.247 0.166 0.022 0.075 0.129 0.027], Final Value =
\$1595795.14, Sharpe Ratio = -24.65

Simulation Run = 6587
Weights = [0.162 0.011 0.161 0.12 0.168 0.117 0.048 0.169 0.043], Final Value =
\$1614744.45, Sharpe Ratio = -18.48

Simulation Run = 6588
Weights = [0.137 0.134 0.174 0.135 0.148 0.027 0.178 0.055 0.012], Final Value =
\$1553890.56, Sharpe Ratio = -16.27

Simulation Run = 6589

Weights = [0.12 0.082 0.117 0.04 0.095 0.172 0.219 0.071 0.083], Final Value = \$1544897.39, Sharpe Ratio = -13.81

Simulation Run = 6590

Weights = [0.115 0.023 0.001 0.204 0.098 0.033 0.228 0.114 0.185], Final Value = \$1503380.85, Sharpe Ratio = -16.01

Simulation Run = 6591

Weights = [0.204 0.045 0.047 0.168 0.115 0.14 0.102 0.112 0.066], Final Value = \$1642169.08, Sharpe Ratio = -17.54

Simulation Run = 6592

Weights = [0.099 0.094 0.149 0.148 0.095 0.119 0.105 0.119 0.072], Final Value = \$1545658.37, Sharpe Ratio = -17.96

Simulation Run = 6593

Weights = [0.022 0.156 0.123 0.115 0.168 0.145 0.04 0.18 0.05], Final Value = \$1570640.73, Sharpe Ratio = -21.46

Simulation Run = 6594

Weights = [0.085 0.131 0.091 0.087 0.146 0.079 0.098 0.152 0.131], Final Value = \$1491240.49, Sharpe Ratio = -21.51

Simulation Run = 6595

Weights = [0.2 0.038 0.041 0.121 0.095 0.205 0.077 0.171 0.052], Final Value = \$1669400.01, Sharpe Ratio = -16.62

Simulation Run = 6596

Weights = [0.175 0.06 0.104 0.087 0.189 0.007 0.027 0.208 0.143], Final Value = \$1499495.74, Sharpe Ratio = -24.63

Simulation Run = 6597

Weights = [0.082 0.165 0.153 0.004 0.004 0.181 0.184 0.094 0.133], Final Value = \$1431809.89, Sharpe Ratio = -14.87

Simulation Run = 6598

Weights = [0.041 0.182 0.009 0.158 0.245 0.179 0.14 0.032 0.014], Final Value = \$1678186.29, Sharpe Ratio = -18.12

Simulation Run = 6599
Weights = [0.033 0.036 0.148 0.152 0.039 0.165 0.062 0.177 0.188], Final Value =
\$1456371.73, Sharpe Ratio = -19.03

Simulation Run = 6600
Weights = [0.156 0.088 0.044 0.031 0.111 0.13 0.183 0.19 0.067], Final Value =
\$1584154.23, Sharpe Ratio = -15.48

Simulation Run = 6601
Weights = [0.099 0.113 0.191 0.057 0.182 0.132 0.15 0.07 0.005], Final Value =
\$1584921.03, Sharpe Ratio = -15.94

Simulation Run = 6602
Weights = [0.046 0.06 0.17 0.153 0.097 0.178 0.163 0.103 0.029], Final Value =
\$1594715.67, Sharpe Ratio = -14.64

Simulation Run = 6603
Weights = [0.182 0.028 0.218 0.188 0.109 0.093 0.085 0.064 0.034], Final Value =
\$1586176.69, Sharpe Ratio = -16.71

Simulation Run = 6604
Weights = [0.092 0.11 0.141 0.042 0.188 0.056 0.145 0.031 0.195], Final Value =
\$1407839.95, Sharpe Ratio = -19.79

Simulation Run = 6605
Weights = [0.188 0.07 0.118 0.11 0.011 0.188 0.041 0.097 0.176], Final Value =
\$1488804.70, Sharpe Ratio = -18.54

Simulation Run = 6606
Weights = [0.2 0.147 0.12 0.169 0.014 0.122 0.134 0.041 0.053], Final Value =
\$1559658.72, Sharpe Ratio = -16.38

Simulation Run = 6607
Weights = [0.147 0.027 0.141 0.149 0.141 0.1 0.033 0.131 0.131], Final Value =
\$1532432.14, Sharpe Ratio = -20.98

Simulation Run = 6608
Weights = [0.16 0.137 0.14 0.071 0.069 0.028 0.196 0.178 0.02], Final Value =

\$1531967.25, Sharpe Ratio = -15.43

Simulation Run = 6609

Weights = [0.116 0.133 0.129 0.023 0.136 0.139 0.095 0.102 0.127], Final Value = \$1488519.36, Sharpe Ratio = -19.43

Simulation Run = 6610

Weights = [0.108 0.137 0.11 0.095 0.118 0.07 0.155 0.058 0.149], Final Value = \$1456085.48, Sharpe Ratio = -18.70

Simulation Run = 6611

Weights = [0.15 0.123 0.106 0.18 0.015 0.033 0.18 0.169 0.042], Final Value = \$1541730.85, Sharpe Ratio = -15.94

Simulation Run = 6612

Weights = [0.104 0.174 0.063 0.197 0.005 0.155 0.044 0.174 0.084], Final Value = \$1555524.71, Sharpe Ratio = -20.29

Simulation Run = 6613

Weights = [0.22 0.137 0.002 0.174 0.033 0.198 0.138 0.084 0.013], Final Value = \$1683893.21, Sharpe Ratio = -15.25

Simulation Run = 6614

Weights = [0.067 0.119 0.189 0.07 0.059 0.045 0.202 0.059 0.19], Final Value = \$1352578.19, Sharpe Ratio = -16.24

Simulation Run = 6615

Weights = [0.052 0.136 0.131 0.016 0.166 0.161 0.115 0.1 0.123], Final Value = \$1492530.01, Sharpe Ratio = -18.75

Simulation Run = 6616

Weights = [0.193 0.078 0.142 0.167 0.148 0.07 0.083 0.065 0.053], Final Value = \$1584514.31, Sharpe Ratio = -19.08

Simulation Run = 6617

Weights = [0.093 0.167 0.118 0.051 0.145 0.008 0.179 0.019 0.22], Final Value = \$1351349.70, Sharpe Ratio = -19.43

Simulation Run = 6618
Weights = [0. 0.103 0.196 0.05 0.181 0.117 0.055 0.252 0.047], Final Value =
\$1534329.21, Sharpe Ratio = -19.92

Simulation Run = 6619
Weights = [0.045 0.102 0.197 0.129 0.127 0.135 0.084 0.075 0.105], Final Value =
\$1494857.00, Sharpe Ratio = -18.85

Simulation Run = 6620
Weights = [0.162 0.126 0.171 0.079 0.118 0.152 0.103 0.025 0.064], Final Value =
\$1547079.90, Sharpe Ratio = -17.38

Simulation Run = 6621
Weights = [0.092 0.273 0.19 0.01 0.007 0.037 0.331 0.05 0.011], Final Value =
\$1434253.64, Sharpe Ratio = -11.92

Simulation Run = 6622
Weights = [0.145 0.072 0.158 0.089 0.082 0.132 0.163 0.104 0.054], Final Value =
\$1556674.41, Sharpe Ratio = -15.18

Simulation Run = 6623
Weights = [0.066 0.008 0.162 0.204 0.063 0.018 0.251 0.205 0.023], Final Value =
\$1560888.12, Sharpe Ratio = -13.24

Simulation Run = 6624
Weights = [0.114 0.129 0.05 0.221 0.058 0.024 0.169 0.15 0.085], Final Value =
\$1535451.70, Sharpe Ratio = -17.85

Simulation Run = 6625
Weights = [0.059 0.016 0.052 0.211 0.182 0.21 0.107 0.127 0.036], Final Value =
\$1700622.03, Sharpe Ratio = -16.61

Simulation Run = 6626
Weights = [0.135 0.135 0.005 0.202 0.181 0.058 0.048 0.173 0.063], Final Value =
\$1622729.46, Sharpe Ratio = -24.03

Simulation Run = 6627
Weights = [0.108 0.054 0.004 0.173 0.132 0.175 0.174 0.145 0.034], Final Value =
\$1682791.16, Sharpe Ratio = -15.23

Simulation Run = 6628
Weights = [0.11 0.086 0.009 0.177 0.088 0.078 0.196 0.233 0.024], Final Value =
\$1636092.43, Sharpe Ratio = -15.66

Simulation Run = 6629
Weights = [0.129 0.15 0.079 0.136 0.144 0.133 0.096 0.071 0.061], Final Value =
\$1588058.95, Sharpe Ratio = -19.50

Simulation Run = 6630
Weights = [0.146 0.054 0.07 0.121 0.213 0.133 0.125 0.059 0.08], Final Value =
\$1616051.81, Sharpe Ratio = -18.04

Simulation Run = 6631
Weights = [0.06 0.133 0.084 0.07 0.136 0.113 0.079 0.151 0.173], Final Value =
\$1458991.49, Sharpe Ratio = -22.43

Simulation Run = 6632
Weights = [0.091 0.155 0.14 0.093 0.003 0.182 0.083 0.095 0.158], Final Value =
\$1444715.33, Sharpe Ratio = -18.38

Simulation Run = 6633
Weights = [0.102 0.09 0.015 0.065 0.176 0.148 0.167 0.134 0.102], Final Value =
\$1585282.50, Sharpe Ratio = -16.94

Simulation Run = 6634
Weights = [0.007 0.14 0.019 0.18 0.188 0.124 0.144 0.047 0.151], Final Value =
\$1529297.18, Sharpe Ratio = -20.11

Simulation Run = 6635
Weights = [0.1 0.17 0.037 0.06 0.175 0.207 0.154 0.028 0.068], Final Value =
\$1603663.04, Sharpe Ratio = -16.62

Simulation Run = 6636
Weights = [0.102 0.061 0.201 0.133 0.047 0.145 0.003 0.226 0.081], Final Value =
\$1528336.07, Sharpe Ratio = -18.87

Simulation Run = 6637

Weights = [0.118 0.164 0.154 0.079 0.125 0.003 0.166 0.034 0.157], Final Value = \$1396330.23, Sharpe Ratio = -18.90

Simulation Run = 6638

Weights = [0.142 0.192 0.118 0.122 0.071 0.021 0.099 0.118 0.117], Final Value = \$1451403.74, Sharpe Ratio = -21.55

Simulation Run = 6639

Weights = [0.105 0.023 0.113 0.129 0.102 0.056 0.122 0.195 0.153], Final Value = \$1483966.72, Sharpe Ratio = -18.95

Simulation Run = 6640

Weights = [0.095 0.185 0.103 0.159 0.051 0.087 0.198 0.109 0.013], Final Value = \$1564607.47, Sharpe Ratio = -15.49

Simulation Run = 6641

Weights = [0.085 0.002 0.062 0.12 0.203 0.191 0.061 0.077 0.199], Final Value = \$1541591.70, Sharpe Ratio = -20.37

Simulation Run = 6642

Weights = [0.139 0.126 0.217 0.122 0.045 0.015 0.09 0.158 0.087], Final Value = \$1447045.76, Sharpe Ratio = -18.93

Simulation Run = 6643

Weights = [0.172 0.003 0.049 0.102 0.011 0.221 0.17 0.244 0.031], Final Value = \$1666328.36, Sharpe Ratio = -13.20

Simulation Run = 6644

Weights = [0.155 0.093 0.13 0.1 0.028 0.162 0.106 0.092 0.133], Final Value = \$1498003.97, Sharpe Ratio = -17.16

Simulation Run = 6645

Weights = [0.196 0.064 0.033 0.068 0.139 0.083 0.047 0.186 0.183], Final Value = \$1505468.71, Sharpe Ratio = -23.01

Simulation Run = 6646

Weights = [0.068 0.106 0.011 0.207 0.178 0.055 0.075 0.153 0.148], Final Value = \$1539561.79, Sharpe Ratio = -24.50

Simulation Run = 6647
Weights = [0.088 0.218 0.181 0.137 0.102 0.021 0.09 0.044 0.119], Final Value =
\$1416751.47, Sharpe Ratio = -21.93

Simulation Run = 6648
Weights = [0.164 0.071 0.135 0.16 0.03 0.134 0.022 0.133 0.151], Final Value =
\$1496461.30, Sharpe Ratio = -20.22

Simulation Run = 6649
Weights = [0.118 0.027 0.037 0.217 0.109 0.241 0.12 0.114 0.017], Final Value =
\$1724185.09, Sharpe Ratio = -15.03

Simulation Run = 6650
Weights = [0.13 0.047 0.056 0.14 0.204 0.202 0.045 0.062 0.113], Final Value =
\$1624689.47, Sharpe Ratio = -19.77

Simulation Run = 6651
Weights = [0.051 0.134 0.079 0.127 0.054 0.136 0.122 0.094 0.204], Final Value =
\$1429081.51, Sharpe Ratio = -19.54

Simulation Run = 6652
Weights = [0.078 0.07 0.221 0.154 0.166 0.033 0.016 0.081 0.181], Final Value =
\$1414338.60, Sharpe Ratio = -23.28

Simulation Run = 6653
Weights = [0.09 0.106 0.237 0.076 0.211 0.062 0.079 0.02 0.119], Final Value =
\$1454683.01, Sharpe Ratio = -20.32

Simulation Run = 6654
Weights = [0.002 0.011 0.103 0.133 0.196 0.127 0.122 0.132 0.174], Final Value =
\$1504523.23, Sharpe Ratio = -19.22

Simulation Run = 6655
Weights = [0.044 0.11 0.243 0.159 0.221 0.031 0.011 0.03 0.151], Final Value =
\$1428006.66, Sharpe Ratio = -23.43

Simulation Run = 6656
Weights = [0.148 0.029 0.011 0.073 0.165 0.122 0.142 0.119 0.191], Final Value =

\$1524632.37, Sharpe Ratio = -18.40

Simulation Run = 6657

Weights = [0.13 0.084 0.184 0.106 0.151 0.002 0.134 0.147 0.062], Final Value = \$1508453.16, Sharpe Ratio = -18.09

Simulation Run = 6658

Weights = [0.055 0.033 0.155 0.136 0.194 0.125 0.042 0.116 0.144], Final Value = \$1516831.78, Sharpe Ratio = -21.32

Simulation Run = 6659

Weights = [0.131 0.044 0.123 0.066 0.12 0.17 0.167 0.118 0.061], Final Value = \$1589467.75, Sharpe Ratio = -14.92

Simulation Run = 6660

Weights = [0.147 0.037 0.09 0.05 0.139 0.14 0.105 0.191 0.101], Final Value = \$1567643.80, Sharpe Ratio = -17.86

Simulation Run = 6661

Weights = [0.135 0.114 0.086 0.242 0.097 0.058 0.153 0.009 0.107], Final Value = \$1534990.58, Sharpe Ratio = -18.14

Simulation Run = 6662

Weights = [0.142 0.027 0.066 0.143 0.12 0.155 0.103 0.133 0.112], Final Value = \$1589695.74, Sharpe Ratio = -17.85

Simulation Run = 6663

Weights = [0.044 0.048 0.127 0.023 0.269 0.187 0.039 0.161 0.103], Final Value = \$1576284.76, Sharpe Ratio = -20.36

Simulation Run = 6664

Weights = [0.008 0.083 0.199 0.004 0.154 0.142 0.207 0.137 0.066], Final Value = \$1503764.84, Sharpe Ratio = -14.46

Simulation Run = 6665

Weights = [0.043 0.088 0.159 0.081 0.119 0.25 0.193 0.048 0.019], Final Value = \$1613453.42, Sharpe Ratio = -13.31

Simulation Run = 6666
Weights = [0.073 0.103 0.115 0.136 0.079 0.038 0.164 0.132 0.16], Final Value =
\$1435110.14, Sharpe Ratio = -18.29

Simulation Run = 6667
Weights = [0.122 0.089 0.087 0.173 0.171 0.136 0.006 0.129 0.085], Final Value =
\$1601733.68, Sharpe Ratio = -22.29

Simulation Run = 6668
Weights = [0.024 0.129 0.119 0.043 0.153 0.007 0.193 0.118 0.215], Final Value =
\$1354770.83, Sharpe Ratio = -18.67

Simulation Run = 6669
Weights = [0.163 0.024 0.163 0.077 0.212 0.107 0.059 0.181 0.015], Final Value =
\$1633179.20, Sharpe Ratio = -18.41

Simulation Run = 6670
Weights = [0.091 0.067 0.076 0.138 0.11 0.205 0.085 0.063 0.165], Final Value =
\$1533283.64, Sharpe Ratio = -18.59

Simulation Run = 6671
Weights = [0.158 0.071 0.125 0.002 0.158 0.146 0.146 0.012 0.181], Final Value =
\$1465225.93, Sharpe Ratio = -17.25

Simulation Run = 6672
Weights = [0.069 0.14 0.07 0.048 0.265 0.259 0.053 0.081 0.015], Final Value =
\$1685193.68, Sharpe Ratio = -18.25

Simulation Run = 6673
Weights = [0.09 0.225 0.031 0.031 0.085 0.192 0.118 0.169 0.06], Final Value =
\$1567618.91, Sharpe Ratio = -17.86

Simulation Run = 6674
Weights = [0.061 0.135 0.149 0.158 0.018 0.002 0.122 0.164 0.19], Final Value =
\$1363008.75, Sharpe Ratio = -20.30

Simulation Run = 6675
Weights = [0.112 0.079 0.187 0.05 0.092 0.14 0.079 0.013 0.247], Final Value =
\$1367023.96, Sharpe Ratio = -19.86

Simulation Run = 6676

Weights = [0.069 0.175 0. 0.074 0.096 0.077 0.233 0.224 0.051], Final Value = \$1560935.80, Sharpe Ratio = -15.39

Simulation Run = 6677

Weights = [0.102 0.305 0.054 0.151 0.044 0.04 0.01 0.125 0.169], Final Value = \$1406393.99, Sharpe Ratio = -29.77

Simulation Run = 6678

Weights = [0.17 0.048 0.11 0.167 0.189 0.003 0.114 0.169 0.031], Final Value = \$1607319.22, Sharpe Ratio = -18.92

Simulation Run = 6679

Weights = [0.129 0.019 0.164 0.013 0.086 0.114 0.157 0.185 0.134], Final Value = \$1475659.44, Sharpe Ratio = -15.83

Simulation Run = 6680

Weights = [0.121 0.139 0.17 0.047 0.06 0.034 0.049 0.318 0.061], Final Value = \$1483591.28, Sharpe Ratio = -20.85

Simulation Run = 6681

Weights = [0.176 0.189 0.05 0.186 0.134 0.002 0.071 0.121 0.069], Final Value = \$1552622.29, Sharpe Ratio = -23.68

Simulation Run = 6682

Weights = [0.123 0.068 0.14 0.098 0.136 0.199 0.082 0.04 0.115], Final Value = \$1551217.01, Sharpe Ratio = -17.79

Simulation Run = 6683

Weights = [0.087 0.11 0.064 0.022 0.269 0.097 0.069 0.148 0.135], Final Value = \$1529131.58, Sharpe Ratio = -23.45

Simulation Run = 6684

Weights = [0.174 0.081 0.166 0.074 0.205 0.043 0.103 0.127 0.028], Final Value = \$1576387.46, Sharpe Ratio = -18.71

Simulation Run = 6685

Weights = [0.213 0.212 0.215 0.052 0.1 0.019 0.091 0.007 0.091], Final Value = \$1431058.58, Sharpe Ratio = -20.04

Simulation Run = 6686

Weights = [0.052 0.084 0.146 0.186 0.202 0.014 0.124 0.01 0.182], Final Value = \$1437267.05, Sharpe Ratio = -21.14

Simulation Run = 6687

Weights = [0.224 0.046 0.141 0.242 0.021 0.018 0.139 0.151 0.017], Final Value = \$1594853.40, Sharpe Ratio = -15.82

Simulation Run = 6688

Weights = [0.138 0.203 0.217 0.049 0.05 0.074 0.093 0.051 0.124], Final Value = \$1398184.24, Sharpe Ratio = -19.42

Simulation Run = 6689

Weights = [0.165 0.176 0.154 0.027 0.058 0.031 0.148 0.027 0.214], Final Value = \$1334659.97, Sharpe Ratio = -19.13

Simulation Run = 6690

Weights = [0.108 0.142 0.217 0.112 0.124 0.017 0.075 0.136 0.068], Final Value = \$1473120.30, Sharpe Ratio = -20.27

Simulation Run = 6691

Weights = [0.019 0.186 0.027 0.203 0.038 0.079 0.202 0.109 0.136], Final Value = \$1477343.36, Sharpe Ratio = -17.15

Simulation Run = 6692

Weights = [0.173 0.172 0.081 0.032 0.054 0.079 0.144 0.185 0.081], Final Value = \$1506256.26, Sharpe Ratio = -17.72

Simulation Run = 6693

Weights = [0.033 0.059 0.138 0.13 0.159 0.139 0.083 0.18 0.078], Final Value = \$1564639.97, Sharpe Ratio = -18.97

Simulation Run = 6694

Weights = [0.108 0.175 0.181 0.162 0.104 0.098 0.03 0.127 0.015], Final Value = \$1564127.37, Sharpe Ratio = -20.44

Simulation Run = 6695
Weights = [0.181 0.151 0.047 0.01 0.084 0.216 0.246 0.044 0.02], Final Value =
\$1625238.00, Sharpe Ratio = -12.58

Simulation Run = 6696
Weights = [0.057 0.107 0.164 0.189 0.12 0.016 0.202 0.143 0.003], Final Value =
\$1560004.52, Sharpe Ratio = -15.43

Simulation Run = 6697
Weights = [0.169 0.056 0.116 0.076 0.059 0.2 0.095 0.008 0.221], Final Value =
\$1454132.07, Sharpe Ratio = -17.63

Simulation Run = 6698
Weights = [0.078 0.084 0.084 0.035 0.12 0.034 0.208 0.137 0.221], Final Value =
\$1384958.10, Sharpe Ratio = -17.24

Simulation Run = 6699
Weights = [0.135 0.202 0.053 0.089 0.171 0.031 0.12 0.046 0.152], Final Value =
\$1462602.30, Sharpe Ratio = -22.75

Simulation Run = 6700
Weights = [0.096 0.071 0.125 0.101 0.107 0.136 0.168 0.18 0.016], Final Value =
\$1606866.26, Sharpe Ratio = -15.20

Simulation Run = 6701
Weights = [0.154 0.151 0.088 0.179 0.061 0.16 0.103 0.084 0.02], Final Value =
\$1623231.22, Sharpe Ratio = -17.24

Simulation Run = 6702
Weights = [0.196 0.015 0.015 0.165 0.169 0.175 0.118 0.031 0.115], Final Value =
\$1641650.46, Sharpe Ratio = -17.25

Simulation Run = 6703
Weights = [0.086 0.097 0.079 0.2 0.017 0.169 0.129 0.192 0.033], Final Value =
\$1616031.11, Sharpe Ratio = -15.93

Simulation Run = 6704
Weights = [0.022 0.076 0.143 0.196 0.175 0.191 0.006 0.081 0.11], Final Value =

\$1568286.82, Sharpe Ratio = -20.80

Simulation Run = 6705

Weights = [0.152 0.09 0.139 0.118 0.15 0.117 0.131 0.091 0.012], Final Value = \$1616417.99, Sharpe Ratio = -16.67

Simulation Run = 6706

Weights = [0.089 0.095 0.192 0.144 0.162 0.018 0.018 0.092 0.19], Final Value = \$1404623.11, Sharpe Ratio = -24.76

Simulation Run = 6707

Weights = [0.212 0.199 0.016 0.088 0.158 0.17 0.009 0.056 0.09], Final Value = \$1601421.30, Sharpe Ratio = -22.54

Simulation Run = 6708

Weights = [0.019 0.286 0.004 0.022 0.291 0.07 0.04 0.048 0.219], Final Value = \$1415172.20, Sharpe Ratio = -30.78

Simulation Run = 6709

Weights = [0.032 0.028 0.302 0.043 0.082 0.195 0.052 0.076 0.189], Final Value = \$1390173.30, Sharpe Ratio = -17.07

Simulation Run = 6710

Weights = [0.11 0.206 0.154 0.19 0.009 0.081 0.043 0.066 0.142], Final Value = \$1428956.59, Sharpe Ratio = -22.28

Simulation Run = 6711

Weights = [0.098 0.168 0.069 0.026 0.145 0.17 0.105 0.148 0.071], Final Value = \$1564694.14, Sharpe Ratio = -18.70

Simulation Run = 6712

Weights = [0.003 0.058 0.084 0.057 0.083 0.154 0.226 0.154 0.183], Final Value = \$1451889.91, Sharpe Ratio = -14.77

Simulation Run = 6713

Weights = [0.049 0.117 0.08 0.03 0.085 0.12 0.138 0.214 0.167], Final Value = \$1447674.04, Sharpe Ratio = -18.65

Simulation Run = 6714
Weights = [0.171 0.167 0.026 0.119 0.091 0.132 0.088 0.147 0.057], Final Value =
\$1600889.07, Sharpe Ratio = -19.54

Simulation Run = 6715
Weights = [0.028 0.168 0.051 0.062 0.12 0.08 0.175 0.163 0.154], Final Value =
\$1451255.07, Sharpe Ratio = -18.71

Simulation Run = 6716
Weights = [0.077 0.166 0.115 0.042 0.049 0.113 0.178 0.065 0.194], Final Value =
\$1386069.29, Sharpe Ratio = -17.17

Simulation Run = 6717
Weights = [0.093 0.052 0.213 0.127 0.021 0.035 0.178 0.147 0.135], Final Value =
\$1416153.61, Sharpe Ratio = -15.64

Simulation Run = 6718
Weights = [0.119 0.052 0.062 0.137 0.062 0.13 0.204 0.127 0.107], Final Value =
\$1553210.44, Sharpe Ratio = -14.85

Simulation Run = 6719
Weights = [0.134 0.117 0.097 0.126 0.109 0.069 0.054 0.105 0.189], Final Value =
\$1446773.26, Sharpe Ratio = -23.80

Simulation Run = 6720
Weights = [0.034 0.175 0.006 0.156 0.111 0.054 0.128 0.189 0.148], Final Value =
\$1485945.86, Sharpe Ratio = -22.04

Simulation Run = 6721
Weights = [0.173 0.107 0.129 0.168 0.096 0.14 0.052 0.097 0.038], Final Value =
\$1608049.37, Sharpe Ratio = -18.76

Simulation Run = 6722
Weights = [0.084 0.108 0.172 0.176 0.186 0.152 0.004 0.08 0.038], Final Value =
\$1605544.32, Sharpe Ratio = -20.45

Simulation Run = 6723
Weights = [0.158 0.056 0.185 0.072 0.104 0.206 0.027 0.16 0.032], Final Value =
\$1610446.82, Sharpe Ratio = -16.94

Simulation Run = 6724
Weights = [0.133 0.039 0.17 0.135 0.145 0.213 0.006 0.088 0.07], Final Value =
\$1609475.60, Sharpe Ratio = -18.15

Simulation Run = 6725
Weights = [0.005 0.011 0.07 0.167 0.066 0.214 0.182 0.215 0.071], Final Value =
\$1615261.53, Sharpe Ratio = -14.16

Simulation Run = 6726
Weights = [0.043 0.163 0.129 0.088 0.082 0.136 0.069 0.249 0.04], Final Value =
\$1548621.16, Sharpe Ratio = -19.53

Simulation Run = 6727
Weights = [0.021 0.155 0.18 0.103 0.09 0.147 0.115 0.012 0.177], Final Value =
\$1406245.66, Sharpe Ratio = -18.92

Simulation Run = 6728
Weights = [0.065 0.047 0.109 0.098 0.006 0.21 0.222 0.063 0.179], Final Value =
\$1467748.47, Sharpe Ratio = -13.47

Simulation Run = 6729
Weights = [0.118 0.116 0.068 0.047 0.137 0.129 0.08 0.177 0.128], Final Value =
\$1521819.99, Sharpe Ratio = -20.73

Simulation Run = 6730
Weights = [0.132 0.201 0.059 0.047 0.068 0.183 0.163 0.102 0.045], Final Value =
\$1574087.67, Sharpe Ratio = -15.80

Simulation Run = 6731
Weights = [0.014 0.207 0.27 0.122 0.04 0.065 0.071 0.082 0.128], Final Value =
\$1362341.85, Sharpe Ratio = -19.89

Simulation Run = 6732
Weights = [0.077 0.046 0.225 0.136 0.081 0.075 0.172 0.048 0.141], Final Value =
\$1435301.44, Sharpe Ratio = -15.83

Simulation Run = 6733

Weights = [0.052 0.123 0.104 0.031 0.13 0.105 0.094 0.192 0.17], Final Value = \$1441593.69, Sharpe Ratio = -21.34

Simulation Run = 6734

Weights = [0.02 0.073 0.263 0.218 0.004 0.094 0.054 0.234 0.041], Final Value = \$1506597.77, Sharpe Ratio = -16.96

Simulation Run = 6735

Weights = [0.059 0.262 0.234 0.007 0.117 0.049 0.02 0.21 0.042], Final Value = \$1439411.96, Sharpe Ratio = -22.71

Simulation Run = 6736

Weights = [0.129 0.166 0.062 0.019 0.276 0.02 0.074 0.014 0.239], Final Value = \$1399501.16, Sharpe Ratio = -27.06

Simulation Run = 6737

Weights = [0.17 0.075 0.159 0. 0.134 0.177 0.101 0.033 0.15], Final Value = \$1487492.74, Sharpe Ratio = -17.46

Simulation Run = 6738

Weights = [0.175 0.166 0.104 0.016 0.114 0.127 0.078 0.084 0.135], Final Value = \$1481801.53, Sharpe Ratio = -20.52

Simulation Run = 6739

Weights = [0.183 0.059 0.011 0.159 0.141 0.095 0.167 0.173 0.011], Final Value = \$1681955.32, Sharpe Ratio = -16.07

Simulation Run = 6740

Weights = [0.062 0.054 0.126 0.162 0.076 0.146 0.141 0.171 0.063], Final Value = \$1574637.49, Sharpe Ratio = -16.09

Simulation Run = 6741

Weights = [0.214 0.141 0.017 0.202 0.118 0.142 0.048 0.113 0.005], Final Value = \$1695571.53, Sharpe Ratio = -19.59

Simulation Run = 6742

Weights = [0.181 0.197 0.052 0.088 0.145 0.073 0.004 0.174 0.087], Final Value = \$1548329.03, Sharpe Ratio = -25.68

Simulation Run = 6743
Weights = [0.005 0.116 0.047 0.172 0.205 0.012 0.254 0.154 0.034], Final Value =
\$1582877.20, Sharpe Ratio = -15.34

Simulation Run = 6744
Weights = [0.004 0.168 0.116 0.093 0.147 0.002 0.098 0.186 0.186], Final Value =
\$1381994.36, Sharpe Ratio = -24.35

Simulation Run = 6745
Weights = [0.04 0.08 0.089 0.171 0.125 0.101 0.176 0.159 0.059], Final Value =
\$1577703.23, Sharpe Ratio = -16.44

Simulation Run = 6746
Weights = [0.179 0.111 0.102 0.105 0.108 0.165 0.116 0.024 0.09], Final Value =
\$1566607.37, Sharpe Ratio = -17.31

Simulation Run = 6747
Weights = [0.118 0.025 0.014 0.048 0.251 0.175 0.123 0.132 0.116], Final Value =
\$1622006.58, Sharpe Ratio = -17.94

Simulation Run = 6748
Weights = [0.031 0.211 0.005 0.128 0.034 0.2 0.132 0.159 0.1], Final Value =
\$1546413.95, Sharpe Ratio = -17.63

Simulation Run = 6749
Weights = [0.187 0.059 0.117 0.187 0.145 0.079 0.172 0.044 0.011], Final Value =
\$1638115.73, Sharpe Ratio = -15.57

Simulation Run = 6750
Weights = [0.066 0.117 0.138 0.233 0.181 0.019 0.019 0.045 0.182], Final Value =
\$1447509.57, Sharpe Ratio = -26.25

Simulation Run = 6751
Weights = [0.21 0.033 0.134 0.112 0.1 0.092 0.099 0.19 0.029], Final Value =
\$1610791.27, Sharpe Ratio = -16.97

Simulation Run = 6752
Weights = [0.083 0.12 0.074 0.067 0.177 0.183 0.076 0.191 0.029], Final Value =

\$1634585.44, Sharpe Ratio = -18.76

Simulation Run = 6753

Weights = [0.125 0.12 0.065 0.058 0.153 0.135 0.129 0.152 0.062], Final Value = \$1586273.17, Sharpe Ratio = -17.93

Simulation Run = 6754

Weights = [0.132 0.118 0.1 0.025 0.149 0.15 0.094 0.056 0.175], Final Value = \$1472152.90, Sharpe Ratio = -19.99

Simulation Run = 6755

Weights = [0.142 0.022 0.19 0.028 0.252 0.159 0.157 0.026 0.023], Final Value = \$1621787.15, Sharpe Ratio = -15.05

Simulation Run = 6756

Weights = [0.132 0.086 0.199 0.011 0.099 0.062 0.14 0.073 0.197], Final Value = \$1369980.95, Sharpe Ratio = -18.09

Simulation Run = 6757

Weights = [0.128 0.007 0.098 0.286 0.25 0.004 0.073 0.137 0.016], Final Value = \$1672142.81, Sharpe Ratio = -19.97

Simulation Run = 6758

Weights = [0.102 0.074 0.157 0.149 0.067 0.053 0.088 0.167 0.142], Final Value = \$1457486.45, Sharpe Ratio = -19.96

Simulation Run = 6759

Weights = [0.025 0.115 0.152 0.07 0.137 0.127 0.194 0.073 0.107], Final Value = \$1485546.91, Sharpe Ratio = -15.85

Simulation Run = 6760

Weights = [0.153 0.189 0.158 0.034 0.023 0.19 0.06 0.134 0.058], Final Value = \$1523962.10, Sharpe Ratio = -17.68

Simulation Run = 6761

Weights = [0.049 0.117 0.024 0.079 0.131 0.166 0.104 0.183 0.149], Final Value = \$1526933.00, Sharpe Ratio = -19.84

Simulation Run = 6762
Weights = [0.09 0.178 0.028 0.194 0.168 0.001 0.138 0.069 0.133], Final Value =
\$1497676.53, Sharpe Ratio = -22.09

Simulation Run = 6763
Weights = [0.117 0.218 0.074 0.11 0.115 0.076 0.028 0.033 0.229], Final Value =
\$1391432.60, Sharpe Ratio = -28.07

Simulation Run = 6764
Weights = [0.046 0.015 0.171 0.07 0.192 0.055 0.195 0.157 0.099], Final Value =
\$1503504.98, Sharpe Ratio = -15.89

Simulation Run = 6765
Weights = [0.088 0.122 0.022 0.138 0.174 0.118 0.151 0.101 0.087], Final Value =
\$1588394.16, Sharpe Ratio = -18.44

Simulation Run = 6766
Weights = [0.207 0.043 0.169 0.058 0.103 0.207 0.073 0.039 0.101], Final Value =
\$1560003.29, Sharpe Ratio = -16.49

Simulation Run = 6767
Weights = [0.084 0.125 0.193 0.058 0.143 0.107 0.165 0.116 0.008], Final Value =
\$1556575.61, Sharpe Ratio = -15.73

Simulation Run = 6768
Weights = [0.16 0.089 0.023 0.064 0.074 0.219 0.096 0.094 0.181], Final Value =
\$1527804.78, Sharpe Ratio = -17.69

Simulation Run = 6769
Weights = [0.148 0.042 0.059 0.046 0.07 0.165 0.147 0.145 0.178], Final Value =
\$1499446.85, Sharpe Ratio = -16.47

Simulation Run = 6770
Weights = [0.074 0.159 0.207 0.193 0.014 0.146 0.081 0.116 0.011], Final Value =
\$1554082.66, Sharpe Ratio = -16.84

Simulation Run = 6771
Weights = [0.192 0.092 0.167 0.197 0.118 0.105 0.028 0.051 0.051], Final Value =
\$1587204.54, Sharpe Ratio = -19.69

Simulation Run = 6772
Weights = [0.025 0.072 0.174 0.048 0.102 0.131 0.166 0.173 0.108], Final Value =
\$1478278.58, Sharpe Ratio = -15.98

Simulation Run = 6773
Weights = [0.066 0.039 0.205 0.151 0.173 0.081 0.025 0.124 0.136], Final Value =
\$1485756.53, Sharpe Ratio = -21.51

Simulation Run = 6774
Weights = [0.1 0.163 0.121 0.155 0.03 0.124 0.056 0.124 0.128], Final Value =
\$1479167.74, Sharpe Ratio = -20.89

Simulation Run = 6775
Weights = [0.084 0.161 0.031 0.116 0.195 0.187 0.091 0.081 0.053], Final Value =
\$1633092.85, Sharpe Ratio = -19.44

Simulation Run = 6776
Weights = [0.144 0.151 0.118 0.162 0.053 0.084 0.145 0.074 0.068], Final Value =
\$1529735.28, Sharpe Ratio = -17.35

Simulation Run = 6777
Weights = [0.116 0.014 0.068 0.174 0.06 0.166 0.18 0.092 0.13], Final Value =
\$1562802.55, Sharpe Ratio = -15.01

Simulation Run = 6778
Weights = [0.017 0.243 0.009 0.205 0.017 0.217 0.088 0.109 0.094], Final Value =
\$1559389.51, Sharpe Ratio = -19.02

Simulation Run = 6779
Weights = [0.107 0.203 0.101 0.127 0.039 0.199 0.104 0.103 0.017], Final Value =
\$1596298.93, Sharpe Ratio = -16.83

Simulation Run = 6780
Weights = [0.131 0.126 0.037 0.204 0.087 0.059 0.201 0.055 0.101], Final Value =
\$1544003.87, Sharpe Ratio = -16.56

Simulation Run = 6781

Weights = [0.103 0.179 0.04 0.079 0.1 0.119 0.076 0.175 0.129], Final Value = \$1506782.25, Sharpe Ratio = -22.06

Simulation Run = 6782

Weights = [0.092 0.023 0.154 0.103 0.141 0.138 0.051 0.16 0.138], Final Value = \$1516788.61, Sharpe Ratio = -19.82

Simulation Run = 6783

Weights = [0.051 0.159 0.114 0.154 0.025 0.084 0.166 0.18 0.066], Final Value = \$1507144.09, Sharpe Ratio = -16.79

Simulation Run = 6784

Weights = [0.042 0.181 0.158 0.055 0.179 0.006 0.245 0. 0.133], Final Value = \$1401981.78, Sharpe Ratio = -15.96

Simulation Run = 6785

Weights = [0.213 0.086 0.12 0.086 0.177 0.02 0.028 0.079 0.191], Final Value = \$1448985.36, Sharpe Ratio = -25.00

Simulation Run = 6786

Weights = [0.199 0.146 0.091 0.058 0.165 0.06 0.075 0.107 0.099], Final Value = \$1526501.45, Sharpe Ratio = -21.88

Simulation Run = 6787

Weights = [0.146 0.159 0.009 0.148 0.125 0.149 0.049 0.093 0.121], Final Value = \$1571920.74, Sharpe Ratio = -22.26

Simulation Run = 6788

Weights = [0.091 0.084 0.165 0.049 0.155 0.068 0.231 0.016 0.142], Final Value = \$1443612.82, Sharpe Ratio = -15.11

Simulation Run = 6789

Weights = [0.066 0.225 0.048 0.166 0.265 0.067 0.012 0.093 0.058], Final Value = \$1589723.90, Sharpe Ratio = -27.70

Simulation Run = 6790

Weights = [0.077 0.01 0.154 0.127 0.282 0.019 0.081 0.031 0.22], Final Value = \$1437052.25, Sharpe Ratio = -23.09

Simulation Run = 6791
Weights = [0.075 0.169 0.038 0.255 0.102 0.09 0.045 0.01 0.217], Final Value =
\$1454208.57, Sharpe Ratio = -26.24

Simulation Run = 6792
Weights = [0.014 0.163 0.188 0.036 0.076 0.068 0.181 0.244 0.03], Final Value =
\$1482673.53, Sharpe Ratio = -15.93

Simulation Run = 6793
Weights = [0.131 0.115 0.044 0.049 0.182 0.054 0.11 0.122 0.193], Final Value =
\$1458553.48, Sharpe Ratio = -22.42

Simulation Run = 6794
Weights = [0.116 0.021 0.1 0.117 0.072 0.13 0.058 0.191 0.196], Final Value =
\$1475197.81, Sharpe Ratio = -20.35

Simulation Run = 6795
Weights = [0.158 0.095 0.128 0.089 0.025 0.162 0.112 0.132 0.099], Final Value =
\$1525555.83, Sharpe Ratio = -16.62

Simulation Run = 6796
Weights = [0.094 0.171 0.069 0.135 0.122 0.151 0.126 0.054 0.078], Final Value =
\$1564961.38, Sharpe Ratio = -18.48

Simulation Run = 6797
Weights = [0.259 0.198 0.165 0.041 0.009 0.089 0.07 0.052 0.118], Final Value =
\$1443162.15, Sharpe Ratio = -19.30

Simulation Run = 6798
Weights = [0.141 0.092 0.003 0.24 0.112 0.098 0.178 0.11 0.027], Final Value =
\$1664729.73, Sharpe Ratio = -16.20

Simulation Run = 6799
Weights = [0.115 0.134 0.162 0.134 0.143 0.118 0.096 0.045 0.053], Final Value =
\$1555981.08, Sharpe Ratio = -18.69

Simulation Run = 6800
Weights = [0.088 0.097 0.128 0.118 0.097 0.113 0.078 0.134 0.147], Final Value =

\$1479218.17, Sharpe Ratio = -20.45

Simulation Run = 6801

Weights = [0.167 0.069 0.074 0.068 0.118 0.085 0.085 0.173 0.161], Final Value = \$1495092.81, Sharpe Ratio = -20.74

Simulation Run = 6802

Weights = [0.079 0.171 0.092 0.148 0.054 0.068 0.045 0.178 0.165], Final Value = \$1438363.73, Sharpe Ratio = -24.46

Simulation Run = 6803

Weights = [0.173 0.085 0.114 0.006 0.159 0.131 0.134 0.166 0.032], Final Value = \$1599441.11, Sharpe Ratio = -16.53

Simulation Run = 6804

Weights = [0.157 0.154 0.148 0.06 0.071 0.173 0.117 0.024 0.095], Final Value = \$1511549.84, Sharpe Ratio = -16.98

Simulation Run = 6805

Weights = [0.118 0.094 0.132 0.127 0.134 0.126 0.026 0.142 0.101], Final Value = \$1543613.68, Sharpe Ratio = -21.41

Simulation Run = 6806

Weights = [0.151 0.041 0.142 0.171 0.197 0.15 0.067 0.004 0.077], Final Value = \$1608839.75, Sharpe Ratio = -18.75

Simulation Run = 6807

Weights = [0.055 0.216 0.162 0.038 0.227 0.008 0.027 0.208 0.057], Final Value = \$1486567.60, Sharpe Ratio = -25.61

Simulation Run = 6808

Weights = [0.01 0.119 0.13 0.183 0.147 0.198 0.049 0.086 0.078], Final Value = \$1578150.71, Sharpe Ratio = -19.54

Simulation Run = 6809

Weights = [0.054 0.165 0.051 0.121 0.093 0.157 0.181 0.033 0.145], Final Value = \$1495385.12, Sharpe Ratio = -16.89

Simulation Run = 6810
Weights = [0.297 0.011 0.095 0.203 0.174 0.064 0.033 0.108 0.015], Final Value =
\$1689510.98, Sharpe Ratio = -19.08

Simulation Run = 6811
Weights = [0.154 0.07 0.137 0.137 0.116 0.048 0.117 0.089 0.132], Final Value =
\$1488605.41, Sharpe Ratio = -19.20

Simulation Run = 6812
Weights = [0.13 0.248 0.024 0.099 0.014 0.106 0.136 0.131 0.112], Final Value =
\$1488110.98, Sharpe Ratio = -19.04

Simulation Run = 6813
Weights = [0.124 0.094 0.079 0.052 0.169 0.066 0.097 0.172 0.147], Final Value =
\$1491687.07, Sharpe Ratio = -21.53

Simulation Run = 6814
Weights = [0.181 0.175 0.02 0.142 0.105 0.121 0.045 0.112 0.1], Final Value =
\$1571185.05, Sharpe Ratio = -22.52

Simulation Run = 6815
Weights = [0.122 0.203 0.182 0.112 0.148 0.065 0.12 0.004 0.042], Final Value =
\$1514360.49, Sharpe Ratio = -18.97

Simulation Run = 6816
Weights = [0.22 0.072 0.157 0.003 0.048 0.203 0.141 0.137 0.019], Final Value =
\$1601713.54, Sharpe Ratio = -13.95

Simulation Run = 6817
Weights = [0.158 0.06 0.105 0.12 0.113 0.116 0.009 0.16 0.158], Final Value =
\$1511859.94, Sharpe Ratio = -22.44

Simulation Run = 6818
Weights = [0.113 0.193 0.2 0.074 0.023 0.009 0.131 0.124 0.133], Final Value =
\$1370239.30, Sharpe Ratio = -18.86

Simulation Run = 6819
Weights = [0.215 0.188 0.156 0.005 0.029 0.123 0.19 0.064 0.03], Final Value =
\$1522275.79, Sharpe Ratio = -14.43

Simulation Run = 6820
Weights = [0.067 0.108 0.148 0.17 0.167 0.161 0.137 0.039 0.003], Final Value =
\$1631659.11, Sharpe Ratio = -16.30

Simulation Run = 6821
Weights = [0.08 0.114 0.219 0.193 0.141 0.035 0.14 0.078 0.001], Final Value =
\$1557463.97, Sharpe Ratio = -16.77

Simulation Run = 6822
Weights = [0.085 0.018 0.134 0.052 0.163 0.124 0.113 0.136 0.176], Final Value =
\$1476611.91, Sharpe Ratio = -18.75

Simulation Run = 6823
Weights = [0.169 0.184 0.051 0.125 0.062 0.235 0.068 0.103 0.003], Final Value =
\$1665599.59, Sharpe Ratio = -16.97

Simulation Run = 6824
Weights = [0.194 0.038 0.223 0.008 0.094 0.119 0.025 0.153 0.145], Final Value =
\$1457522.98, Sharpe Ratio = -19.08

Simulation Run = 6825
Weights = [0.091 0.186 0.037 0.071 0.11 0.125 0.186 0.116 0.079], Final Value =
\$1543628.58, Sharpe Ratio = -16.70

Simulation Run = 6826
Weights = [0.173 0.013 0.057 0.024 0.127 0.186 0.022 0.214 0.183], Final Value =
\$1533513.05, Sharpe Ratio = -20.01

Simulation Run = 6827
Weights = [0.04 0.12 0.161 0.039 0.11 0.121 0.162 0.125 0.121], Final Value =
\$1457656.02, Sharpe Ratio = -16.88

Simulation Run = 6828
Weights = [0.058 0.005 0.138 0.061 0.185 0.087 0.152 0.174 0.141], Final Value =
\$1496105.09, Sharpe Ratio = -17.57

Simulation Run = 6829

Weights = [0.013 0.117 0.221 0.038 0.197 0.068 0.07 0.202 0.075], Final Value = \$1478462.35, Sharpe Ratio = -20.56

Simulation Run = 6830

Weights = [0.104 0.161 0.124 0.134 0.01 0.144 0.105 0.141 0.076], Final Value = \$1520209.53, Sharpe Ratio = -17.68

Simulation Run = 6831

Weights = [0.173 0.013 0.036 0.027 0.08 0.245 0.134 0.083 0.209], Final Value = \$1521363.35, Sharpe Ratio = -15.47

Simulation Run = 6832

Weights = [0.039 0.022 0.092 0.196 0.128 0.217 0.057 0.217 0.031], Final Value = \$1674162.79, Sharpe Ratio = -17.18

Simulation Run = 6833

Weights = [0.139 0.022 0.193 0.06 0.074 0.043 0.068 0.102 0.298], Final Value = \$1304384.63, Sharpe Ratio = -21.57

Simulation Run = 6834

Weights = [0.124 0.037 0.25 0.068 0.202 0.097 0.02 0.08 0.121], Final Value = \$1486539.99, Sharpe Ratio = -20.26

Simulation Run = 6835

Weights = [0.091 0.153 0.093 0.129 0.066 0.151 0.033 0.183 0.1], Final Value = \$1532361.34, Sharpe Ratio = -21.26

Simulation Run = 6836

Weights = [0.132 0.186 0.135 0.067 0.017 0.15 0.046 0.127 0.142], Final Value = \$1449034.50, Sharpe Ratio = -20.47

Simulation Run = 6837

Weights = [0.086 0.016 0.031 0.095 0.106 0.169 0.226 0.115 0.156], Final Value = \$1541933.46, Sharpe Ratio = -14.28

Simulation Run = 6838

Weights = [0.005 0.181 0.235 0.09 0.069 0.074 0.104 0.122 0.12], Final Value = \$1392335.53, Sharpe Ratio = -19.20

Simulation Run = 6839
Weights = [0.078 0.189 0.094 0.156 0.092 0.134 0.12 0.054 0.082], Final Value =
\$1534528.04, Sharpe Ratio = -18.92

Simulation Run = 6840
Weights = [0.169 0.116 0.131 0.093 0.115 0.181 0.05 0.071 0.075], Final Value =
\$1575132.01, Sharpe Ratio = -18.77

Simulation Run = 6841
Weights = [0.044 0.127 0.041 0.122 0.136 0.109 0.122 0.151 0.149], Final Value =
\$1504904.48, Sharpe Ratio = -20.52

Simulation Run = 6842
Weights = [0.166 0.015 0.068 0.058 0.155 0.017 0.119 0.214 0.187], Final Value =
\$1469737.79, Sharpe Ratio = -20.37

Simulation Run = 6843
Weights = [0.142 0.116 0.223 0.198 0.113 0.023 0.015 0.165 0.005], Final Value =
\$1561686.41, Sharpe Ratio = -19.92

Simulation Run = 6844
Weights = [0.016 0.218 0.066 0.174 0.201 0.019 0.076 0.221 0.009], Final Value =
\$1585541.66, Sharpe Ratio = -23.90

Simulation Run = 6845
Weights = [0.16 0.06 0.03 0.105 0.025 0.174 0.14 0.072 0.233], Final Value =
\$1464270.06, Sharpe Ratio = -16.99

Simulation Run = 6846
Weights = [0.117 0.228 0.014 0.091 0.21 0.115 0.049 0.145 0.032], Final Value =
\$1621182.28, Sharpe Ratio = -23.68

Simulation Run = 6847
Weights = [0.146 0.048 0.041 0.089 0.092 0.171 0.122 0.14 0.152], Final Value =
\$1545421.08, Sharpe Ratio = -17.37

Simulation Run = 6848
Weights = [0.173 0.037 0.081 0.013 0.016 0.159 0.22 0.119 0.182], Final Value =

\$1464187.90, Sharpe Ratio = -13.78

Simulation Run = 6849

Weights = [0.275 0.284 0.123 0.017 0.133 0.066 0.019 0.081 0.001], Final Value = \$1562930.13, Sharpe Ratio = -22.40

Simulation Run = 6850

Weights = [0.03 0.143 0.13 0.16 0.124 0.019 0.1 0.077 0.217], Final Value = \$1372745.41, Sharpe Ratio = -23.44

Simulation Run = 6851

Weights = [0.115 0.154 0.028 0.017 0.158 0.053 0.112 0.198 0.164], Final Value = \$1465175.34, Sharpe Ratio = -22.27

Simulation Run = 6852

Weights = [0.222 0.194 0.124 0.035 0.025 0.046 0.136 0.203 0.016], Final Value = \$1529956.68, Sharpe Ratio = -17.10

Simulation Run = 6853

Weights = [0.157 0.059 0.006 0.113 0.102 0.157 0.13 0.161 0.114], Final Value = \$1594755.98, Sharpe Ratio = -17.24

Simulation Run = 6854

Weights = [0.017 0.242 0.181 0.169 0.165 0.144 0.025 0.051 0.005], Final Value = \$1571465.06, Sharpe Ratio = -21.24

Simulation Run = 6855

Weights = [0.134 0.175 0.016 0.035 0.095 0.192 0.143 0.063 0.147], Final Value = \$1517855.72, Sharpe Ratio = -17.33

Simulation Run = 6856

Weights = [0.051 0.02 0.204 0.21 0.03 0.036 0.227 0.051 0.173], Final Value = \$1403866.71, Sharpe Ratio = -14.46

Simulation Run = 6857

Weights = [0.065 0.063 0.152 0.078 0.129 0.128 0.078 0.115 0.193], Final Value = \$1438767.04, Sharpe Ratio = -20.46

Simulation Run = 6858
Weights = [0.068 0.083 0.207 0.183 0.086 0.089 0.042 0.197 0.045], Final Value =
\$1542584.05, Sharpe Ratio = -19.05

Simulation Run = 6859
Weights = [0.075 0.133 0.17 0.124 0.115 0.089 0.017 0.147 0.13], Final Value =
\$1466015.54, Sharpe Ratio = -23.09

Simulation Run = 6860
Weights = [0.014 0.208 0.095 0.05 0.021 0.211 0.076 0.22 0.106], Final Value =
\$1490850.95, Sharpe Ratio = -18.68

Simulation Run = 6861
Weights = [0.148 0.111 0.193 0.044 0.127 0.002 0.175 0.028 0.172], Final Value =
\$1379637.54, Sharpe Ratio = -17.59

Simulation Run = 6862
Weights = [0.078 0.018 0.166 0.081 0.093 0.129 0.19 0.08 0.165], Final Value =
\$1456939.51, Sharpe Ratio = -15.18

Simulation Run = 6863
Weights = [0.006 0.068 0.185 0.163 0.02 0.135 0.179 0.128 0.116], Final Value =
\$1469259.64, Sharpe Ratio = -15.02

Simulation Run = 6864
Weights = [0.157 0.099 0.171 0.143 0.025 0.177 0.005 0.033 0.189], Final Value =
\$1450061.19, Sharpe Ratio = -20.08

Simulation Run = 6865
Weights = [0.236 0.012 0.036 0.164 0.005 0.216 0.09 0.176 0.064], Final Value =
\$1664418.47, Sharpe Ratio = -15.18

Simulation Run = 6866
Weights = [0.181 0.12 0.07 0.105 0.102 0.105 0.117 0.13 0.07], Final Value =
\$1573933.82, Sharpe Ratio = -18.34

Simulation Run = 6867
Weights = [0.068 0.054 0.219 0.04 0.113 0.042 0.233 0.153 0.078], Final Value =
\$1462167.84, Sharpe Ratio = -14.08

Simulation Run = 6868
Weights = [0.056 0.041 0.182 0.156 0.202 0.103 0.001 0.08 0.179], Final Value =
\$1472872.18, Sharpe Ratio = -23.29

Simulation Run = 6869
Weights = [0.164 0.126 0.069 0.131 0.114 0.052 0.11 0.154 0.08], Final Value =
\$1550179.99, Sharpe Ratio = -19.98

Simulation Run = 6870
Weights = [0.011 0.152 0.226 0.076 0.127 0.004 0.193 0.197 0.013], Final Value =
\$1480027.52, Sharpe Ratio = -15.83

Simulation Run = 6871
Weights = [0.163 0.165 0.076 0.111 0.143 0.073 0.1 0.131 0.038], Final Value =
\$1584372.53, Sharpe Ratio = -20.14

Simulation Run = 6872
Weights = [0.149 0.022 0.118 0.071 0.287 0.073 0.11 0.141 0.029], Final Value =
\$1638746.69, Sharpe Ratio = -18.51

Simulation Run = 6873
Weights = [0.161 0.007 0.059 0.082 0.273 0.014 0.191 0.111 0.102], Final Value =
\$1576383.66, Sharpe Ratio = -17.13

Simulation Run = 6874
Weights = [0.089 0.16 0.132 0.103 0.016 0.14 0.074 0.149 0.138], Final Value =
\$1455632.72, Sharpe Ratio = -19.69

Simulation Run = 6875
Weights = [0.103 0.012 0.164 0.169 0.168 0.157 0.003 0.058 0.164], Final Value =
\$1523175.29, Sharpe Ratio = -20.98

Simulation Run = 6876
Weights = [0.13 0.148 0.133 0.142 0.151 0.053 0.108 0.047 0.089], Final Value =
\$1514701.36, Sharpe Ratio = -20.34

Simulation Run = 6877

Weights = [0.097 0.119 0.193 0.171 0.061 0.119 0.164 0.031 0.043], Final Value = \$1536361.42, Sharpe Ratio = -15.36

Simulation Run = 6878

Weights = [0.158 0.08 0.045 0.139 0.151 0.065 0.161 0.016 0.185], Final Value = \$1489156.24, Sharpe Ratio = -18.86

Simulation Run = 6879

Weights = [0.195 0.027 0.082 0.013 0.185 0.032 0.167 0.149 0.149], Final Value = \$1498302.21, Sharpe Ratio = -17.62

Simulation Run = 6880

Weights = [0.118 0.153 0.164 0.068 0.113 0.12 0.104 0.022 0.14], Final Value = \$1452189.96, Sharpe Ratio = -19.38

Simulation Run = 6881

Weights = [0.146 0.122 0.057 0.266 0.005 0.013 0.218 0.077 0.098], Final Value = \$1517746.93, Sharpe Ratio = -15.58

Simulation Run = 6882

Weights = [0.06 0.171 0.029 0.017 0.178 0.157 0.033 0.169 0.186], Final Value = \$1478791.22, Sharpe Ratio = -24.70

Simulation Run = 6883

Weights = [0.122 0.102 0.213 0.051 0.1 0.075 0.114 0.061 0.164], Final Value = \$1402203.43, Sharpe Ratio = -18.69

Simulation Run = 6884

Weights = [0.021 0.094 0.052 0.226 0.111 0.214 0.159 0.038 0.087], Final Value = \$1609999.07, Sharpe Ratio = -15.91

Simulation Run = 6885

Weights = [0.129 0.108 0.005 0.106 0.261 0.085 0.005 0.099 0.201], Final Value = \$1518371.79, Sharpe Ratio = -28.35

Simulation Run = 6886

Weights = [0.019 0.181 0.061 0.098 0.157 0.17 0.176 0.134 0.005], Final Value = \$1622370.10, Sharpe Ratio = -16.14

Simulation Run = 6887
Weights = [0.125 0.133 0.092 0.148 0.071 0.067 0.069 0.149 0.145], Final Value =
\$1475847.59, Sharpe Ratio = -22.26

Simulation Run = 6888
Weights = [0.181 0.183 0.082 0.044 0.041 0.13 0.127 0.132 0.08], Final Value =
\$1522793.42, Sharpe Ratio = -17.49

Simulation Run = 6889
Weights = [0.173 0.148 0.01 0.029 0.081 0.181 0.018 0.208 0.152], Final Value =
\$1531840.82, Sharpe Ratio = -21.41

Simulation Run = 6890
Weights = [0.061 0.198 0.272 0.19 0.092 0.115 0.002 0.038 0.032], Final Value =
\$1506051.25, Sharpe Ratio = -19.64

Simulation Run = 6891
Weights = [0.016 0.193 0.077 0.048 0.209 0.034 0.15 0.103 0.171], Final Value =
\$1419020.50, Sharpe Ratio = -21.69

Simulation Run = 6892
Weights = [0.065 0.004 0.027 0.175 0.158 0.105 0.187 0.169 0.111], Final Value =
\$1592463.21, Sharpe Ratio = -16.32

Simulation Run = 6893
Weights = [0.165 0.123 0.14 0.177 0.181 0.041 0.109 0.026 0.038], Final Value =
\$1578786.77, Sharpe Ratio = -19.32

Simulation Run = 6894
Weights = [0.146 0.13 0.113 0.124 0.161 0.143 0.044 0.006 0.134], Final Value =
\$1525669.81, Sharpe Ratio = -21.83

Simulation Run = 6895
Weights = [0.163 0.179 0.112 0.08 0.168 0.046 0.071 0.008 0.173], Final Value =
\$1435625.75, Sharpe Ratio = -24.33

Simulation Run = 6896
Weights = [0.109 0.017 0.184 0.086 0.119 0.076 0.12 0.148 0.14], Final Value =

\$1470594.50, Sharpe Ratio = -17.86

Simulation Run = 6897

Weights = [0.102 0.171 0.072 0.205 0.141 0.002 0.151 0.038 0.118], Final Value = \$1491936.31, Sharpe Ratio = -20.33

Simulation Run = 6898

Weights = [0.203 0.18 0.047 0.187 0.049 0.107 0.004 0.021 0.202], Final Value = \$1464228.06, Sharpe Ratio = -25.24

Simulation Run = 6899

Weights = [0.206 0.223 0.204 0.096 0.095 0.046 0.005 0.103 0.024], Final Value = \$1515446.18, Sharpe Ratio = -21.80

Simulation Run = 6900

Weights = [0.167 0.08 0.119 0.136 0.121 0.159 0.175 0.034 0.009], Final Value = \$1641555.61, Sharpe Ratio = -14.65

Simulation Run = 6901

Weights = [0.093 0.116 0.119 0.022 0.031 0.193 0.197 0.189 0.041], Final Value = \$1558974.31, Sharpe Ratio = -13.72

Simulation Run = 6902

Weights = [0.226 0.039 0.101 0.162 0.152 0.121 0.038 0.153 0.008], Final Value = \$1681366.81, Sharpe Ratio = -18.57

Simulation Run = 6903

Weights = [0.01 0.154 0.02 0.107 0.287 0.025 0.012 0.195 0.189], Final Value = \$1474669.05, Sharpe Ratio = -31.69

Simulation Run = 6904

Weights = [0.086 0.186 0.142 0.105 0.157 0.088 0.06 0.051 0.125], Final Value = \$1469835.79, Sharpe Ratio = -23.23

Simulation Run = 6905

Weights = [0.066 0.073 0.151 0.103 0.025 0.207 0.033 0.158 0.184], Final Value = \$1456764.01, Sharpe Ratio = -18.94

Simulation Run = 6906

Weights = [0.043 0.192 0.152 0.056 0.037 0.186 0.18 0.05 0.105], Final Value = \$1463252.29, Sharpe Ratio = -15.31

Simulation Run = 6907

Weights = [0.186 0.157 0.174 0.132 0.013 0.089 0.052 0.174 0.024], Final Value = \$1544988.28, Sharpe Ratio = -18.60

Simulation Run = 6908

Weights = [0.072 0.144 0.101 0.157 0.121 0.065 0.139 0.149 0.053], Final Value = \$1550663.80, Sharpe Ratio = -18.66

Simulation Run = 6909

Weights = [0.033 0.153 0.186 0.001 0.183 0.098 0.179 0.11 0.056], Final Value = \$1493806.87, Sharpe Ratio = -16.47

Simulation Run = 6910

Weights = [0.201 0.148 0.056 0.107 0.013 0.106 0.093 0.1 0.176], Final Value = \$1461422.67, Sharpe Ratio = -19.98

Simulation Run = 6911

Weights = [0.147 0.254 0.046 0.01 0.083 0.082 0.122 0.178 0.077], Final Value = \$1501345.61, Sharpe Ratio = -20.00

Simulation Run = 6912

Weights = [0.164 0.025 0.127 0.15 0.086 0.118 0.095 0.096 0.14], Final Value = \$1522527.89, Sharpe Ratio = -18.24

Simulation Run = 6913

Weights = [0.074 0.018 0.161 0.035 0.113 0.051 0.144 0.202 0.202], Final Value = \$1396975.33, Sharpe Ratio = -18.26

Simulation Run = 6914

Weights = [0.023 0.098 0.082 0.153 0.1 0.199 0.049 0.24 0.057], Final Value = \$1609905.04, Sharpe Ratio = -18.94

Simulation Run = 6915

Weights = [0.197 0.296 0.101 0.021 0.056 0.157 0.129 0.02 0.023], Final Value = \$1544049.52, Sharpe Ratio = -17.18

Simulation Run = 6916
Weights = [0.137 0.043 0.098 0.029 0.082 0.156 0.188 0.164 0.101], Final Value =
\$1542374.98, Sharpe Ratio = -14.63

Simulation Run = 6917
Weights = [0.139 0.171 0.181 0.142 0.075 0.095 0.058 0.024 0.116], Final Value =
\$1465107.91, Sharpe Ratio = -20.81

Simulation Run = 6918
Weights = [0.029 0.185 0.182 0.005 0.018 0.121 0.232 0.029 0.198], Final Value =
\$1325087.47, Sharpe Ratio = -14.75

Simulation Run = 6919
Weights = [0.022 0.158 0.078 0.016 0.202 0.184 0.131 0.098 0.112], Final Value =
\$1528717.76, Sharpe Ratio = -18.50

Simulation Run = 6920
Weights = [0.091 0.202 0.131 0.021 0.001 0.037 0.213 0.186 0.117], Final Value =
\$1396414.05, Sharpe Ratio = -15.83

Simulation Run = 6921
Weights = [0.078 0.115 0.072 0.156 0.071 0.098 0.123 0.158 0.129], Final Value =
\$1505126.73, Sharpe Ratio = -19.25

Simulation Run = 6922
Weights = [0.08 0.006 0.012 0.136 0.216 0.082 0.135 0.212 0.121], Final Value =
\$1593697.60, Sharpe Ratio = -19.21

Simulation Run = 6923
Weights = [0.06 0.098 0.042 0.15 0.152 0.151 0.16 0.148 0.039], Final Value =
\$1634150.68, Sharpe Ratio = -16.62

Simulation Run = 6924
Weights = [0.269 0.202 0. 0.102 0.168 0.041 0.131 0.054 0.033], Final Value =
\$1618033.62, Sharpe Ratio = -19.46

Simulation Run = 6925

Weights = [0.102 0.061 0.143 0.18 0.117 0.003 0.071 0.117 0.205], Final Value = \$1411731.06, Sharpe Ratio = -22.93

Simulation Run = 6926

Weights = [0.051 0.1 0.138 0.146 0.041 0.062 0.169 0.158 0.134], Final Value = \$1446984.54, Sharpe Ratio = -17.06

Simulation Run = 6927

Weights = [0.198 0.044 0.227 0.057 0.068 0.115 0.046 0.023 0.222], Final Value = \$1385993.06, Sharpe Ratio = -19.42

Simulation Run = 6928

Weights = [0.135 0.011 0.012 0.175 0.202 0.186 0.056 0.183 0.039], Final Value = \$1721847.02, Sharpe Ratio = -18.46

Simulation Run = 6929

Weights = [0.005 0.14 0.212 0.007 0.046 0.207 0.011 0.166 0.207], Final Value = \$1367989.27, Sharpe Ratio = -20.15

Simulation Run = 6930

Weights = [0.124 0.064 0.174 0.168 0.026 0.249 0.074 0.08 0.04], Final Value = \$1612356.96, Sharpe Ratio = -15.11

Simulation Run = 6931

Weights = [0.019 0.03 0.195 0.126 0.271 0.087 0.121 0.071 0.079], Final Value = \$1548759.08, Sharpe Ratio = -18.28

Simulation Run = 6932

Weights = [0.055 0.03 0.036 0.052 0.046 0.21 0.226 0.137 0.21], Final Value = \$1475171.49, Sharpe Ratio = -13.87

Simulation Run = 6933

Weights = [0.094 0.112 0.038 0.149 0.146 0.1 0.109 0.163 0.089], Final Value = \$1576884.27, Sharpe Ratio = -20.12

Simulation Run = 6934

Weights = [0.121 0.069 0.028 0.168 0.216 0.154 0.114 0.052 0.078], Final Value = \$1645774.09, Sharpe Ratio = -18.64

Simulation Run = 6935
Weights = [0.198 0.077 0.038 0.141 0.148 0.072 0.202 0.05 0.075], Final Value =
\$1598047.61, Sharpe Ratio = -15.80

Simulation Run = 6936
Weights = [0.216 0. 0.219 0.094 0.131 0.06 0.138 0.073 0.07], Final Value =
\$1536798.97, Sharpe Ratio = -15.80

Simulation Run = 6937
Weights = [0.136 0.134 0.053 0.151 0.172 0.065 0.043 0.129 0.117], Final Value =
\$1544038.48, Sharpe Ratio = -24.74

Simulation Run = 6938
Weights = [0.21 0.014 0.09 0.163 0.169 0.087 0.147 0.091 0.029], Final Value =
\$1655071.61, Sharpe Ratio = -16.27

Simulation Run = 6939
Weights = [0.136 0.127 0.003 0.151 0.109 0.158 0.082 0.118 0.117], Final Value =
\$1583833.52, Sharpe Ratio = -20.14

Simulation Run = 6940
Weights = [0.115 0.252 0.04 0.004 0.049 0.237 0.049 0.057 0.196], Final Value =
\$1444453.53, Sharpe Ratio = -20.24

Simulation Run = 6941
Weights = [0.063 0.134 0.145 0.001 0.077 0.125 0.163 0.134 0.158], Final Value =
\$1417078.98, Sharpe Ratio = -16.95

Simulation Run = 6942
Weights = [0.012 0.149 0.154 0.126 0.059 0.18 0.095 0.121 0.104], Final Value =
\$1494852.18, Sharpe Ratio = -18.11

Simulation Run = 6943
Weights = [0.141 0.098 0.189 0.016 0.117 0.191 0.062 0.113 0.074], Final Value =
\$1540057.30, Sharpe Ratio = -17.49

Simulation Run = 6944
Weights = [0.094 0.135 0.174 0.18 0.086 0.066 0.111 0.054 0.099], Final Value =

\$1482793.68, Sharpe Ratio = -18.99

Simulation Run = 6945

Weights = [0.207 0.104 0.136 0.051 0.148 0.192 0.118 0.032 0.012], Final Value = \$1636325.10, Sharpe Ratio = -15.72

Simulation Run = 6946

Weights = [0.133 0.089 0.103 0.031 0.179 0.114 0.089 0.149 0.112], Final Value = \$1531869.18, Sharpe Ratio = -20.01

Simulation Run = 6947

Weights = [0.247 0.217 0.056 0.046 0.19 0.004 0.096 0.028 0.115], Final Value = \$1495264.73, Sharpe Ratio = -23.06

Simulation Run = 6948

Weights = [0.153 0.188 0.103 0.006 0.031 0.194 0.186 0.069 0.07], Final Value = \$1524891.83, Sharpe Ratio = -14.50

Simulation Run = 6949

Weights = [0.167 0.073 0.16 0.149 0.112 0.178 0.041 0.026 0.095], Final Value = \$1566045.99, Sharpe Ratio = -18.58

Simulation Run = 6950

Weights = [0.084 0.022 0.015 0. 0.249 0.013 0.242 0.186 0.19], Final Value = \$1474246.42, Sharpe Ratio = -16.22

Simulation Run = 6951

Weights = [0.142 0.231 0.022 0.267 0.081 0.075 0.033 0.084 0.067], Final Value = \$1581941.20, Sharpe Ratio = -24.41

Simulation Run = 6952

Weights = [0.039 0.101 0.169 0.047 0.017 0.206 0.105 0.189 0.127], Final Value = \$1468799.15, Sharpe Ratio = -16.40

Simulation Run = 6953

Weights = [0.018 0.015 0.092 0.107 0.222 0.203 0.111 0.12 0.112], Final Value = \$1595061.85, Sharpe Ratio = -17.63

Simulation Run = 6954
Weights = [0.066 0.005 0.152 0.024 0.213 0.145 0.14 0.114 0.141], Final Value =
\$1512743.45, Sharpe Ratio = -17.10

Simulation Run = 6955
Weights = [0.055 0.014 0.16 0.186 0.033 0.15 0.177 0.071 0.153], Final Value =
\$1482848.75, Sharpe Ratio = -14.95

Simulation Run = 6956
Weights = [0.059 0.062 0.089 0.353 0.057 0.014 0.1 0.204 0.062], Final Value =
\$1578686.38, Sharpe Ratio = -19.06

Simulation Run = 6957
Weights = [0.002 0.018 0.269 0.028 0.074 0.077 0.202 0.18 0.15], Final Value =
\$1379883.44, Sharpe Ratio = -14.50

Simulation Run = 6958
Weights = [0.146 0.043 0.018 0.141 0.066 0.216 0.099 0.188 0.084], Final Value =
\$1640382.20, Sharpe Ratio = -16.40

Simulation Run = 6959
Weights = [0.083 0.137 0.066 0.102 0.174 0.073 0.135 0.183 0.045], Final Value =
\$1581153.74, Sharpe Ratio = -19.17

Simulation Run = 6960
Weights = [0.214 0.073 0.118 0.078 0.197 0.013 0.09 0.031 0.187], Final Value =
\$1452709.54, Sharpe Ratio = -22.19

Simulation Run = 6961
Weights = [0.153 0.022 0.109 0.037 0.254 0.065 0.025 0.114 0.221], Final Value =
\$1459858.45, Sharpe Ratio = -25.00

Simulation Run = 6962
Weights = [0.254 0.064 0.06 0.101 0.04 0.101 0.181 0.166 0.032], Final Value =
\$1618315.44, Sharpe Ratio = -14.57

Simulation Run = 6963
Weights = [0.141 0.139 0.05 0.085 0.133 0.133 0.149 0.138 0.033], Final Value =
\$1613892.84, Sharpe Ratio = -17.01

Simulation Run = 6964
Weights = [0.021 0.081 0.056 0.212 0.108 0.197 0.052 0.024 0.248], Final Value =
\$1466553.06, Sharpe Ratio = -21.79

Simulation Run = 6965
Weights = [0.052 0.267 0.062 0.27 0.023 0.15 0.03 0.072 0.075], Final Value =
\$1547014.49, Sharpe Ratio = -22.37

Simulation Run = 6966
Weights = [0.027 0.222 0.083 0.027 0.106 0.215 0.134 0.061 0.125], Final Value =
\$1487936.30, Sharpe Ratio = -17.67

Simulation Run = 6967
Weights = [0.168 0.223 0.241 0.127 0.025 0.046 0.043 0.074 0.054], Final Value =
\$1454102.78, Sharpe Ratio = -19.96

Simulation Run = 6968
Weights = [0.002 0.113 0.166 0.208 0.104 0.025 0.123 0.058 0.201], Final Value =
\$1381227.29, Sharpe Ratio = -20.63

Simulation Run = 6969
Weights = [0.035 0.113 0.023 0.195 0.113 0.03 0.203 0.215 0.074], Final Value =
\$1556811.59, Sharpe Ratio = -17.02

Simulation Run = 6970
Weights = [0.154 0.12 0.148 0.085 0.117 0.02 0.128 0.064 0.163], Final Value =
\$1420335.74, Sharpe Ratio = -19.89

Simulation Run = 6971
Weights = [0.103 0.138 0.232 0.214 0.005 0.011 0.022 0.047 0.227], Final Value =
\$1318434.38, Sharpe Ratio = -22.58

Simulation Run = 6972
Weights = [0.071 0.168 0.18 0.07 0.09 0.13 0.009 0.089 0.194], Final Value =
\$1391313.10, Sharpe Ratio = -23.52

Simulation Run = 6973

Weights = [0.125 0.118 0.036 0.188 0.014 0.201 0.109 0.094 0.114], Final Value = \$1571448.92, Sharpe Ratio = -17.09

Simulation Run = 6974

Weights = [0.054 0.183 0.024 0.012 0.199 0.158 0.091 0.128 0.151], Final Value = \$1507720.05, Sharpe Ratio = -21.77

Simulation Run = 6975

Weights = [0.193 0.115 0.013 0.219 0.133 0.207 0.035 0.008 0.078], Final Value = \$1666563.18, Sharpe Ratio = -19.54

Simulation Run = 6976

Weights = [0.077 0.019 0.158 0.128 0.02 0.12 0.116 0.175 0.186], Final Value = \$1435845.14, Sharpe Ratio = -17.42

Simulation Run = 6977

Weights = [0.046 0.239 0.209 0.088 0.169 0.063 0.042 0.114 0.031], Final Value = \$1496393.61, Sharpe Ratio = -22.36

Simulation Run = 6978

Weights = [0.122 0.134 0.144 0.067 0.199 0.01 0.049 0.089 0.186], Final Value = \$1411128.18, Sharpe Ratio = -25.63

Simulation Run = 6979

Weights = [0.161 0.059 0.098 0.139 0.092 0.188 0.051 0.175 0.038], Final Value = \$1644559.98, Sharpe Ratio = -17.52

Simulation Run = 6980

Weights = [0.137 0.069 0.054 0.132 0.216 0.046 0.086 0.117 0.143], Final Value = \$1536238.74, Sharpe Ratio = -22.77

Simulation Run = 6981

Weights = [0.126 0.056 0.149 0.19 0.112 0.139 0.038 0.041 0.149], Final Value = \$1516478.75, Sharpe Ratio = -20.40

Simulation Run = 6982

Weights = [0.063 0.173 0.13 0.062 0.134 0.114 0.044 0.114 0.166], Final Value = \$1435341.11, Sharpe Ratio = -23.82

Simulation Run = 6983
Weights = [0.163 0.146 0.188 0.037 0.052 0.186 0.021 0.089 0.118], Final Value =
\$1480646.45, Sharpe Ratio = -19.04

Simulation Run = 6984
Weights = [0.129 0.036 0.141 0.027 0.064 0.159 0.197 0.06 0.187], Final Value =
\$1443157.35, Sharpe Ratio = -14.64

Simulation Run = 6985
Weights = [0.067 0.139 0.072 0.187 0.034 0.093 0.103 0.142 0.164], Final Value =
\$1462426.18, Sharpe Ratio = -20.65

Simulation Run = 6986
Weights = [0.14 0.15 0.109 0.147 0.15 0.085 0.109 0.006 0.104], Final Value =
\$1524106.03, Sharpe Ratio = -20.22

Simulation Run = 6987
Weights = [0.13 0.127 0.087 0.15 0.114 0.095 0.055 0.108 0.135], Final Value =
\$1511263.10, Sharpe Ratio = -22.58

Simulation Run = 6988
Weights = [0.004 0.125 0.072 0.211 0.293 0.112 0.053 0.026 0.104], Final Value =
\$1585880.20, Sharpe Ratio = -24.00

Simulation Run = 6989
Weights = [0.005 0.19 0.185 0.066 0.164 0.176 0.006 0.158 0.05], Final Value =
\$1534698.52, Sharpe Ratio = -21.17

Simulation Run = 6990
Weights = [0.028 0.11 0.153 0.145 0.063 0.21 0.081 0.185 0.026], Final Value =
\$1595957.33, Sharpe Ratio = -16.61

Simulation Run = 6991
Weights = [0.08 0.092 0.05 0.149 0.113 0.076 0.152 0.157 0.132], Final Value =
\$1517637.65, Sharpe Ratio = -18.69

Simulation Run = 6992
Weights = [0.085 0.119 0.031 0.223 0.161 0.117 0.051 0.135 0.079], Final Value =

\$1613803.93, Sharpe Ratio = -22.41

Simulation Run = 6993

Weights = [0.14 0.073 0.135 0.189 0.075 0.199 0.023 0.019 0.148], Final Value = \$1534092.60, Sharpe Ratio = -19.34

Simulation Run = 6994

Weights = [0.072 0.168 0.036 0.101 0.123 0.269 0.203 0.004 0.024], Final Value = \$1653333.58, Sharpe Ratio = -13.74

Simulation Run = 6995

Weights = [0.15 0.118 0.065 0.128 0.164 0.032 0.032 0.159 0.153], Final Value = \$1496767.35, Sharpe Ratio = -26.09

Simulation Run = 6996

Weights = [0.156 0.118 0.111 0.037 0.125 0.123 0.11 0.13 0.09], Final Value = \$1533935.89, Sharpe Ratio = -18.41

Simulation Run = 6997

Weights = [0.037 0.116 0.189 0.158 0.038 0.159 0.073 0.167 0.063], Final Value = \$1525335.60, Sharpe Ratio = -17.63

Simulation Run = 6998

Weights = [0.113 0.182 0.026 0.167 0.03 0.09 0.198 0.013 0.181], Final Value = \$1448102.71, Sharpe Ratio = -17.12

Simulation Run = 6999

Weights = [0.093 0.098 0.127 0.102 0.069 0.101 0.127 0.137 0.146], Final Value = \$1463267.53, Sharpe Ratio = -18.42

Simulation Run = 7000

Weights = [0.022 0.197 0.002 0.218 0.101 0.175 0.079 0.177 0.029], Final Value = \$1642441.99, Sharpe Ratio = -19.91

Simulation Run = 7001

Weights = [0.135 0.177 0.011 0.066 0.085 0.033 0.166 0.212 0.115], Final Value = \$1494176.77, Sharpe Ratio = -18.87

Simulation Run = 7002
Weights = [0.239 0.071 0.099 0.026 0.065 0.104 0.036 0.186 0.175], Final Value =
\$1472026.98, Sharpe Ratio = -20.80

Simulation Run = 7003
Weights = [0.006 0.023 0.081 0.229 0.269 0.068 0.16 0.006 0.158], Final Value =
\$1537327.72, Sharpe Ratio = -19.03

Simulation Run = 7004
Weights = [0.031 0.155 0.064 0.156 0.151 0.151 0.117 0.164 0.012], Final Value =
\$1632584.34, Sharpe Ratio = -18.34

Simulation Run = 7005
Weights = [0.071 0.159 0.01 0.168 0.176 0.044 0.14 0.156 0.075], Final Value =
\$1572726.74, Sharpe Ratio = -20.62

Simulation Run = 7006
Weights = [0.142 0.14 0.139 0.029 0.143 0.092 0.125 0.15 0.04], Final Value =
\$1548449.83, Sharpe Ratio = -17.94

Simulation Run = 7007
Weights = [0.173 0.112 0.163 0.012 0.157 0.012 0.159 0.127 0.084], Final Value =
\$1480629.53, Sharpe Ratio = -17.57

Simulation Run = 7008
Weights = [0.012 0.225 0.028 0.154 0.156 0.136 0.136 0.065 0.088], Final Value =
\$1550073.09, Sharpe Ratio = -19.98

Simulation Run = 7009
Weights = [0.131 0.13 0.162 0.108 0.12 0.08 0.066 0.098 0.105], Final Value =
\$1491644.38, Sharpe Ratio = -20.90

Simulation Run = 7010
Weights = [0.179 0.099 0.141 0.082 0.063 0.04 0.198 0.03 0.167], Final Value =
\$1418627.38, Sharpe Ratio = -16.14

Simulation Run = 7011
Weights = [0.076 0.095 0.086 0.075 0.183 0.162 0.156 0.116 0.051], Final Value =
\$1604100.06, Sharpe Ratio = -16.51

Simulation Run = 7012
Weights = [0.158 0.204 0.132 0.068 0.093 0.057 0.195 0.072 0.021], Final Value =
\$1529623.85, Sharpe Ratio = -15.93

Simulation Run = 7013
Weights = [0.012 0.115 0.05 0.079 0.267 0.076 0.019 0.165 0.217], Final Value =
\$1455922.46, Sharpe Ratio = -29.25

Simulation Run = 7014
Weights = [0.096 0.19 0.114 0.006 0.223 0.003 0.227 0.038 0.104], Final Value =
\$1453646.40, Sharpe Ratio = -16.82

Simulation Run = 7015
Weights = [0.153 0.08 0.149 0.059 0.144 0.037 0.129 0.126 0.123], Final Value =
\$1475388.21, Sharpe Ratio = -18.83

Simulation Run = 7016
Weights = [0.115 0.105 0.295 0.048 0.01 0.089 0.107 0.064 0.167], Final Value =
\$1346159.20, Sharpe Ratio = -16.89

Simulation Run = 7017
Weights = [0.079 0.12 0.073 0.107 0.177 0.126 0.068 0.151 0.098], Final Value =
\$1560379.86, Sharpe Ratio = -21.67

Simulation Run = 7018
Weights = [0.157 0.152 0.154 0.093 0.121 0.032 0.093 0.054 0.145], Final Value =
\$1434725.99, Sharpe Ratio = -21.48

Simulation Run = 7019
Weights = [0.087 0.003 0.147 0.103 0.072 0.167 0.178 0.083 0.16], Final Value =
\$1489114.24, Sharpe Ratio = -14.91

Simulation Run = 7020
Weights = [0.155 0.111 0.053 0.089 0.188 0.122 0.227 0.039 0.016], Final Value =
\$1641397.07, Sharpe Ratio = -14.48

Simulation Run = 7021

Weights = [0.206 0.161 0.062 0.168 0.032 0.107 0.095 0.025 0.144], Final Value = \$1500820.14, Sharpe Ratio = -19.88

Simulation Run = 7022

Weights = [0.163 0.094 0.066 0.15 0.098 0.029 0.093 0.16 0.146], Final Value = \$1495081.94, Sharpe Ratio = -21.61

Simulation Run = 7023

Weights = [0.078 0.081 0.128 0.118 0.128 0.143 0.151 0.122 0.052], Final Value = \$1579457.37, Sharpe Ratio = -16.26

Simulation Run = 7024

Weights = [0.24 0.214 0.003 0.223 0.11 0.107 0.057 0.03 0.016], Final Value = \$1662941.75, Sharpe Ratio = -21.07

Simulation Run = 7025

Weights = [0.048 0.067 0.019 0.119 0.244 0.048 0.028 0.225 0.201], Final Value = \$1496003.44, Sharpe Ratio = -28.34

Simulation Run = 7026

Weights = [0.195 0.273 0.083 0.058 0.045 0.148 0.051 0.04 0.108], Final Value = \$1489174.36, Sharpe Ratio = -21.30

Simulation Run = 7027

Weights = [0.077 0.049 0.071 0.178 0.046 0.154 0.157 0.052 0.216], Final Value = \$1462582.66, Sharpe Ratio = -17.00

Simulation Run = 7028

Weights = [0.128 0.154 0.146 0.106 0.142 0.102 0.1 0.015 0.107], Final Value = \$1498848.30, Sharpe Ratio = -19.93

Simulation Run = 7029

Weights = [0.056 0.254 0.084 0.091 0.029 0.196 0.022 0.143 0.125], Final Value = \$1480035.06, Sharpe Ratio = -21.77

Simulation Run = 7030

Weights = [0.135 0.122 0.052 0.192 0.051 0.164 0.179 0.001 0.104], Final Value = \$1564469.23, Sharpe Ratio = -15.63

Simulation Run = 7031
Weights = [0.048 0.006 0.167 0.181 0.189 0.003 0.167 0.128 0.112], Final Value =
\$1501616.66, Sharpe Ratio = -17.37

Simulation Run = 7032
Weights = [0.184 0.154 0.15 0.021 0.109 0.068 0.086 0.179 0.048], Final Value =
\$1523648.44, Sharpe Ratio = -19.36

Simulation Run = 7033
Weights = [0.161 0.131 0.109 0.095 0.124 0.053 0.129 0.102 0.095], Final Value =
\$1511738.98, Sharpe Ratio = -19.12

Simulation Run = 7034
Weights = [0.195 0.176 0.177 0.051 0.03 0.155 0.154 0.062 0.], Final Value =
\$1563179.66, Sharpe Ratio = -14.75

Simulation Run = 7035
Weights = [0.007 0.044 0.032 0.225 0.129 0.207 0.169 0.073 0.114], Final Value =
\$1607893.23, Sharpe Ratio = -15.80

Simulation Run = 7036
Weights = [0.056 0.141 0.14 0.13 0.144 0.15 0.044 0.11 0.084], Final Value =
\$1541913.38, Sharpe Ratio = -20.95

Simulation Run = 7037
Weights = [0.027 0.006 0.149 0.031 0.249 0.185 0.155 0.057 0.142], Final Value =
\$1528841.82, Sharpe Ratio = -16.38

Simulation Run = 7038
Weights = [0.072 0.095 0.024 0.182 0.17 0.156 0.109 0.039 0.152], Final Value =
\$1559886.94, Sharpe Ratio = -20.07

Simulation Run = 7039
Weights = [0.109 0.159 0.112 0.029 0.239 0.169 0.045 0.086 0.053], Final Value =
\$1593032.60, Sharpe Ratio = -20.93

Simulation Run = 7040
Weights = [0.107 0.169 0.006 0.249 0.18 0.12 0.009 0.033 0.129], Final Value =

\$1582649.43, Sharpe Ratio = -26.09

Simulation Run = 7041

Weights = [0.13 0.164 0.184 0.135 0.108 0.103 0.08 0.086 0.011], Final Value = \$1566544.83, Sharpe Ratio = -18.56

Simulation Run = 7042

Weights = [0.105 0.253 0.136 0.126 0.001 0.023 0.081 0.22 0.056], Final Value = \$1461785.76, Sharpe Ratio = -21.19

Simulation Run = 7043

Weights = [0.108 0.053 0.082 0.002 0.214 0.071 0.193 0.087 0.191], Final Value = \$1455369.55, Sharpe Ratio = -17.31

Simulation Run = 7044

Weights = [0.007 0.15 0.098 0.119 0.071 0.134 0.13 0.163 0.128], Final Value = \$1478483.94, Sharpe Ratio = -18.71

Simulation Run = 7045

Weights = [0.068 0.028 0.031 0.16 0.273 0.112 0.029 0.026 0.272], Final Value = \$1478089.85, Sharpe Ratio = -26.70

Simulation Run = 7046

Weights = [0.037 0.146 0.165 0.095 0.165 0.163 0.162 0.025 0.041], Final Value = \$1557851.79, Sharpe Ratio = -16.12

Simulation Run = 7047

Weights = [0.156 0.003 0.023 0.223 0.101 0.213 0.104 0.109 0.067], Final Value = \$1689127.10, Sharpe Ratio = -16.03

Simulation Run = 7048

Weights = [0.043 0.128 0.128 0.128 0.051 0.144 0.226 0.146 0.006], Final Value = \$1581172.22, Sharpe Ratio = -13.64

Simulation Run = 7049

Weights = [0.201 0.065 0.016 0.092 0.139 0.173 0.161 0.087 0.066], Final Value = \$1646558.98, Sharpe Ratio = -15.56

Simulation Run = 7050
Weights = [0.091 0.153 0.052 0.132 0.102 0.041 0.14 0.121 0.167], Final Value =
\$1451806.76, Sharpe Ratio = -20.74

Simulation Run = 7051
Weights = [0.14 0.05 0.168 0.112 0.067 0.187 0.091 0.004 0.182], Final Value =
\$1469250.62, Sharpe Ratio = -17.40

Simulation Run = 7052
Weights = [0.17 0.012 0.171 0.02 0.072 0.107 0.126 0.153 0.169], Final Value =
\$1447004.34, Sharpe Ratio = -16.83

Simulation Run = 7053
Weights = [0.111 0.09 0.143 0.116 0.076 0.098 0.048 0.165 0.153], Final Value =
\$1464637.08, Sharpe Ratio = -21.34

Simulation Run = 7054
Weights = [0.15 0.089 0.106 0.22 0.12 0.026 0.004 0.201 0.084], Final Value =
\$1557441.31, Sharpe Ratio = -23.49

Simulation Run = 7055
Weights = [0.111 0.182 0.069 0.123 0.09 0.065 0.141 0.077 0.143], Final Value =
\$1464653.65, Sharpe Ratio = -19.93

Simulation Run = 7056
Weights = [0.205 0.152 0.177 0.068 0.003 0.065 0.109 0.031 0.189], Final Value =
\$1371009.14, Sharpe Ratio = -18.84

Simulation Run = 7057
Weights = [0.137 0.033 0.176 0.073 0.072 0.077 0.097 0.171 0.164], Final Value =
\$1440454.04, Sharpe Ratio = -18.65

Simulation Run = 7058
Weights = [0.067 0.097 0.017 0.168 0.085 0.134 0.075 0.173 0.185], Final Value =
\$1504419.10, Sharpe Ratio = -21.82

Simulation Run = 7059
Weights = [0.122 0.165 0.044 0.089 0.142 0.1 0.102 0.083 0.153], Final Value =
\$1493956.08, Sharpe Ratio = -21.75

Simulation Run = 7060
Weights = [0.192 0.065 0.068 0.12 0.174 0.077 0.135 0.152 0.016], Final Value =
\$1649558.49, Sharpe Ratio = -17.35

Simulation Run = 7061
Weights = [0.081 0.189 0.139 0.117 0.195 0.044 0.04 0.087 0.108], Final Value =
\$1482029.13, Sharpe Ratio = -25.28

Simulation Run = 7062
Weights = [0.088 0.144 0.164 0.018 0.118 0.15 0.097 0.124 0.098], Final Value =
\$1491367.28, Sharpe Ratio = -18.52

Simulation Run = 7063
Weights = [0.055 0.195 0.122 0.074 0.146 0.093 0.132 0.059 0.124], Final Value =
\$1460058.51, Sharpe Ratio = -20.01

Simulation Run = 7064
Weights = [0.144 0.127 0.126 0.198 0.021 0.15 0.148 0.017 0.07], Final Value =
\$1555052.43, Sharpe Ratio = -15.83

Simulation Run = 7065
Weights = [0.036 0.276 0.08 0.056 0.086 0.039 0.205 0.129 0.093], Final Value =
\$1437391.89, Sharpe Ratio = -17.65

Simulation Run = 7066
Weights = [0.16 0.09 0.035 0.039 0.262 0.13 0.141 0.127 0.015], Final Value =
\$1674659.63, Sharpe Ratio = -17.36

Simulation Run = 7067
Weights = [0.084 0.165 0.133 0.046 0.132 0.119 0.138 0.077 0.105], Final Value =
\$1485276.90, Sharpe Ratio = -18.35

Simulation Run = 7068
Weights = [0.049 0.188 0.12 0.041 0.143 0.046 0.193 0.122 0.098], Final Value =
\$1456101.16, Sharpe Ratio = -17.53

Simulation Run = 7069

Weights = [0.142 0.155 0.046 0.02 0.078 0.206 0.112 0.064 0.177], Final Value = \$1485439.96, Sharpe Ratio = -17.95

Simulation Run = 7070

Weights = [0.057 0.119 0.03 0.218 0.121 0.103 0.058 0.123 0.171], Final Value = \$1512757.46, Sharpe Ratio = -24.03

Simulation Run = 7071

Weights = [0.089 0.124 0.12 0.136 0.111 0.047 0.113 0.12 0.139], Final Value = \$1462734.06, Sharpe Ratio = -20.64

Simulation Run = 7072

Weights = [0.164 0.193 0.153 0.046 0.099 0.12 0.069 0.153 0.003], Final Value = \$1570517.66, Sharpe Ratio = -18.86

Simulation Run = 7073

Weights = [0.054 0.145 0.016 0.067 0.205 0.216 0.201 0.044 0.053], Final Value = \$1634056.95, Sharpe Ratio = -15.07

Simulation Run = 7074

Weights = [0.122 0.039 0.18 0.239 0.08 0.077 0.105 0.046 0.113], Final Value = \$1514620.66, Sharpe Ratio = -17.83

Simulation Run = 7075

Weights = [0.041 0.167 0.016 0.161 0.252 0.086 0.047 0.006 0.224], Final Value = \$1467435.88, Sharpe Ratio = -28.66

Simulation Run = 7076

Weights = [0.001 0.146 0.219 0.166 0.04 0.12 0.039 0.024 0.243], Final Value = \$1327432.56, Sharpe Ratio = -21.88

Simulation Run = 7077

Weights = [0.112 0.057 0.068 0.143 0.117 0.11 0.102 0.149 0.143], Final Value = \$1530454.87, Sharpe Ratio = -19.68

Simulation Run = 7078

Weights = [0.105 0.169 0.075 0.14 0.026 0.086 0.042 0.167 0.189], Final Value = \$1427092.06, Sharpe Ratio = -24.10

Simulation Run = 7079
Weights = [0.083 0.119 0.163 0.012 0.072 0.017 0.181 0.177 0.176], Final Value =
\$1361861.11, Sharpe Ratio = -17.42

Simulation Run = 7080
Weights = [0.112 0.008 0.107 0.219 0.17 0.137 0.028 0.208 0.012], Final Value =
\$1688391.37, Sharpe Ratio = -18.86

Simulation Run = 7081
Weights = [0.113 0.108 0.142 0.092 0.019 0.195 0.079 0.133 0.117], Final Value =
\$1506792.14, Sharpe Ratio = -17.31

Simulation Run = 7082
Weights = [0.113 0.037 0.048 0.165 0.152 0.171 0.085 0.143 0.086], Final Value =
\$1631802.52, Sharpe Ratio = -18.47

Simulation Run = 7083
Weights = [0.204 0.053 0.235 0.095 0.018 0.053 0.209 0.131 0.001], Final Value =
\$1540281.03, Sharpe Ratio = -13.14

Simulation Run = 7084
Weights = [0.155 0.047 0.121 0.17 0.116 0.143 0.016 0.056 0.177], Final Value =
\$1509752.57, Sharpe Ratio = -21.56

Simulation Run = 7085
Weights = [0.014 0.131 0.04 0.118 0.142 0.114 0.015 0.205 0.221], Final Value =
\$1444593.11, Sharpe Ratio = -27.43

Simulation Run = 7086
Weights = [0.071 0.243 0.023 0.027 0.166 0.125 0.105 0.189 0.051], Final Value =
\$1565867.19, Sharpe Ratio = -20.90

Simulation Run = 7087
Weights = [0.045 0.001 0.024 0.137 0.206 0.131 0.144 0.219 0.093], Final Value =
\$1624540.34, Sharpe Ratio = -17.65

Simulation Run = 7088
Weights = [0.117 0.104 0.132 0.11 0.083 0.114 0.119 0.131 0.089], Final Value =

\$1524188.12, Sharpe Ratio = -17.83

Simulation Run = 7089

Weights = [0.165 0.152 0.048 0.117 0.097 0.13 0.161 0.028 0.101], Final Value = \$1549464.27, Sharpe Ratio = -17.11

Simulation Run = 7090

Weights = [0.12 0.04 0.159 0.1 0.23 0.045 0.151 0.111 0.045], Final Value = \$1576304.50, Sharpe Ratio = -17.25

Simulation Run = 7091

Weights = [0.175 0.172 0.057 0.162 0.061 0.087 0.091 0.15 0.046], Final Value = \$1582952.99, Sharpe Ratio = -19.69

Simulation Run = 7092

Weights = [0.131 0.083 0.18 0.069 0.113 0.166 0.037 0.046 0.174], Final Value = \$1458525.16, Sharpe Ratio = -20.07

Simulation Run = 7093

Weights = [0.176 0.034 0.039 0.034 0.199 0.083 0.19 0.187 0.058], Final Value = \$1617450.65, Sharpe Ratio = -15.78

Simulation Run = 7094

Weights = [0.189 0.125 0.084 0.022 0.194 0.133 0.015 0.054 0.184], Final Value = \$1487397.17, Sharpe Ratio = -23.93

Simulation Run = 7095

Weights = [0.005 0.01 0.015 0.115 0.012 0.205 0.187 0.222 0.23], Final Value = \$1470764.51, Sharpe Ratio = -15.11

Simulation Run = 7096

Weights = [0.131 0.132 0.079 0.092 0.166 0.177 0.078 0.048 0.098], Final Value = \$1574289.38, Sharpe Ratio = -19.60

Simulation Run = 7097

Weights = [0.226 0.238 0.148 0.076 0.065 0.104 0.11 0.019 0.013], Final Value = \$1548889.89, Sharpe Ratio = -17.80

Simulation Run = 7098

Weights = [0.227 0.118 0.088 0.145 0.11 0.169 0.011 0.02 0.114], Final Value = \$1575086.96, Sharpe Ratio = -20.75

Simulation Run = 7099

Weights = [0.143 0.018 0.097 0.086 0.009 0.162 0.219 0.09 0.175], Final Value = \$1478379.03, Sharpe Ratio = -13.73

Simulation Run = 7100

Weights = [0.02 0.13 0.193 0.092 0.187 0.15 0.17 0.02 0.038], Final Value = \$1550620.78, Sharpe Ratio = -15.83

Simulation Run = 7101

Weights = [0.224 0.036 0.13 0.077 0.098 0.148 0.143 0.112 0.032], Final Value = \$1620180.23, Sharpe Ratio = -14.98

Simulation Run = 7102

Weights = [0.177 0.066 0.149 0.178 0.07 0.041 0.065 0.204 0.05], Final Value = \$1561131.34, Sharpe Ratio = -19.11

Simulation Run = 7103

Weights = [0.195 0.066 0.061 0.174 0.004 0.113 0.194 0.132 0.061], Final Value = \$1591012.87, Sharpe Ratio = -14.45

Simulation Run = 7104

Weights = [0.001 0.225 0.242 0.097 0.034 0.185 0.112 0.028 0.077], Final Value = \$1446169.41, Sharpe Ratio = -16.72

Simulation Run = 7105

Weights = [0.06 0.036 0.09 0.051 0.213 0.065 0.081 0.187 0.216], Final Value = \$1443934.89, Sharpe Ratio = -23.28

Simulation Run = 7106

Weights = [0.068 0.158 0.169 0.183 0.201 0.054 0.108 0.03 0.028], Final Value = \$1560320.59, Sharpe Ratio = -19.63

Simulation Run = 7107

Weights = [0.08 0.116 0.178 0.159 0.012 0.059 0.074 0.136 0.186], Final Value = \$1385223.04, Sharpe Ratio = -20.73

Simulation Run = 7108
Weights = [0.063 0.151 0.014 0.164 0.108 0.052 0.119 0.137 0.192], Final Value =
\$1455696.92, Sharpe Ratio = -22.70

Simulation Run = 7109
Weights = [0.132 0.131 0.068 0.112 0.121 0.081 0.093 0.127 0.135], Final Value =
\$1504799.34, Sharpe Ratio = -21.42

Simulation Run = 7110
Weights = [0.111 0.073 0.033 0.008 0.195 0.223 0.124 0.017 0.217], Final Value =
\$1503970.21, Sharpe Ratio = -17.82

Simulation Run = 7111
Weights = [0.163 0.095 0.197 0.022 0.082 0.034 0.147 0.152 0.108], Final Value =
\$1440788.73, Sharpe Ratio = -17.10

Simulation Run = 7112
Weights = [0.201 0.038 0.137 0.125 0.003 0.18 0.035 0.206 0.073], Final Value =
\$1583411.39, Sharpe Ratio = -16.91

Simulation Run = 7113
Weights = [0.093 0.03 0.234 0.202 0.071 0.183 0.099 0.003 0.085], Final Value =
\$1543054.63, Sharpe Ratio = -15.61

Simulation Run = 7114
Weights = [0.175 0.151 0.152 0.189 0.012 0.002 0.098 0.088 0.132], Final Value =
\$1433354.31, Sharpe Ratio = -20.08

Simulation Run = 7115
Weights = [0.014 0.142 0.072 0.157 0.166 0.103 0.152 0.032 0.163], Final Value =
\$1478303.71, Sharpe Ratio = -19.70

Simulation Run = 7116
Weights = [0.005 0.047 0.011 0.066 0.001 0.109 0.596 0.004 0.161], Final Value =
\$1443756.90, Sharpe Ratio = -7.79

Simulation Run = 7117

Weights = [0.147 0.113 0.04 0.088 0.138 0.084 0.133 0.165 0.092], Final Value = \$1559846.57, Sharpe Ratio = -18.93

Simulation Run = 7118

Weights = [0.053 0.193 0.227 0.036 0.014 0.05 0.169 0.162 0.096], Final Value = \$1383790.06, Sharpe Ratio = -16.44

Simulation Run = 7119

Weights = [0.034 0.015 0.128 0.193 0.03 0.126 0.122 0.175 0.179], Final Value = \$1466527.17, Sharpe Ratio = -17.54

Simulation Run = 7120

Weights = [0.195 0.021 0.06 0.151 0.084 0.075 0.138 0.207 0.068], Final Value = \$1603203.05, Sharpe Ratio = -16.83

Simulation Run = 7121

Weights = [0.028 0.168 0.121 0.142 0.129 0.094 0.098 0.098 0.122], Final Value = \$1478130.82, Sharpe Ratio = -21.31

Simulation Run = 7122

Weights = [0.127 0.161 0.146 0.097 0.135 0.074 0.17 0.003 0.087], Final Value = \$1495870.68, Sharpe Ratio = -17.28

Simulation Run = 7123

Weights = [0.197 0.24 0.039 0.043 0.003 0.12 0.1 0.095 0.163], Final Value = \$1442152.08, Sharpe Ratio = -19.98

Simulation Run = 7124

Weights = [0.08 0.094 0.008 0.103 0.273 0.178 0.202 0.037 0.027], Final Value = \$1689341.63, Sharpe Ratio = -15.32

Simulation Run = 7125

Weights = [0.138 0.233 0.008 0.083 0.188 0.078 0.071 0.084 0.118], Final Value = \$1527140.74, Sharpe Ratio = -25.01

Simulation Run = 7126

Weights = [0.103 0.128 0.1 0.132 0.036 0.132 0.153 0.109 0.107], Final Value = \$1510172.97, Sharpe Ratio = -16.71

Simulation Run = 7127
Weights = [0.143 0.039 0.019 0.188 0.105 0.15 0.135 0.06 0.161], Final Value =
\$1563342.94, Sharpe Ratio = -17.70

Simulation Run = 7128
Weights = [0.174 0.113 0.036 0.249 0.038 0.099 0.106 0.171 0.013], Final Value =
\$1653169.93, Sharpe Ratio = -17.66

Simulation Run = 7129
Weights = [0.196 0.024 0.074 0.067 0.186 0.112 0.04 0.24 0.061], Final Value =
\$1630505.78, Sharpe Ratio = -20.03

Simulation Run = 7130
Weights = [0.081 0.18 0.197 0.002 0.177 0.11 0.177 0.012 0.064], Final Value =
\$1485351.99, Sharpe Ratio = -16.36

Simulation Run = 7131
Weights = [0.155 0.16 0.021 0.057 0.166 0.094 0.004 0.214 0.129], Final Value =
\$1536572.50, Sharpe Ratio = -26.03

Simulation Run = 7132
Weights = [0.038 0.229 0.121 0.157 0.069 0.16 0.043 0.09 0.094], Final Value =
\$1503425.96, Sharpe Ratio = -21.63

Simulation Run = 7133
Weights = [0.165 0.104 0.168 0.092 0.031 0.162 0.07 0.066 0.142], Final Value =
\$1473797.25, Sharpe Ratio = -18.12

Simulation Run = 7134
Weights = [0.09 0.133 0.069 0.09 0.143 0.132 0.153 0.103 0.087], Final Value =
\$1553943.40, Sharpe Ratio = -17.64

Simulation Run = 7135
Weights = [0.239 0.17 0.071 0.018 0.095 0.02 0.17 0.085 0.131], Final Value =
\$1459634.06, Sharpe Ratio = -17.94

Simulation Run = 7136
Weights = [0.107 0.03 0.012 0.135 0.018 0.236 0.205 0.1 0.157], Final Value =

\$1561613.78, Sharpe Ratio = -13.64

Simulation Run = 7137

Weights = [0.219 0.093 0.095 0.147 0.039 0.016 0.088 0.108 0.197], Final Value = \$1427801.59, Sharpe Ratio = -21.27

Simulation Run = 7138

Weights = [0.123 0.111 0.104 0.241 0.232 0.043 0.074 0.058 0.013], Final Value = \$1642089.31, Sharpe Ratio = -20.99

Simulation Run = 7139

Weights = [0.034 0.057 0.206 0.186 0.124 0.033 0.19 0.023 0.148], Final Value = \$1430417.78, Sharpe Ratio = -16.33

Simulation Run = 7140

Weights = [0.126 0.017 0.13 0.153 0.059 0.222 0.003 0.139 0.149], Final Value = \$1547704.82, Sharpe Ratio = -18.48

Simulation Run = 7141

Weights = [0.039 0.05 0.235 0.179 0.183 0.019 0.02 0.199 0.076], Final Value = \$1506397.31, Sharpe Ratio = -20.99

Simulation Run = 7142

Weights = [0.169 0.16 0.007 0.141 0.141 0.06 0.194 0.057 0.07], Final Value = \$1580982.17, Sharpe Ratio = -17.08

Simulation Run = 7143

Weights = [0.136 0.284 0.047 0.022 0.003 0.188 0.043 0.156 0.119], Final Value = \$1480962.89, Sharpe Ratio = -20.70

Simulation Run = 7144

Weights = [0.026 0.008 0.152 0.119 0.158 0.134 0.094 0.15 0.159], Final Value = \$1494967.93, Sharpe Ratio = -19.03

Simulation Run = 7145

Weights = [0.215 0.078 0.023 0.065 0.096 0.103 0.178 0.18 0.062], Final Value = \$1603746.74, Sharpe Ratio = -15.63

Simulation Run = 7146
Weights = [0.193 0.016 0.016 0.255 0.283 0.079 0.021 0.056 0.082], Final Value =
\$1687705.59, Sharpe Ratio = -22.76

Simulation Run = 7147
Weights = [0.169 0.014 0.062 0.176 0.067 0.151 0.053 0.171 0.136], Final Value =
\$1574415.35, Sharpe Ratio = -19.04

Simulation Run = 7148
Weights = [0.027 0.114 0.124 0.068 0.064 0.114 0.193 0.088 0.208], Final Value =
\$1385673.40, Sharpe Ratio = -16.55

Simulation Run = 7149
Weights = [0.081 0.066 0.023 0.143 0.132 0.144 0.168 0.134 0.109], Final Value =
\$1582972.23, Sharpe Ratio = -16.73

Simulation Run = 7150
Weights = [0.16 0.083 0.159 0.091 0.065 0.174 0.072 0.173 0.024], Final Value =
\$1601142.65, Sharpe Ratio = -16.63

Simulation Run = 7151
Weights = [0.202 0.042 0.212 0.055 0.045 0.123 0.074 0.227 0.02], Final Value =
\$1570458.75, Sharpe Ratio = -16.03

Simulation Run = 7152
Weights = [0.22 0.086 0.15 0.177 0.078 0.065 0.001 0.086 0.137], Final Value =
\$1498782.28, Sharpe Ratio = -22.19

Simulation Run = 7153
Weights = [0.235 0.019 0.186 0.038 0.139 0.102 0.141 0.084 0.055], Final Value =
\$1567084.83, Sharpe Ratio = -15.47

Simulation Run = 7154
Weights = [0.038 0.165 0.041 0.147 0.233 0.025 0.186 0.148 0.017], Final Value =
\$1603184.74, Sharpe Ratio = -18.23

Simulation Run = 7155
Weights = [0.106 0.028 0.238 0.298 0.067 0.109 0.053 0.01 0.092], Final Value =
\$1533201.59, Sharpe Ratio = -17.44

Simulation Run = 7156
Weights = [0.073 0.043 0.126 0.207 0.193 0.023 0.12 0.156 0.058], Final Value =
\$1577536.43, Sharpe Ratio = -19.05

Simulation Run = 7157
Weights = [0.081 0.112 0.159 0.029 0.104 0.03 0.176 0.179 0.131], Final Value =
\$1422138.97, Sharpe Ratio = -17.33

Simulation Run = 7158
Weights = [0.101 0.065 0.08 0.2 0.031 0.178 0.181 0.09 0.075], Final Value =
\$1591600.08, Sharpe Ratio = -14.58

Simulation Run = 7159
Weights = [0.071 0.116 0.099 0.192 0.203 0.172 0.009 0.075 0.064], Final Value =
\$1623433.67, Sharpe Ratio = -21.67

Simulation Run = 7160
Weights = [0.188 0.058 0.048 0.221 0.165 0.011 0.052 0.216 0.042], Final Value =
\$1637393.45, Sharpe Ratio = -21.76

Simulation Run = 7161
Weights = [0.047 0.128 0.077 0.087 0.123 0.091 0.149 0.147 0.153], Final Value =
\$1467047.26, Sharpe Ratio = -19.19

Simulation Run = 7162
Weights = [0.057 0.012 0.156 0.192 0.133 0.175 0.155 0.117 0.003], Final Value =
\$1655139.56, Sharpe Ratio = -14.57

Simulation Run = 7163
Weights = [0.097 0.079 0.129 0.23 0.212 0.015 0.09 0.016 0.132], Final Value =
\$1511611.74, Sharpe Ratio = -21.99

Simulation Run = 7164
Weights = [0.152 0.143 0.125 0.103 0.105 0.026 0.115 0.111 0.12], Final Value =
\$1466202.01, Sharpe Ratio = -20.34

Simulation Run = 7165

Weights = [0.192 0.056 0.005 0.134 0.105 0.151 0.148 0.191 0.018], Final Value = \$1689299.85, Sharpe Ratio = -15.64

Simulation Run = 7166

Weights = [0.103 0.144 0.106 0.079 0.027 0.171 0.155 0.149 0.067], Final Value = \$1539280.33, Sharpe Ratio = -15.65

Simulation Run = 7167

Weights = [0.053 0.005 0.239 0.103 0.225 0.114 0.089 0.049 0.122], Final Value = \$1501221.67, Sharpe Ratio = -18.26

Simulation Run = 7168

Weights = [0.024 0.127 0.066 0.026 0.196 0.165 0.151 0.156 0.09], Final Value = \$1555702.07, Sharpe Ratio = -17.63

Simulation Run = 7169

Weights = [0.099 0.229 0.152 0.203 0.008 0.083 0.138 0.026 0.061], Final Value = \$1490556.49, Sharpe Ratio = -17.70

Simulation Run = 7170

Weights = [0.11 0.069 0.103 0.148 0.107 0.046 0.15 0.141 0.126], Final Value = \$1499627.28, Sharpe Ratio = -18.23

Simulation Run = 7171

Weights = [0.129 0.14 0.155 0.082 0.019 0.101 0.146 0.085 0.142], Final Value = \$1431215.79, Sharpe Ratio = -17.13

Simulation Run = 7172

Weights = [0.278 0.039 0.055 0.153 0.04 0.025 0.077 0.262 0.072], Final Value = \$1587409.92, Sharpe Ratio = -18.83

Simulation Run = 7173

Weights = [0.094 0.062 0.112 0.001 0.231 0.12 0.094 0.058 0.229], Final Value = \$1432482.53, Sharpe Ratio = -21.40

Simulation Run = 7174

Weights = [0.206 0.179 0.036 0.132 0.006 0.062 0.148 0.081 0.15], Final Value = \$1468423.64, Sharpe Ratio = -18.51

Simulation Run = 7175
Weights = [0.168 0.239 0.068 0.169 0.207 0.061 0.034 0.007 0.048], Final Value =
\$1585250.97, Sharpe Ratio = -25.29

Simulation Run = 7176
Weights = [0.102 0.089 0.077 0.104 0.06 0.226 0.106 0.141 0.095], Final Value =
\$1578402.13, Sharpe Ratio = -16.41

Simulation Run = 7177
Weights = [0.119 0.144 0.125 0.078 0.018 0.043 0.171 0.12 0.183], Final Value =
\$1380894.46, Sharpe Ratio = -17.65

Simulation Run = 7178
Weights = [0.057 0.076 0.108 0.087 0.186 0.169 0.124 0.064 0.13], Final Value =
\$1534677.52, Sharpe Ratio = -18.17

Simulation Run = 7179
Weights = [0.065 0.165 0.06 0.146 0.224 0.02 0.051 0.192 0.078], Final Value =
\$1550736.62, Sharpe Ratio = -26.00

Simulation Run = 7180
Weights = [0.072 0.07 0.004 0.227 0.165 0.229 0.017 0.145 0.072], Final Value =
\$1688847.87, Sharpe Ratio = -19.73

Simulation Run = 7181
Weights = [0.167 0.079 0.136 0.111 0.015 0.163 0.162 0.122 0.046], Final Value =
\$1575001.26, Sharpe Ratio = -14.46

Simulation Run = 7182
Weights = [0.154 0.176 0.035 0.03 0.104 0.18 0.128 0.09 0.102], Final Value =
\$1551121.39, Sharpe Ratio = -17.60

Simulation Run = 7183
Weights = [0.028 0.16 0.18 0.177 0.111 0.145 0.039 0.088 0.072], Final Value =
\$1525389.18, Sharpe Ratio = -20.41

Simulation Run = 7184
Weights = [0.178 0.104 0.171 0.067 0.125 0.034 0.176 0.064 0.081], Final Value =

\$1492457.75, Sharpe Ratio = -16.42

Simulation Run = 7185

Weights = [0.164 0.049 0.054 0.038 0.173 0.046 0.183 0.133 0.158], Final Value = \$1496661.65, Sharpe Ratio = -17.41

Simulation Run = 7186

Weights = [0.171 0.056 0.016 0.167 0.142 0.075 0.163 0.085 0.124], Final Value = \$1573068.74, Sharpe Ratio = -17.73

Simulation Run = 7187

Weights = [0.15 0.065 0.079 0.16 0.187 0.14 0.065 0.093 0.062], Final Value = \$1635346.11, Sharpe Ratio = -19.66

Simulation Run = 7188

Weights = [0.126 0.085 0.106 0.088 0.148 0.148 0.056 0.098 0.144], Final Value = \$1520323.33, Sharpe Ratio = -20.82

Simulation Run = 7189

Weights = [0.066 0.008 0.138 0.151 0.157 0.163 0.039 0.213 0.066], Final Value = \$1611173.28, Sharpe Ratio = -18.78

Simulation Run = 7190

Weights = [0.158 0.145 0.148 0.161 0.024 0.158 0.154 0.045 0.007], Final Value = \$1594924.73, Sharpe Ratio = -14.90

Simulation Run = 7191

Weights = [0.171 0.146 0.063 0.174 0.177 0.079 0.012 0.093 0.086], Final Value = \$1583268.49, Sharpe Ratio = -24.67

Simulation Run = 7192

Weights = [0.108 0.055 0.003 0.265 0.217 0.031 0.162 0.103 0.056], Final Value = \$1650958.55, Sharpe Ratio = -18.36

Simulation Run = 7193

Weights = [0.081 0.124 0.196 0.228 0.02 0.061 0.074 0.082 0.133], Final Value = \$1439043.62, Sharpe Ratio = -19.67

Simulation Run = 7194
Weights = [0.069 0.022 0.172 0.163 0.167 0.05 0.067 0.101 0.187], Final Value =
\$1446728.93, Sharpe Ratio = -21.72

Simulation Run = 7195
Weights = [0.13 0.119 0.128 0.165 0.124 0.063 0.119 0.051 0.102], Final Value =
\$1514084.25, Sharpe Ratio = -19.37

Simulation Run = 7196
Weights = [0.063 0.078 0.166 0.161 0.032 0.19 0.034 0.138 0.137], Final Value =
\$1497605.01, Sharpe Ratio = -18.70

Simulation Run = 7197
Weights = [0.103 0.148 0.2 0.136 0.062 0.003 0.111 0.106 0.13], Final Value =
\$1404603.55, Sharpe Ratio = -19.71

Simulation Run = 7198
Weights = [0.092 0.158 0.161 0.195 0.08 0.193 0.035 0.054 0.031], Final Value =
\$1594501.18, Sharpe Ratio = -18.50

Simulation Run = 7199
Weights = [0.084 0.035 0.068 0.15 0.134 0.184 0.13 0.186 0.028], Final Value =
\$1665005.67, Sharpe Ratio = -15.98

Simulation Run = 7200
Weights = [0.138 0.077 0.155 0.105 0.23 0.036 0.156 0.016 0.086], Final Value =
\$1530238.60, Sharpe Ratio = -17.97

Simulation Run = 7201
Weights = [0.129 0.192 0.077 0.128 0.018 0.048 0.121 0.117 0.169], Final Value =
\$1417219.15, Sharpe Ratio = -20.71

Simulation Run = 7202
Weights = [0.024 0.153 0.156 0.078 0.075 0.172 0.214 0.029 0.098], Final Value =
\$1481627.96, Sharpe Ratio = -14.48

Simulation Run = 7203
Weights = [0.049 0.036 0.149 0.184 0.211 0.031 0.167 0.109 0.065], Final Value =
\$1558510.09, Sharpe Ratio = -17.21

Simulation Run = 7204
Weights = [0.214 0.039 0.192 0.02 0.193 0.222 0.011 0.038 0.071], Final Value =
\$1602198.48, Sharpe Ratio = -17.52

Simulation Run = 7205
Weights = [0.179 0.149 0.187 0.003 0.099 0.092 0.065 0.076 0.149], Final Value =
\$1421993.99, Sharpe Ratio = -20.49

Simulation Run = 7206
Weights = [0.036 0.099 0.218 0.013 0.123 0.193 0.078 0.013 0.226], Final Value =
\$1373709.82, Sharpe Ratio = -18.90

Simulation Run = 7207
Weights = [0.2 0.067 0.014 0.107 0.212 0.165 0.056 0.138 0.042], Final Value =
\$1692960.61, Sharpe Ratio = -19.28

Simulation Run = 7208
Weights = [0.035 0.062 0.047 0.185 0.22 0.01 0.141 0.068 0.233], Final Value =
\$1438489.88, Sharpe Ratio = -22.21

Simulation Run = 7209
Weights = [0.033 0.159 0.059 0.094 0.172 0.173 0.067 0.093 0.148], Final Value =
\$1515393.25, Sharpe Ratio = -22.05

Simulation Run = 7210
Weights = [0.091 0.123 0.118 0.19 0.114 0.149 0.027 0.131 0.058], Final Value =
\$1591555.36, Sharpe Ratio = -20.56

Simulation Run = 7211
Weights = [0.03 0.286 0.019 0.208 0.148 0.061 0.142 0.1 0.007], Final Value =
\$1593418.96, Sharpe Ratio = -20.53

Simulation Run = 7212
Weights = [0.129 0.168 0.052 0.162 0.217 0.103 0.047 0.091 0.032], Final Value =
\$1635787.82, Sharpe Ratio = -22.84

Simulation Run = 7213

Weights = [0.179 0.185 0.109 0.054 0.149 0.163 0.014 0.019 0.128], Final Value = \$1514581.32, Sharpe Ratio = -22.47

Simulation Run = 7214

Weights = [0.045 0.097 0.02 0.195 0.207 0.104 0.101 0.084 0.146], Final Value = \$1555117.12, Sharpe Ratio = -22.12

Simulation Run = 7215

Weights = [0.017 0.032 0.001 0.143 0.128 0.173 0.15 0.201 0.155], Final Value = \$1562449.72, Sharpe Ratio = -17.36

Simulation Run = 7216

Weights = [0.175 0.114 0.132 0.015 0.053 0.115 0.098 0.161 0.135], Final Value = \$1464948.45, Sharpe Ratio = -18.45

Simulation Run = 7217

Weights = [0.204 0.139 0.023 0.068 0.194 0.226 0.016 0.113 0.017], Final Value = \$1703650.02, Sharpe Ratio = -19.04

Simulation Run = 7218

Weights = [0.112 0.192 0.007 0.157 0.088 0.027 0.094 0.16 0.164], Final Value = \$1466603.98, Sharpe Ratio = -24.27

Simulation Run = 7219

Weights = [0.12 0.104 0.156 0.164 0.059 0.17 0.024 0.112 0.091], Final Value = \$1545067.46, Sharpe Ratio = -19.23

Simulation Run = 7220

Weights = [0.092 0.11 0.086 0.117 0.127 0.09 0.202 0.156 0.021], Final Value = \$1596024.42, Sharpe Ratio = -15.43

Simulation Run = 7221

Weights = [0.135 0.098 0.104 0.218 0.101 0.111 0.072 0.1 0.06], Final Value = \$1594604.25, Sharpe Ratio = -19.44

Simulation Run = 7222

Weights = [0.177 0.047 0.269 0.054 0.099 0.106 0.24 0. 0.008], Final Value = \$1543473.36, Sharpe Ratio = -12.38

Simulation Run = 7223
Weights = [0.122 0.181 0.108 0.016 0.118 0.188 0.072 0.113 0.082], Final Value =
\$1538286.12, Sharpe Ratio = -19.07

Simulation Run = 7224
Weights = [0.08 0.187 0.157 0.045 0.033 0.072 0.137 0.092 0.196], Final Value =
\$1346519.51, Sharpe Ratio = -19.20

Simulation Run = 7225
Weights = [0.035 0.13 0.126 0.074 0.175 0.003 0.125 0.157 0.174], Final Value =
\$1405281.05, Sharpe Ratio = -21.96

Simulation Run = 7226
Weights = [0.133 0.04 0.223 0.015 0.196 0.116 0.038 0.095 0.146], Final Value =
\$1468708.76, Sharpe Ratio = -20.21

Simulation Run = 7227
Weights = [0.169 0.147 0.024 0.156 0.146 0.049 0.098 0.17 0.04], Final Value =
\$1612062.34, Sharpe Ratio = -20.87

Simulation Run = 7228
Weights = [0.014 0.142 0.066 0.132 0.13 0.092 0.166 0.067 0.192], Final Value =
\$1437012.81, Sharpe Ratio = -19.24

Simulation Run = 7229
Weights = [0.101 0.228 0.122 0.178 0.084 0.214 0.047 0.002 0.024], Final Value =
\$1602771.82, Sharpe Ratio = -18.82

Simulation Run = 7230
Weights = [0.004 0.21 0.157 0.071 0.169 0.031 0.119 0.17 0.069], Final Value =
\$1465400.91, Sharpe Ratio = -20.96

Simulation Run = 7231
Weights = [0.173 0.092 0.199 0.041 0.067 0.102 0.085 0.045 0.198], Final Value =
\$1390837.01, Sharpe Ratio = -19.18

Simulation Run = 7232
Weights = [0.208 0.09 0.112 0.024 0.209 0.101 0.189 0.039 0.028], Final Value =

\$1606956.34, Sharpe Ratio = -15.38

Simulation Run = 7233

Weights = [0.146 0.1 0.046 0.088 0.091 0.09 0.161 0.167 0.11], Final Value = \$1534324.10, Sharpe Ratio = -17.35

Simulation Run = 7234

Weights = [0.107 0.106 0.042 0.271 0.113 0.118 0.092 0.093 0.058], Final Value = \$1630907.22, Sharpe Ratio = -19.43

Simulation Run = 7235

Weights = [0.114 0.263 0.005 0.137 0.131 0.04 0.153 0.119 0.037], Final Value = \$1566155.87, Sharpe Ratio = -20.01

Simulation Run = 7236

Weights = [0.046 0.035 0.149 0.122 0.183 0.077 0.151 0.078 0.159], Final Value = \$1472574.44, Sharpe Ratio = -18.24

Simulation Run = 7237

Weights = [0.103 0.103 0.188 0.006 0.097 0.212 0.065 0.218 0.009], Final Value = \$1591087.52, Sharpe Ratio = -16.30

Simulation Run = 7238

Weights = [0.109 0.033 0.115 0.159 0.128 0.132 0.033 0.172 0.118], Final Value = \$1558467.26, Sharpe Ratio = -20.61

Simulation Run = 7239

Weights = [0.126 0.104 0.097 0.134 0.052 0.101 0.176 0.094 0.116], Final Value = \$1504707.75, Sharpe Ratio = -16.32

Simulation Run = 7240

Weights = [0.149 0.104 0.192 0.026 0.155 0.058 0.164 0.091 0.061], Final Value = \$1505191.31, Sharpe Ratio = -16.46

Simulation Run = 7241

Weights = [0.026 0.031 0.138 0.216 0.092 0.087 0.194 0.076 0.14], Final Value = \$1490424.78, Sharpe Ratio = -15.80

Simulation Run = 7242
Weights = [0.189 0.045 0.013 0.066 0.163 0.207 0.123 0.001 0.193], Final Value =
\$1552576.69, Sharpe Ratio = -17.34

Simulation Run = 7243
Weights = [0.087 0.166 0.114 0.149 0.154 0.138 0.023 0.032 0.136], Final Value =
\$1506673.29, Sharpe Ratio = -23.70

Simulation Run = 7244
Weights = [0.143 0.143 0.015 0.164 0.124 0.114 0.115 0.018 0.164], Final Value =
\$1519758.51, Sharpe Ratio = -20.69

Simulation Run = 7245
Weights = [0.208 0.171 0.057 0.217 0.076 0.026 0.022 0.076 0.148], Final Value =
\$1494246.12, Sharpe Ratio = -25.65

Simulation Run = 7246
Weights = [0.109 0.086 0.144 0.148 0.163 0.046 0.11 0.166 0.028], Final Value =
\$1580664.60, Sharpe Ratio = -18.73

Simulation Run = 7247
Weights = [0.04 0.148 0.061 0.289 0.192 0.151 0.034 0.061 0.024], Final Value =
\$1668065.23, Sharpe Ratio = -21.46

Simulation Run = 7248
Weights = [0.224 0.106 0.114 0.043 0.1 0.183 0.156 0.015 0.06], Final Value =
\$1586104.86, Sharpe Ratio = -15.03

Simulation Run = 7249
Weights = [0.135 0.19 0.207 0.036 0.055 0.041 0.104 0.124 0.108], Final Value =
\$1406722.59, Sharpe Ratio = -19.34

Simulation Run = 7250
Weights = [0.004 0.138 0.1 0.116 0.066 0.102 0.182 0.118 0.174], Final Value =
\$1423164.35, Sharpe Ratio = -17.38

Simulation Run = 7251
Weights = [0.122 0.073 0.002 0.182 0.237 0.221 0.008 0.121 0.036], Final Value =
\$1734311.21, Sharpe Ratio = -19.93

Simulation Run = 7252
Weights = [0.061 0.165 0.091 0.165 0.129 0.068 0.142 0.16 0.02], Final Value =
\$1581445.74, Sharpe Ratio = -18.46

Simulation Run = 7253
Weights = [0.047 0.118 0.055 0.033 0.124 0.093 0.224 0.247 0.059], Final Value =
\$1548132.02, Sharpe Ratio = -15.19

Simulation Run = 7254
Weights = [0.019 0.027 0.143 0.15 0.214 0.156 0.181 0.058 0.052], Final Value =
\$1607623.05, Sharpe Ratio = -15.29

Simulation Run = 7255
Weights = [0.103 0.068 0.173 0.162 0.131 0.109 0.065 0.13 0.06], Final Value =
\$1564485.50, Sharpe Ratio = -18.95

Simulation Run = 7256
Weights = [0.082 0.143 0.083 0.15 0.153 0.08 0.113 0.065 0.131], Final Value =
\$1503454.29, Sharpe Ratio = -21.14

Simulation Run = 7257
Weights = [0.127 0.134 0.054 0.155 0.167 0.063 0.148 0.091 0.06], Final Value =
\$1584325.50, Sharpe Ratio = -18.79

Simulation Run = 7258
Weights = [0.135 0.2 0.002 0.284 0.206 0.057 0.011 0.074 0.031], Final Value =
\$1657939.72, Sharpe Ratio = -25.76

Simulation Run = 7259
Weights = [0.236 0.16 0.026 0.004 0.036 0.162 0.108 0.104 0.164], Final Value =
\$1490714.10, Sharpe Ratio = -17.94

Simulation Run = 7260
Weights = [0.226 0.124 0.229 0.029 0.064 0.118 0.021 0. 0.188], Final Value =
\$1393252.81, Sharpe Ratio = -20.32

Simulation Run = 7261

Weights = [0.063 0.18 0.041 0.069 0.133 0.161 0.118 0.148 0.086], Final Value = \$1555928.82, Sharpe Ratio = -19.06

Simulation Run = 7262

Weights = [0.09 0.075 0.021 0.158 0.146 0.157 0.037 0.16 0.157], Final Value = \$1561737.97, Sharpe Ratio = -22.41

Simulation Run = 7263

Weights = [0.199 0.005 0.216 0.208 0.001 0.065 0.129 0.028 0.148], Final Value = \$1458836.90, Sharpe Ratio = -15.97

Simulation Run = 7264

Weights = [0.051 0.211 0.005 0.16 0.006 0.207 0.17 0.099 0.091], Final Value = \$1556758.07, Sharpe Ratio = -15.86

Simulation Run = 7265

Weights = [0.193 0.14 0.153 0.067 0.066 0.018 0.022 0.204 0.136], Final Value = \$1435306.20, Sharpe Ratio = -23.35

Simulation Run = 7266

Weights = [0.037 0.066 0.194 0.186 0.001 0.199 0.011 0.102 0.205], Final Value = \$1427027.21, Sharpe Ratio = -19.17

Simulation Run = 7267

Weights = [0.235 0.173 0.014 0.108 0.042 0.204 0.046 0.122 0.056], Final Value = \$1630571.29, Sharpe Ratio = -18.30

Simulation Run = 7268

Weights = [0.102 0.026 0.172 0.049 0.196 0.17 0.157 0.108 0.019], Final Value = \$1620351.16, Sharpe Ratio = -14.89

Simulation Run = 7269

Weights = [0.099 0.103 0.14 0.154 0.062 0.148 0.051 0.157 0.085], Final Value = \$1542688.39, Sharpe Ratio = -19.22

Simulation Run = 7270

Weights = [0.108 0.125 0.19 0.145 0.016 0.164 0.01 0.078 0.163], Final Value = \$1442576.37, Sharpe Ratio = -20.16

Simulation Run = 7271
Weights = [0.087 0.102 0.094 0.012 0.135 0.205 0.09 0.096 0.179], Final Value =
\$1482771.25, Sharpe Ratio = -18.80

Simulation Run = 7272
Weights = [0.063 0.015 0.125 0.007 0.196 0.227 0.213 0.028 0.126], Final Value =
\$1549584.60, Sharpe Ratio = -13.79

Simulation Run = 7273
Weights = [0.141 0.233 0.11 0.058 0.151 0.055 0.157 0.046 0.049], Final Value =
\$1516936.31, Sharpe Ratio = -18.58

Simulation Run = 7274
Weights = [0.067 0.184 0.011 0.037 0.185 0.115 0.179 0.158 0.066], Final Value =
\$1570725.04, Sharpe Ratio = -17.63

Simulation Run = 7275
Weights = [0.002 0.223 0.2 0.039 0.079 0.048 0.234 0.138 0.036], Final Value =
\$1442588.18, Sharpe Ratio = -14.80

Simulation Run = 7276
Weights = [0.016 0.119 0.106 0.112 0.17 0.066 0.172 0.158 0.08], Final Value =
\$1522729.27, Sharpe Ratio = -17.85

Simulation Run = 7277
Weights = [0.053 0.208 0.128 0.027 0.031 0.142 0.099 0.094 0.218], Final Value =
\$1352808.74, Sharpe Ratio = -20.36

Simulation Run = 7278
Weights = [0.036 0.145 0.116 0.09 0.014 0.079 0.22 0.092 0.208], Final Value =
\$1359733.78, Sharpe Ratio = -15.92

Simulation Run = 7279
Weights = [0.073 0.149 0.143 0.106 0.063 0.158 0.126 0.061 0.12], Final Value =
\$1481058.33, Sharpe Ratio = -17.57

Simulation Run = 7280
Weights = [0.193 0.076 0.173 0.031 0.18 0.164 0.03 0.077 0.074], Final Value =

\$1571213.47, Sharpe Ratio = -19.03

Simulation Run = 7281

Weights = [0.135 0.082 0.044 0.172 0.092 0.132 0.108 0.04 0.196], Final Value = \$1497058.54, Sharpe Ratio = -19.81

Simulation Run = 7282

Weights = [0.154 0.152 0.038 0.103 0.046 0.164 0.102 0.125 0.115], Final Value = \$1541882.44, Sharpe Ratio = -18.43

Simulation Run = 7283

Weights = [0.094 0.082 0.226 0.017 0.063 0.243 0.178 0.018 0.079], Final Value = \$1513745.53, Sharpe Ratio = -13.31

Simulation Run = 7284

Weights = [0.108 0.122 0.062 0.145 0.173 0.176 0.05 0.147 0.017], Final Value = \$1667298.93, Sharpe Ratio = -19.60

Simulation Run = 7285

Weights = [0.281 0.11 0.122 0.111 0.03 0.096 0.116 0.07 0.064], Final Value = \$1556212.08, Sharpe Ratio = -16.71

Simulation Run = 7286

Weights = [0.094 0.171 0.073 0.079 0.012 0.21 0.048 0.111 0.202], Final Value = \$1442097.73, Sharpe Ratio = -20.14

Simulation Run = 7287

Weights = [0.119 0.068 0.072 0.108 0.063 0.206 0.128 0.203 0.033], Final Value = \$1638196.31, Sharpe Ratio = -15.35

Simulation Run = 7288

Weights = [0.034 0.117 0.119 0.051 0.191 0.024 0.172 0.103 0.19], Final Value = \$1399441.69, Sharpe Ratio = -19.46

Simulation Run = 7289

Weights = [0.155 0.133 0.086 0.145 0.021 0.141 0.099 0.092 0.129], Final Value = \$1509484.23, Sharpe Ratio = -18.51

Simulation Run = 7290
Weights = [0.169 0.12 0.188 0.189 0.066 0.002 0.088 0.116 0.063], Final Value =
\$1501704.83, Sharpe Ratio = -19.11

Simulation Run = 7291
Weights = [0.119 0.023 0.178 0.07 0.167 0.117 0.105 0.141 0.08], Final Value =
\$1550007.00, Sharpe Ratio = -17.48

Simulation Run = 7292
Weights = [0.114 0.101 0.12 0.112 0.082 0.059 0.151 0.153 0.108], Final Value =
\$1491473.82, Sharpe Ratio = -17.76

Simulation Run = 7293
Weights = [0.178 0.133 0.1 0.065 0.161 0.003 0.13 0.099 0.13], Final Value =
\$1471049.60, Sharpe Ratio = -20.46

Simulation Run = 7294
Weights = [0.186 0.16 0.064 0.037 0.019 0.013 0.206 0.083 0.233], Final Value =
\$1347422.43, Sharpe Ratio = -17.03

Simulation Run = 7295
Weights = [0.024 0.021 0.127 0.125 0.114 0.166 0.147 0.126 0.15], Final Value =
\$1507986.57, Sharpe Ratio = -16.56

Simulation Run = 7296
Weights = [0.116 0.18 0.157 0.104 0.007 0.183 0.157 0.028 0.069], Final Value =
\$1511735.09, Sharpe Ratio = -15.23

Simulation Run = 7297
Weights = [0.1 0.165 0.142 0.066 0.075 0.181 0.144 0.076 0.049], Final Value =
\$1546339.35, Sharpe Ratio = -15.95

Simulation Run = 7298
Weights = [0.229 0.115 0.006 0.109 0.136 0.132 0.115 0.114 0.043], Final Value =
\$1652045.30, Sharpe Ratio = -17.82

Simulation Run = 7299
Weights = [0.076 0.122 0.272 0.075 0.167 0.165 0.002 0.105 0.015], Final Value =
\$1557853.83, Sharpe Ratio = -18.44

Simulation Run = 7300
Weights = [0.011 0.144 0.068 0.128 0.193 0.179 0.225 0.041 0.011], Final Value =
\$1637994.99, Sharpe Ratio = -14.47

Simulation Run = 7301
Weights = [0.216 0.187 0.231 0.043 0.091 0.101 0.091 0.039 0.003], Final Value =
\$1535588.67, Sharpe Ratio = -17.23

Simulation Run = 7302
Weights = [0.052 0.034 0.135 0.204 0.152 0.006 0.133 0.116 0.167], Final Value =
\$1458718.69, Sharpe Ratio = -19.77

Simulation Run = 7303
Weights = [0.131 0.003 0.164 0.149 0.186 0.044 0.037 0.158 0.129], Final Value =
\$1519613.08, Sharpe Ratio = -21.59

Simulation Run = 7304
Weights = [0.241 0.033 0.06 0.205 0.015 0.047 0.1 0.11 0.189], Final Value =
\$1486268.66, Sharpe Ratio = -19.27

Simulation Run = 7305
Weights = [0.225 0.021 0.167 0.007 0.024 0.015 0.152 0.191 0.199], Final Value =
\$1379893.58, Sharpe Ratio = -16.75

Simulation Run = 7306
Weights = [0.08 0.15 0.173 0.057 0.16 0.093 0.073 0.017 0.197], Final Value =
\$1392916.80, Sharpe Ratio = -22.56

Simulation Run = 7307
Weights = [0.126 0.185 0.046 0.106 0.153 0.019 0.048 0.154 0.163], Final Value =
\$1460200.61, Sharpe Ratio = -27.50

Simulation Run = 7308
Weights = [0.196 0.103 0.109 0.134 0.197 0.071 0.032 0.134 0.024], Final Value =
\$1627443.21, Sharpe Ratio = -21.47

Simulation Run = 7309

Weights = [0.053 0.217 0.11 0.237 0.011 0.099 0.022 0.138 0.112], Final Value = \$1480642.63, Sharpe Ratio = -23.22

Simulation Run = 7310

Weights = [0.192 0.069 0.243 0.001 0.121 0.005 0.222 0.128 0.019], Final Value = \$1501687.22, Sharpe Ratio = -13.82

Simulation Run = 7311

Weights = [0.085 0.207 0.111 0.13 0.062 0.014 0.138 0.057 0.196], Final Value = \$1364634.05, Sharpe Ratio = -21.21

Simulation Run = 7312

Weights = [0.16 0.02 0.201 0.16 0.036 0.043 0.112 0.119 0.15], Final Value = \$1445383.45, Sharpe Ratio = -17.54

Simulation Run = 7313

Weights = [0.136 0.012 0.203 0.104 0.031 0.097 0.168 0.197 0.052], Final Value = \$1533239.76, Sharpe Ratio = -14.36

Simulation Run = 7314

Weights = [0.157 0.028 0.124 0.148 0.05 0.128 0.155 0.154 0.056], Final Value = \$1587956.18, Sharpe Ratio = -15.12

Simulation Run = 7315

Weights = [0.076 0.05 0.186 0.147 0.187 0.181 0.021 0.072 0.081], Final Value = \$1580441.39, Sharpe Ratio = -19.25

Simulation Run = 7316

Weights = [0.021 0.17 0.082 0.091 0.047 0.18 0.136 0.236 0.037], Final Value = \$1569001.98, Sharpe Ratio = -16.59

Simulation Run = 7317

Weights = [0.178 0.021 0.081 0.049 0.129 0.13 0.156 0.113 0.144], Final Value = \$1531456.47, Sharpe Ratio = -16.44

Simulation Run = 7318

Weights = [0.165 0.194 0.121 0.044 0.102 0.183 0.052 0.11 0.029], Final Value = \$1584549.15, Sharpe Ratio = -18.80

Simulation Run = 7319
Weights = [0.134 0.122 0.138 0.083 0.137 0.07 0.142 0.107 0.068], Final Value =
\$1528039.96, Sharpe Ratio = -17.89

Simulation Run = 7320
Weights = [0.108 0.08 0.148 0.062 0.083 0.153 0.076 0.153 0.139], Final Value =
\$1486019.90, Sharpe Ratio = -18.80

Simulation Run = 7321
Weights = [0.204 0.047 0.123 0.118 0.079 0.168 0.068 0.04 0.153], Final Value =
\$1523816.36, Sharpe Ratio = -18.28

Simulation Run = 7322
Weights = [0.037 0.011 0.164 0.185 0.102 0.121 0.121 0.077 0.183], Final Value =
\$1462074.26, Sharpe Ratio = -17.96

Simulation Run = 7323
Weights = [0.055 0.138 0.194 0.203 0.117 0.007 0.022 0.1 0.167], Final Value =
\$1404297.50, Sharpe Ratio = -24.38

Simulation Run = 7324
Weights = [0.052 0.084 0.02 0.128 0.223 0.049 0.078 0.142 0.226], Final Value =
\$1461321.19, Sharpe Ratio = -26.03

Simulation Run = 7325
Weights = [0.098 0.121 0.122 0.158 0.15 0.006 0.104 0.109 0.132], Final Value =
\$1470073.04, Sharpe Ratio = -21.80

Simulation Run = 7326
Weights = [0.139 0.114 0.073 0.025 0.135 0.122 0.132 0.098 0.162], Final Value =
\$1480990.90, Sharpe Ratio = -18.79

Simulation Run = 7327
Weights = [0.037 0.19 0.201 0.062 0.072 0.091 0.133 0.134 0.08], Final Value =
\$1443846.64, Sharpe Ratio = -17.89

Simulation Run = 7328
Weights = [0.075 0.016 0.072 0.206 0.057 0.122 0.207 0.146 0.098], Final Value =

\$1570681.73, Sharpe Ratio = -14.60

Simulation Run = 7329

Weights = [0.171 0.14 0.063 0.035 0.188 0.111 0.05 0.072 0.17], Final Value = \$1492433.90, Sharpe Ratio = -23.62

Simulation Run = 7330

Weights = [0.045 0.134 0.054 0.151 0.186 0.048 0.162 0.088 0.133], Final Value = \$1503827.63, Sharpe Ratio = -19.81

Simulation Run = 7331

Weights = [0.124 0.165 0.199 0.153 0.066 0.123 0.002 0.092 0.075], Final Value = \$1508200.48, Sharpe Ratio = -20.78

Simulation Run = 7332

Weights = [0.121 0.026 0.169 0.031 0.132 0.171 0.109 0.087 0.154], Final Value = \$1490440.01, Sharpe Ratio = -17.11

Simulation Run = 7333

Weights = [0.088 0.121 0.128 0.162 0.065 0.159 0.172 0.06 0.045], Final Value = \$1573639.80, Sharpe Ratio = -15.22

Simulation Run = 7334

Weights = [0.084 0.115 0.008 0.029 0.343 0.046 0.071 0.247 0.059], Final Value = \$1620606.73, Sharpe Ratio = -24.01

Simulation Run = 7335

Weights = [0.072 0.011 0.202 0.136 0.09 0.158 0.106 0.141 0.085], Final Value = \$1540786.11, Sharpe Ratio = -16.17

Simulation Run = 7336

Weights = [0.19 0.078 0.024 0.11 0.22 0.115 0.003 0.127 0.133], Final Value = \$1591104.04, Sharpe Ratio = -24.22

Simulation Run = 7337

Weights = [0.142 0.106 0.17 0.141 0.131 0.07 0.052 0.037 0.151], Final Value = \$1462292.31, Sharpe Ratio = -21.98

Simulation Run = 7338
Weights = [0.159 0.057 0.12 0.049 0.122 0.162 0.118 0.097 0.116], Final Value =
\$1538999.32, Sharpe Ratio = -17.02

Simulation Run = 7339
Weights = [0.074 0.024 0.169 0.168 0.156 0.183 0.037 0.014 0.175], Final Value =
\$1506232.37, Sharpe Ratio = -19.83

Simulation Run = 7340
Weights = [0.138 0.038 0.025 0.282 0.014 0.082 0.065 0.244 0.111], Final Value =
\$1584106.05, Sharpe Ratio = -19.78

Simulation Run = 7341
Weights = [0.082 0.119 0.139 0.203 0.132 0.003 0.101 0.073 0.148], Final Value =
\$1450284.31, Sharpe Ratio = -21.77

Simulation Run = 7342
Weights = [0.198 0.009 0.063 0.048 0.169 0.185 0.061 0.21 0.058], Final Value =
\$1659116.66, Sharpe Ratio = -17.53

Simulation Run = 7343
Weights = [0.161 0.183 0.058 0.124 0.166 0.003 0.11 0.135 0.059], Final Value =
\$1549855.07, Sharpe Ratio = -21.76

Simulation Run = 7344
Weights = [0.059 0.048 0.12 0.182 0.12 0.077 0.082 0.161 0.151], Final Value =
\$1494463.53, Sharpe Ratio = -20.88

Simulation Run = 7345
Weights = [0.063 0.147 0.082 0.056 0.228 0.081 0.056 0.239 0.048], Final Value =
\$1578150.18, Sharpe Ratio = -23.13

Simulation Run = 7346
Weights = [0.224 0.077 0.039 0.108 0.128 0.01 0.179 0.21 0.026], Final Value =
\$1613988.38, Sharpe Ratio = -16.44

Simulation Run = 7347
Weights = [0.048 0.067 0.25 0.252 0.091 0.016 0.06 0.21 0.006], Final Value =
\$1547671.91, Sharpe Ratio = -17.84

Simulation Run = 7348
Weights = [0.146 0.155 0.049 0.04 0.037 0.076 0.155 0.174 0.168], Final Value =
\$1437877.14, Sharpe Ratio = -18.31

Simulation Run = 7349
Weights = [0.11 0.045 0.168 0.134 0.047 0.131 0.191 0.12 0.055], Final Value =
\$1551556.12, Sharpe Ratio = -14.13

Simulation Run = 7350
Weights = [0.1 0.086 0.099 0.142 0.109 0.06 0.153 0.116 0.135], Final Value =
\$1490522.15, Sharpe Ratio = -18.34

Simulation Run = 7351
Weights = [0.101 0.189 0.112 0.084 0.106 0.116 0.021 0.171 0.1], Final Value =
\$1504338.31, Sharpe Ratio = -23.38

Simulation Run = 7352
Weights = [0.075 0.031 0.053 0.13 0.167 0.063 0.196 0.159 0.126], Final Value =
\$1538980.08, Sharpe Ratio = -16.75

Simulation Run = 7353
Weights = [0.152 0.113 0.102 0.111 0.14 0.135 0.069 0.097 0.081], Final Value =
\$1572087.66, Sharpe Ratio = -19.86

Simulation Run = 7354
Weights = [0.017 0.14 0.136 0.232 0.22 0.065 0.118 0.04 0.032], Final Value =
\$1585289.78, Sharpe Ratio = -19.55

Simulation Run = 7355
Weights = [0.101 0.123 0.112 0.157 0.03 0.129 0.155 0.173 0.02], Final Value =
\$1586370.80, Sharpe Ratio = -15.67

Simulation Run = 7356
Weights = [0.06 0.065 0.283 0.037 0.071 0.127 0.069 0.171 0.117], Final Value =
\$1428181.26, Sharpe Ratio = -17.40

Simulation Run = 7357

Weights = [0.187 0.207 0.048 0.196 0.014 0.093 0.109 0.08 0.068], Final Value = \$1554524.03, Sharpe Ratio = -19.10

Simulation Run = 7358

Weights = [0.103 0.105 0.148 0.073 0.074 0.028 0.209 0.078 0.183], Final Value = \$1383170.05, Sharpe Ratio = -16.34

Simulation Run = 7359

Weights = [0.153 0.125 0.046 0.118 0.124 0.11 0.065 0.195 0.063], Final Value = \$1597748.19, Sharpe Ratio = -20.81

Simulation Run = 7360

Weights = [0.127 0.154 0.006 0.121 0.165 0.069 0.029 0.154 0.176], Final Value = \$1500053.60, Sharpe Ratio = -27.51

Simulation Run = 7361

Weights = [0.013 0.015 0.035 0.216 0.159 0.23 0.107 0.205 0.019], Final Value = \$1719242.81, Sharpe Ratio = -16.10

Simulation Run = 7362

Weights = [0.071 0.12 0.063 0.146 0.053 0.068 0.182 0.169 0.128], Final Value = \$1486247.55, Sharpe Ratio = -17.21

Simulation Run = 7363

Weights = [0.142 0.055 0.11 0.006 0.15 0.123 0.1 0.119 0.195], Final Value = \$1456271.41, Sharpe Ratio = -19.60

Simulation Run = 7364

Weights = [0.087 0.251 0.011 0.166 0.017 0.151 0.061 0.049 0.208], Final Value = \$1435149.03, Sharpe Ratio = -23.39

Simulation Run = 7365

Weights = [0.033 0.1 0.181 0.243 0.038 0.063 0.029 0.206 0.109], Final Value = \$1478454.50, Sharpe Ratio = -20.97

Simulation Run = 7366

Weights = [0.25 0.014 0.207 0.079 0.04 0.004 0.228 0.075 0.104], Final Value = \$1462116.93, Sharpe Ratio = -13.61

Simulation Run = 7367
Weights = [0.076 0.217 0.167 0.062 0.123 0.093 0.075 0.03 0.157], Final Value =
\$1404223.83, Sharpe Ratio = -22.50

Simulation Run = 7368
Weights = [0.039 0.246 0.005 0.101 0.247 0.152 0.018 0.031 0.162], Final Value =
\$1517143.20, Sharpe Ratio = -27.61

Simulation Run = 7369
Weights = [0.065 0.169 0.171 0.147 0.16 0.005 0.161 0.046 0.075], Final Value =
\$1475678.54, Sharpe Ratio = -18.48

Simulation Run = 7370
Weights = [0.126 0.189 0.176 0.029 0.094 0.132 0.162 0.047 0.045], Final Value =
\$1510383.67, Sharpe Ratio = -16.01

Simulation Run = 7371
Weights = [0.059 0.164 0.022 0.094 0.199 0.105 0.094 0.171 0.093], Final Value =
\$1563662.76, Sharpe Ratio = -22.27

Simulation Run = 7372
Weights = [0.059 0.004 0.169 0.097 0.167 0.023 0.154 0.152 0.173], Final Value =
\$1434610.82, Sharpe Ratio = -18.17

Simulation Run = 7373
Weights = [0.131 0.023 0.186 0.084 0.127 0.116 0.158 0.032 0.143], Final Value =
\$1480335.00, Sharpe Ratio = -16.11

Simulation Run = 7374
Weights = [0.012 0.159 0.079 0.155 0.134 0.099 0.122 0.133 0.108], Final Value =
\$1512933.74, Sharpe Ratio = -20.40

Simulation Run = 7375
Weights = [0.065 0.178 0.105 0.212 0.069 0.198 0.03 0.118 0.025], Final Value =
\$1616927.75, Sharpe Ratio = -19.23

Simulation Run = 7376
Weights = [0.154 0.02 0.087 0.168 0.091 0.139 0.084 0.143 0.113], Final Value =

\$1577623.81, Sharpe Ratio = -18.23

Simulation Run = 7377

Weights = [0.173 0.192 0.157 0.043 0.021 0.143 0.078 0.193 0.001], Final Value = \$1562217.28, Sharpe Ratio = -17.28

Simulation Run = 7378

Weights = [0.052 0.092 0.04 0.057 0.254 0.153 0.249 0.026 0.078], Final Value = \$1599646.95, Sharpe Ratio = -14.42

Simulation Run = 7379

Weights = [0.106 0.097 0.179 0.037 0.077 0.106 0.091 0.166 0.14], Final Value = \$1442166.53, Sharpe Ratio = -18.95

Simulation Run = 7380

Weights = [0.213 0.232 0.15 0.058 0.005 0.03 0.048 0.116 0.147], Final Value = \$1389172.63, Sharpe Ratio = -22.65

Simulation Run = 7381

Weights = [0.154 0.131 0.163 0.103 0.095 0.044 0.147 0.156 0.007], Final Value = \$1557564.94, Sharpe Ratio = -16.74

Simulation Run = 7382

Weights = [0.098 0.071 0.151 0.134 0.1 0.121 0.129 0.086 0.109], Final Value = \$1515424.09, Sharpe Ratio = -17.36

Simulation Run = 7383

Weights = [0.032 0.145 0.032 0.133 0.067 0.068 0.245 0.094 0.184], Final Value = \$1431751.09, Sharpe Ratio = -15.76

Simulation Run = 7384

Weights = [0.145 0.184 0.146 0.078 0.109 0.093 0.159 0.04 0.046], Final Value = \$1526993.55, Sharpe Ratio = -16.92

Simulation Run = 7385

Weights = [0.143 0.065 0.059 0.174 0.136 0.149 0.011 0.13 0.135], Final Value = \$1575583.98, Sharpe Ratio = -22.14

Simulation Run = 7386

Weights = [0.121 0.059 0.1 0.238 0.023 0.202 0.063 0.036 0.158], Final Value = \$1536705.93, Sharpe Ratio = -18.02

Simulation Run = 7387

Weights = [0.052 0.137 0.016 0.147 0.228 0.222 0.134 0.033 0.03], Final Value = \$1685275.37, Sharpe Ratio = -17.08

Simulation Run = 7388

Weights = [0.127 0.18 0.109 0.065 0.125 0.046 0.062 0.155 0.13], Final Value = \$1457575.77, Sharpe Ratio = -23.87

Simulation Run = 7389

Weights = [0.114 0.004 0.048 0.206 0.037 0.106 0.183 0.087 0.215], Final Value = \$1475971.11, Sharpe Ratio = -16.28

Simulation Run = 7390

Weights = [0.135 0.166 0.066 0.073 0.168 0.173 0.16 0.017 0.042], Final Value = \$1609922.02, Sharpe Ratio = -16.45

Simulation Run = 7391

Weights = [0.095 0.055 0.127 0.066 0.138 0.161 0.158 0.082 0.119], Final Value = \$1527893.92, Sharpe Ratio = -16.16

Simulation Run = 7392

Weights = [0.068 0.105 0.125 0.021 0.221 0.066 0.022 0.164 0.207], Final Value = \$1417900.33, Sharpe Ratio = -26.64

Simulation Run = 7393

Weights = [0.112 0.163 0.137 0.159 0.016 0.104 0.099 0.145 0.065], Final Value = \$1517780.41, Sharpe Ratio = -18.39

Simulation Run = 7394

Weights = [0.231 0.043 0.042 0.018 0.134 0.155 0.158 0.102 0.116], Final Value = \$1579954.38, Sharpe Ratio = -15.74

Simulation Run = 7395

Weights = [0.291 0.15 0.084 0.201 0.005 0.023 0.071 0.012 0.162], Final Value = \$1464453.23, Sharpe Ratio = -21.21

Simulation Run = 7396
Weights = [0.067 0.178 0.151 0.084 0.175 0.019 0.184 0.113 0.03], Final Value =
\$1516799.90, Sharpe Ratio = -17.32

Simulation Run = 7397
Weights = [0.196 0.052 0.187 0.165 0.066 0.061 0.052 0.159 0.063], Final Value =
\$1545325.37, Sharpe Ratio = -18.58

Simulation Run = 7398
Weights = [0.057 0.035 0.174 0.101 0.029 0.088 0.183 0.125 0.207], Final Value =
\$1382648.88, Sharpe Ratio = -15.93

Simulation Run = 7399
Weights = [0.022 0.021 0.067 0.027 0.156 0.177 0.155 0.123 0.253], Final Value =
\$1434791.43, Sharpe Ratio = -17.55

Simulation Run = 7400
Weights = [0.014 0.287 0.153 0. 0.117 0.074 0.166 0.003 0.186], Final Value =
\$1327351.96, Sharpe Ratio = -19.49

Simulation Run = 7401
Weights = [0.021 0.205 0.081 0.228 0.02 0.208 0.133 0.036 0.069], Final Value =
\$1560300.90, Sharpe Ratio = -16.71

Simulation Run = 7402
Weights = [0.099 0.164 0.113 0.098 0.127 0.092 0.01 0.16 0.137], Final Value =
\$1477794.07, Sharpe Ratio = -25.15

Simulation Run = 7403
Weights = [0.182 0.005 0.129 0.144 0.074 0.188 0.137 0.007 0.133], Final Value =
\$1554016.83, Sharpe Ratio = -15.37

Simulation Run = 7404
Weights = [0.094 0.144 0.1 0.027 0.122 0.173 0.022 0.155 0.163], Final Value =
\$1476919.45, Sharpe Ratio = -22.30

Simulation Run = 7405

Weights = [0.126 0.221 0.202 0.081 0.026 0.017 0.05 0.21 0.067], Final Value = \$1433391.41, Sharpe Ratio = -21.33

Simulation Run = 7406

Weights = [0.2 0.222 0.029 0.081 0.031 0.03 0.185 0.018 0.204], Final Value = \$1390605.69, Sharpe Ratio = -18.36

Simulation Run = 7407

Weights = [0.044 0.183 0.069 0.182 0.095 0.144 0.001 0.105 0.176], Final Value = \$1475704.20, Sharpe Ratio = -25.53

Simulation Run = 7408

Weights = [0.127 0.174 0.096 0.042 0.168 0.083 0.159 0.107 0.043], Final Value = \$1553932.57, Sharpe Ratio = -17.77

Simulation Run = 7409

Weights = [0.138 0.21 0.133 0.085 0.197 0.059 0.026 0.055 0.097], Final Value = \$1497980.01, Sharpe Ratio = -25.40

Simulation Run = 7410

Weights = [0.027 0.171 0.027 0.133 0.045 0.036 0.141 0.227 0.192], Final Value = \$1410543.69, Sharpe Ratio = -21.24

Simulation Run = 7411

Weights = [0.185 0.034 0.109 0.116 0.185 0.014 0.149 0.159 0.049], Final Value = \$1588281.31, Sharpe Ratio = -17.49

Simulation Run = 7412

Weights = [0.149 0.203 0.298 0.051 0.084 0.083 0.013 0.089 0.032], Final Value = \$1466078.58, Sharpe Ratio = -19.32

Simulation Run = 7413

Weights = [0.008 0.074 0.221 0.22 0.03 0.203 0.12 0.115 0.008], Final Value = \$1591647.33, Sharpe Ratio = -14.50

Simulation Run = 7414

Weights = [0.056 0.116 0.045 0.102 0.131 0.11 0.156 0.145 0.139], Final Value = \$1508842.29, Sharpe Ratio = -18.49

Simulation Run = 7415
Weights = [0.079 0.172 0.207 0.003 0.002 0.18 0.05 0.12 0.188], Final Value =
\$1366199.06, Sharpe Ratio = -19.08

Simulation Run = 7416
Weights = [0.067 0.061 0.178 0.133 0.062 0.126 0.174 0.135 0.064], Final Value =
\$1531729.20, Sharpe Ratio = -14.96

Simulation Run = 7417
Weights = [0.095 0.125 0.021 0.122 0.229 0.163 0.015 0.02 0.208], Final Value =
\$1517023.77, Sharpe Ratio = -25.54

Simulation Run = 7418
Weights = [0.187 0.137 0.187 0.086 0.18 0.116 0.041 0.03 0.036], Final Value =
\$1572974.74, Sharpe Ratio = -19.86

Simulation Run = 7419
Weights = [0.125 0.04 0.153 0.043 0.137 0.182 0.019 0.159 0.143], Final Value =
\$1517640.61, Sharpe Ratio = -19.72

Simulation Run = 7420
Weights = [0.035 0.015 0.141 0.013 0.2 0.12 0.076 0.232 0.169], Final Value =
\$1475237.22, Sharpe Ratio = -20.57

Simulation Run = 7421
Weights = [0.185 0.118 0.073 0.032 0.22 0.108 0.213 0.009 0.042], Final Value =
\$1604537.70, Sharpe Ratio = -15.20

Simulation Run = 7422
Weights = [0.115 0.072 0.112 0.128 0.087 0.132 0.114 0.076 0.165], Final Value =
\$1485322.83, Sharpe Ratio = -18.56

Simulation Run = 7423
Weights = [0.004 0.24 0.081 0.003 0.025 0.093 0.19 0.105 0.259], Final Value =
\$1289125.90, Sharpe Ratio = -18.13

Simulation Run = 7424
Weights = [0.182 0.103 0.012 0.18 0.16 0.107 0.032 0.16 0.065], Final Value =

\$1644043.39, Sharpe Ratio = -22.24

Simulation Run = 7425

Weights = [0.009 0.011 0.252 0.122 0.078 0.164 0.129 0.177 0.059], Final Value = \$1528303.87, Sharpe Ratio = -14.86

Simulation Run = 7426

Weights = [0.09 0.048 0.048 0.17 0.21 0.163 0.096 0.019 0.156], Final Value = \$1572596.92, Sharpe Ratio = -19.96

Simulation Run = 7427

Weights = [0.047 0.028 0.251 0.138 0.015 0.189 0.029 0.233 0.07], Final Value = \$1525200.59, Sharpe Ratio = -16.33

Simulation Run = 7428

Weights = [0.128 0.216 0.091 0.182 0.046 0.087 0.047 0.042 0.161], Final Value = \$1447778.99, Sharpe Ratio = -24.00

Simulation Run = 7429

Weights = [0.006 0.157 0.133 0.189 0.134 0.057 0.121 0.043 0.16], Final Value = \$1434908.70, Sharpe Ratio = -21.17

Simulation Run = 7430

Weights = [0.028 0.114 0.081 0.157 0.106 0.158 0.176 0.164 0.016], Final Value = \$1620986.08, Sharpe Ratio = -15.48

Simulation Run = 7431

Weights = [0.151 0.082 0.114 0.145 0.139 0.107 0.138 0.032 0.091], Final Value = \$1558076.27, Sharpe Ratio = -17.56

Simulation Run = 7432

Weights = [0.165 0.16 0.163 0.061 0.144 0.003 0.043 0.077 0.184], Final Value = \$1388025.05, Sharpe Ratio = -25.03

Simulation Run = 7433

Weights = [0.103 0.108 0.051 0.153 0.119 0.032 0.172 0.073 0.189], Final Value = \$1449445.42, Sharpe Ratio = -19.10

Simulation Run = 7434
Weights = [0.354 0.158 0.063 0.169 0.017 0.039 0.06 0.115 0.024], Final Value =
\$1607447.72, Sharpe Ratio = -19.06

Simulation Run = 7435
Weights = [0.033 0.113 0.08 0.113 0.136 0.144 0.114 0.119 0.146], Final Value =
\$1503377.37, Sharpe Ratio = -19.64

Simulation Run = 7436
Weights = [0.015 0.072 0.176 0.166 0.089 0.194 0.102 0.185 0.003], Final Value =
\$1618070.53, Sharpe Ratio = -15.78

Simulation Run = 7437
Weights = [0.057 0.164 0.184 0.2 0.071 0.077 0.09 0.118 0.038], Final Value =
\$1524992.62, Sharpe Ratio = -18.89

Simulation Run = 7438
Weights = [0.042 0.17 0.024 0.012 0.176 0.182 0.166 0.074 0.155], Final Value =
\$1503096.22, Sharpe Ratio = -17.63

Simulation Run = 7439
Weights = [0.12 0.025 0.095 0.118 0.102 0.154 0.092 0.087 0.206], Final Value =
\$1481289.67, Sharpe Ratio = -19.10

Simulation Run = 7440
Weights = [0.009 0.116 0.124 0.1 0.126 0.087 0.143 0.139 0.157], Final Value =
\$1443314.50, Sharpe Ratio = -19.20

Simulation Run = 7441
Weights = [0.07 0.126 0.126 0.091 0.085 0.073 0.281 0.118 0.03], Final Value =
\$1535393.97, Sharpe Ratio = -13.07

Simulation Run = 7442
Weights = [0.004 0.038 0.123 0.145 0.012 0.124 0.203 0.259 0.093], Final Value =
\$1514280.78, Sharpe Ratio = -14.42

Simulation Run = 7443
Weights = [0.07 0.167 0.167 0.056 0.067 0.063 0.222 0.09 0.099], Final Value =
\$1434198.41, Sharpe Ratio = -15.24

Simulation Run = 7444
Weights = [0.052 0.158 0.008 0.12 0.168 0.101 0.183 0.126 0.084], Final Value =
\$1567856.42, Sharpe Ratio = -17.80

Simulation Run = 7445
Weights = [0.216 0.068 0.076 0.169 0.113 0.075 0.065 0.106 0.112], Final Value =
\$1562590.75, Sharpe Ratio = -20.67

Simulation Run = 7446
Weights = [0.011 0.003 0.113 0.205 0.023 0.168 0.115 0.176 0.187], Final Value =
\$1482505.93, Sharpe Ratio = -17.13

Simulation Run = 7447
Weights = [0.214 0.04 0.193 0.057 0.057 0.205 0.165 0.027 0.043], Final Value =
\$1585082.42, Sharpe Ratio = -13.37

Simulation Run = 7448
Weights = [0.076 0.041 0.2 0.188 0.182 0.08 0.096 0.024 0.113], Final Value =
\$1513435.09, Sharpe Ratio = -18.94

Simulation Run = 7449
Weights = [0.093 0.09 0.134 0.103 0.075 0.073 0.136 0.133 0.163], Final Value =
\$1438346.52, Sharpe Ratio = -18.59

Simulation Run = 7450
Weights = [0.096 0.155 0.171 0.108 0.1 0.124 0.033 0.198 0.016], Final Value =
\$1568588.56, Sharpe Ratio = -19.82

Simulation Run = 7451
Weights = [0.06 0.205 0.069 0.067 0.118 0.14 0.01 0.162 0.17], Final Value =
\$1458248.48, Sharpe Ratio = -25.71

Simulation Run = 7452
Weights = [0.156 0.001 0.164 0.147 0.018 0.063 0.122 0.134 0.196], Final Value =
\$1424566.01, Sharpe Ratio = -17.52

Simulation Run = 7453

Weights = [0.034 0.081 0.043 0.191 0.142 0.196 0.086 0.069 0.158], Final Value = \$1555147.75, Sharpe Ratio = -19.73

Simulation Run = 7454

Weights = [0.108 0.213 0.198 0.04 0.025 0.088 0.149 0.109 0.07], Final Value = \$1440101.95, Sharpe Ratio = -16.81

Simulation Run = 7455

Weights = [0.052 0.028 0.166 0.207 0.191 0.169 0.046 0.073 0.069], Final Value = \$1608322.21, Sharpe Ratio = -18.73

Simulation Run = 7456

Weights = [0.017 0.199 0.167 0.128 0.157 0.131 0.022 0.038 0.142], Final Value = \$1452430.18, Sharpe Ratio = -24.00

Simulation Run = 7457

Weights = [0.101 0.159 0.164 0.141 0.069 0.083 0.022 0.171 0.09], Final Value = \$1490225.45, Sharpe Ratio = -22.09

Simulation Run = 7458

Weights = [0.188 0.084 0.124 0.032 0.127 0.18 0.05 0.044 0.17], Final Value = \$1494735.14, Sharpe Ratio = -19.55

Simulation Run = 7459

Weights = [0.091 0.066 0.12 0.131 0.224 0.192 0.011 0.034 0.13], Final Value = \$1572064.25, Sharpe Ratio = -21.32

Simulation Run = 7460

Weights = [0.107 0.013 0.183 0.122 0.189 0.173 0.061 0.064 0.087], Final Value = \$1581067.17, Sharpe Ratio = -17.98

Simulation Run = 7461

Weights = [0.129 0.097 0.011 0.134 0.135 0.01 0.154 0.169 0.16], Final Value = \$1494026.39, Sharpe Ratio = -20.07

Simulation Run = 7462

Weights = [0.075 0.116 0.094 0.084 0.227 0.036 0.259 0.068 0.039], Final Value = \$1564456.57, Sharpe Ratio = -14.72

Simulation Run = 7463
Weights = [0.093 0.142 0.03 0.099 0.064 0.006 0.179 0.197 0.189], Final Value =
\$1413918.20, Sharpe Ratio = -19.06

Simulation Run = 7464
Weights = [0.256 0.081 0.144 0.019 0.049 0.236 0.079 0.099 0.038], Final Value =
\$1613730.73, Sharpe Ratio = -14.99

Simulation Run = 7465
Weights = [0.168 0.04 0.191 0.172 0.163 0.13 0.04 0.086 0.009], Final Value =
\$1640447.99, Sharpe Ratio = -17.87

Simulation Run = 7466
Weights = [0.125 0.059 0.028 0.166 0.06 0.055 0.134 0.227 0.146], Final Value =
\$1516451.95, Sharpe Ratio = -19.00

Simulation Run = 7467
Weights = [0.061 0.226 0.189 0.038 0.181 0.078 0.026 0.14 0.06], Final Value =
\$1484232.19, Sharpe Ratio = -23.58

Simulation Run = 7468
Weights = [0.176 0.189 0.085 0.042 0.067 0.234 0.077 0.003 0.126], Final Value =
\$1523690.48, Sharpe Ratio = -17.87

Simulation Run = 7469
Weights = [0.204 0.024 0.21 0.017 0.043 0.097 0.157 0.191 0.058], Final Value =
\$1518817.07, Sharpe Ratio = -14.50

Simulation Run = 7470
Weights = [0.133 0.009 0.131 0.117 0.138 0.115 0.131 0.144 0.082], Final Value =
\$1574786.04, Sharpe Ratio = -16.76

Simulation Run = 7471
Weights = [0.03 0.154 0.038 0.183 0.074 0.17 0.025 0.169 0.158], Final Value =
\$1514312.09, Sharpe Ratio = -23.08

Simulation Run = 7472
Weights = [0.052 0.106 0.083 0.102 0.149 0.164 0.113 0.145 0.086], Final Value =

\$1570005.62, Sharpe Ratio = -18.39

Simulation Run = 7473

Weights = [0.2 0.024 0.088 0.116 0.197 0.176 0.109 0.06 0.03], Final Value = \$1682432.03, Sharpe Ratio = -16.42

Simulation Run = 7474

Weights = [0.044 0.224 0.044 0.081 0.074 0.196 0.191 0.126 0.019], Final Value = \$1593957.79, Sharpe Ratio = -15.13

Simulation Run = 7475

Weights = [0.04 0.095 0.156 0.114 0.163 0.117 0.121 0.056 0.138], Final Value = \$1480487.92, Sharpe Ratio = -19.03

Simulation Run = 7476

Weights = [0.032 0.083 0.043 0.158 0.224 0.234 0.041 0.075 0.111], Final Value = \$1625795.50, Sharpe Ratio = -20.22

Simulation Run = 7477

Weights = [0.153 0.131 0.182 0.111 0.12 0.033 0.13 0.061 0.079], Final Value = \$1488268.85, Sharpe Ratio = -18.35

Simulation Run = 7478

Weights = [0.156 0.115 0.014 0.246 0.01 0.201 0.036 0.099 0.122], Final Value = \$1595975.73, Sharpe Ratio = -19.21

Simulation Run = 7479

Weights = [0.107 0.085 0.147 0.166 0.115 0.062 0.043 0.077 0.199], Final Value = \$1429201.75, Sharpe Ratio = -23.45

Simulation Run = 7480

Weights = [0.006 0.058 0.098 0.166 0.192 0.152 0.137 0.18 0.012], Final Value = \$1652363.35, Sharpe Ratio = -16.77

Simulation Run = 7481

Weights = [0.011 0.133 0.143 0.122 0.09 0.078 0.183 0.13 0.111], Final Value = \$1461623.34, Sharpe Ratio = -16.85

Simulation Run = 7482
Weights = [0.187 0.157 0.133 0.038 0.16 0.041 0.053 0.134 0.097], Final Value =
\$1494700.59, Sharpe Ratio = -22.79

Simulation Run = 7483
Weights = [0.01 0.154 0.125 0.153 0.042 0.192 0.135 0.135 0.053], Final Value =
\$1553710.35, Sharpe Ratio = -16.22

Simulation Run = 7484
Weights = [0.066 0.029 0.173 0.149 0.197 0.037 0.032 0.161 0.155], Final Value =
\$1474734.81, Sharpe Ratio = -23.08

Simulation Run = 7485
Weights = [0.013 0.202 0.052 0.004 0.101 0.243 0.027 0.243 0.115], Final Value =
\$1526867.61, Sharpe Ratio = -20.35

Simulation Run = 7486
Weights = [0.192 0.043 0.035 0.1 0.174 0.15 0.073 0.075 0.157], Final Value =
\$1569238.13, Sharpe Ratio = -20.08

Simulation Run = 7487
Weights = [0.048 0.155 0.083 0.07 0.029 0.09 0.189 0.184 0.153], Final Value =
\$1428089.30, Sharpe Ratio = -16.84

Simulation Run = 7488
Weights = [0.135 0.138 0.15 0.122 0.076 0.121 0.073 0.049 0.136], Final Value =
\$1473926.83, Sharpe Ratio = -20.09

Simulation Run = 7489
Weights = [0.056 0.185 0.112 0.01 0.204 0.164 0.133 0.097 0.038], Final Value =
\$1569399.43, Sharpe Ratio = -17.86

Simulation Run = 7490
Weights = [0.198 0.316 0.086 0.07 0.008 0.041 0.076 0.009 0.196], Final Value =
\$1350580.29, Sharpe Ratio = -24.08

Simulation Run = 7491
Weights = [0.093 0.164 0.054 0.123 0.016 0.071 0.166 0.194 0.119], Final Value =
\$1477628.42, Sharpe Ratio = -17.73

Simulation Run = 7492

Weights = [0.017 0.077 0.037 0.15 0.188 0.15 0.191 0.102 0.088], Final Value = \$1598178.05, Sharpe Ratio = -16.24

Simulation Run = 7493

Weights = [0.068 0.125 0.024 0.157 0.14 0.106 0.074 0.118 0.188], Final Value = \$1491571.29, Sharpe Ratio = -23.77

Simulation Run = 7494

Weights = [0.081 0.018 0.163 0.025 0.15 0.218 0.023 0.174 0.148], Final Value = \$1520543.82, Sharpe Ratio = -18.72

Simulation Run = 7495

Weights = [0.192 0.012 0.124 0.042 0.008 0.148 0.032 0.25 0.192], Final Value = \$1462245.83, Sharpe Ratio = -18.85

Simulation Run = 7496

Weights = [0.02 0.084 0.161 0.113 0.2 0.067 0.2 0.024 0.132], Final Value = \$1468877.84, Sharpe Ratio = -16.65

Simulation Run = 7497

Weights = [0.19 0.028 0.075 0.212 0.066 0.19 0.149 0.016 0.075], Final Value = \$1635351.54, Sharpe Ratio = -14.94

Simulation Run = 7498

Weights = [0.054 0.153 0.111 0.13 0.096 0.139 0.084 0.094 0.141], Final Value = \$1481174.09, Sharpe Ratio = -20.68

Simulation Run = 7499

Weights = [0.152 0.016 0.005 0.172 0.085 0.018 0.131 0.22 0.201], Final Value = \$1487450.35, Sharpe Ratio = -20.07

Simulation Run = 7500

Weights = [0.053 0.172 0.163 0.141 0.047 0.11 0.117 0.091 0.106], Final Value = \$1462028.27, Sharpe Ratio = -18.55

Simulation Run = 7501

Weights = [0.121 0.141 0.184 0.176 0.079 0.033 0.009 0.084 0.172], Final Value = \$1408814.38, Sharpe Ratio = -24.22

Simulation Run = 7502

Weights = [0.056 0.129 0.158 0.18 0. 0.15 0.145 0.08 0.103], Final Value = \$1489840.29, Sharpe Ratio = -16.14

Simulation Run = 7503

Weights = [0.184 0.017 0.077 0.001 0.097 0.189 0.156 0.2 0.078], Final Value = \$1599341.34, Sharpe Ratio = -14.61

Simulation Run = 7504

Weights = [0.103 0.023 0.189 0.065 0.036 0.151 0.149 0.066 0.22], Final Value = \$1394795.37, Sharpe Ratio = -15.98

Simulation Run = 7505

Weights = [0.137 0.174 0.124 0.083 0.118 0.144 0.027 0.179 0.014], Final Value = \$1597926.77, Sharpe Ratio = -20.33

Simulation Run = 7506

Weights = [0.043 0.02 0.136 0.12 0.271 0.119 0.015 0.102 0.175], Final Value = \$1513810.27, Sharpe Ratio = -23.69

Simulation Run = 7507

Weights = [0.185 0.168 0.133 0.009 0.145 0.186 0.027 0.145 0.003], Final Value = \$1620083.33, Sharpe Ratio = -18.76

Simulation Run = 7508

Weights = [0.151 0.147 0.044 0.103 0.07 0.14 0.082 0.137 0.126], Final Value = \$1528997.65, Sharpe Ratio = -20.10

Simulation Run = 7509

Weights = [0.068 0.13 0.056 0.222 0.129 0.083 0.19 0.114 0.007], Final Value = \$1631370.63, Sharpe Ratio = -16.18

Simulation Run = 7510

Weights = [0.001 0.106 0.153 0.137 0.099 0.1 0.129 0.177 0.098], Final Value = \$1491925.36, Sharpe Ratio = -18.19

Simulation Run = 7511
Weights = [0.134 0.054 0.136 0.171 0.12 0.244 0.019 0.109 0.013], Final Value =
\$1681933.68, Sharpe Ratio = -16.82

Simulation Run = 7512
Weights = [0.09 0.103 0.006 0.093 0.112 0.201 0.193 0.138 0.065], Final Value =
\$1624139.14, Sharpe Ratio = -14.80

Simulation Run = 7513
Weights = [0.019 0.194 0.034 0.055 0.243 0.061 0.233 0.133 0.028], Final Value =
\$1577898.21, Sharpe Ratio = -16.27

Simulation Run = 7514
Weights = [0.133 0.112 0.143 0.062 0.136 0.105 0.152 0.112 0.045], Final Value =
\$1555566.31, Sharpe Ratio = -16.64

Simulation Run = 7515
Weights = [0.109 0.092 0.187 0.142 0.025 0.167 0.179 0.075 0.024], Final Value =
\$1568696.82, Sharpe Ratio = -13.86

Simulation Run = 7516
Weights = [0.192 0.026 0.031 0.05 0.053 0.065 0.205 0.243 0.135], Final Value =
\$1518314.47, Sharpe Ratio = -15.21

Simulation Run = 7517
Weights = [0.134 0.191 0.206 0.005 0.009 0.22 0.078 0.091 0.067], Final Value =
\$1492509.06, Sharpe Ratio = -16.26

Simulation Run = 7518
Weights = [0.109 0.109 0.107 0.062 0.2 0.008 0.174 0.172 0.058], Final Value =
\$1535224.34, Sharpe Ratio = -17.86

Simulation Run = 7519
Weights = [0.075 0.152 0.121 0.069 0.163 0.018 0.182 0.15 0.071], Final Value =
\$1496103.28, Sharpe Ratio = -17.79

Simulation Run = 7520
Weights = [0.123 0.087 0.136 0.182 0.144 0.034 0.096 0.04 0.158], Final Value =

\$1468517.90, Sharpe Ratio = -21.28

Simulation Run = 7521

Weights = [0.177 0.222 0.078 0.023 0.02 0.116 0.068 0.139 0.157], Final Value = \$1434137.17, Sharpe Ratio = -21.24

Simulation Run = 7522

Weights = [0.044 0.229 0.05 0.164 0.013 0.19 0.005 0.063 0.242], Final Value = \$1404072.33, Sharpe Ratio = -24.31

Simulation Run = 7523

Weights = [0.061 0.108 0.2 0.098 0.075 0.208 0.015 0.07 0.165], Final Value = \$1453648.32, Sharpe Ratio = -19.52

Simulation Run = 7524

Weights = [0.071 0.064 0.094 0.204 0.003 0.108 0.19 0.138 0.127], Final Value = \$1503731.40, Sharpe Ratio = -15.41

Simulation Run = 7525

Weights = [0.058 0.196 0.034 0.027 0.117 0.173 0.188 0.016 0.191], Final Value = \$1445625.93, Sharpe Ratio = -16.95

Simulation Run = 7526

Weights = [0.019 0.073 0.129 0.19 0.146 0.028 0.21 0.157 0.049], Final Value = \$1548388.92, Sharpe Ratio = -15.75

Simulation Run = 7527

Weights = [0.072 0.18 0.086 0.094 0.134 0.073 0.133 0.129 0.099], Final Value = \$1499684.26, Sharpe Ratio = -20.01

Simulation Run = 7528

Weights = [0.172 0.11 0.179 0.047 0.098 0.084 0.149 0.036 0.125], Final Value = \$1456659.03, Sharpe Ratio = -17.04

Simulation Run = 7529

Weights = [0.11 0.08 0.077 0.008 0.068 0.239 0.165 0.064 0.19], Final Value = \$1480418.70, Sharpe Ratio = -15.08

Simulation Run = 7530
Weights = [0.121 0.028 0.114 0.157 0.162 0.151 0.213 0.035 0.018], Final Value =
\$1651435.50, Sharpe Ratio = -13.83

Simulation Run = 7531
Weights = [0.079 0.166 0.132 0.033 0.039 0.082 0.176 0.163 0.13], Final Value =
\$1421848.59, Sharpe Ratio = -16.90

Simulation Run = 7532
Weights = [0.098 0.178 0.133 0.089 0.109 0.138 0.1 0.109 0.047], Final Value =
\$1548679.65, Sharpe Ratio = -18.66

Simulation Run = 7533
Weights = [0.195 0.201 0.198 0.111 0.057 0.012 0.004 0.029 0.194], Final Value =
\$1352149.58, Sharpe Ratio = -24.92

Simulation Run = 7534
Weights = [0.146 0.096 0.101 0.124 0.075 0.124 0.058 0.109 0.166], Final Value =
\$1484515.25, Sharpe Ratio = -20.96

Simulation Run = 7535
Weights = [0.07 0.122 0.111 0.02 0.164 0.145 0.159 0.049 0.16], Final Value =
\$1466001.44, Sharpe Ratio = -17.63

Simulation Run = 7536
Weights = [0.216 0.14 0.031 0.139 0.127 0.163 0.088 0.081 0.016], Final Value =
\$1673519.79, Sharpe Ratio = -18.03

Simulation Run = 7537
Weights = [0.156 0.153 0.18 0.094 0.091 0.036 0.036 0.048 0.207], Final Value =
\$1366980.73, Sharpe Ratio = -24.17

Simulation Run = 7538
Weights = [0.012 0.144 0.053 0.021 0.161 0.108 0.234 0.208 0.059], Final Value =
\$1546716.72, Sharpe Ratio = -15.17

Simulation Run = 7539
Weights = [0.077 0.012 0.225 0.099 0.01 0.05 0.186 0.206 0.134], Final Value =
\$1417231.43, Sharpe Ratio = -14.84

Simulation Run = 7540
Weights = [0.182 0.063 0.174 0.008 0.045 0.089 0.091 0.121 0.227], Final Value =
\$1368652.95, Sharpe Ratio = -19.07

Simulation Run = 7541
Weights = [0.015 0.104 0.172 0.172 0.043 0.066 0.04 0.193 0.194], Final Value =
\$1390138.87, Sharpe Ratio = -22.65

Simulation Run = 7542
Weights = [0.128 0.045 0.022 0.145 0.114 0.214 0.122 0.203 0.007], Final Value =
\$1713381.96, Sharpe Ratio = -15.47

Simulation Run = 7543
Weights = [0.071 0.19 0.085 0.019 0.102 0.185 0.116 0.124 0.108], Final Value =
\$1506433.04, Sharpe Ratio = -18.28

Simulation Run = 7544
Weights = [0.053 0.101 0.057 0.056 0.188 0.181 0.185 0.105 0.073], Final Value =
\$1593731.35, Sharpe Ratio = -15.73

Simulation Run = 7545
Weights = [0.129 0.188 0.173 0.026 0.229 0.033 0.098 0.071 0.052], Final Value =
\$1507128.75, Sharpe Ratio = -20.96

Simulation Run = 7546
Weights = [0.13 0.143 0.072 0.065 0.158 0. 0.163 0.172 0.097], Final Value =
\$1498502.71, Sharpe Ratio = -19.13

Simulation Run = 7547
Weights = [0.147 0.01 0.168 0.041 0.164 0.079 0.184 0.183 0.023], Final Value =
\$1588272.14, Sharpe Ratio = -14.78

Simulation Run = 7548
Weights = [0.098 0.086 0.117 0.144 0.072 0.13 0.027 0.179 0.146], Final Value =
\$1498861.27, Sharpe Ratio = -21.52

Simulation Run = 7549

Weights = [0.181 0.174 0.144 0.054 0.069 0.151 0.057 0.006 0.163], Final Value = \$1445326.44, Sharpe Ratio = -20.37

Simulation Run = 7550

Weights = [0.065 0.016 0.045 0.219 0.244 0.003 0.257 0.145 0.005], Final Value = \$1663319.69, Sharpe Ratio = -14.43

Simulation Run = 7551

Weights = [0.073 0.171 0.127 0.111 0.071 0.161 0.096 0.078 0.111], Final Value = \$1496235.29, Sharpe Ratio = -18.95

Simulation Run = 7552

Weights = [0.074 0.108 0.08 0.204 0.061 0.116 0.074 0.208 0.076], Final Value = \$1568621.91, Sharpe Ratio = -19.80

Simulation Run = 7553

Weights = [0.149 0.072 0.159 0.065 0.213 0.125 0.1 0.021 0.096], Final Value = \$1546993.24, Sharpe Ratio = -18.67

Simulation Run = 7554

Weights = [0.054 0.116 0.055 0.069 0.152 0.196 0.061 0.116 0.182], Final Value = \$1502047.15, Sharpe Ratio = -21.14

Simulation Run = 7555

Weights = [0.026 0.006 0.038 0.179 0.049 0.185 0.134 0.189 0.194], Final Value = \$1514925.06, Sharpe Ratio = -17.00

Simulation Run = 7556

Weights = [0.162 0.177 0.225 0.108 0.062 0.016 0.028 0.184 0.038], Final Value = \$1483092.11, Sharpe Ratio = -20.68

Simulation Run = 7557

Weights = [0.019 0.072 0.025 0.109 0.261 0.016 0.26 0.042 0.196], Final Value = \$1463347.76, Sharpe Ratio = -16.22

Simulation Run = 7558

Weights = [0.06 0.103 0.019 0.217 0.263 0.212 0.001 0.025 0.1], Final Value = \$1660742.61, Sharpe Ratio = -22.30

Simulation Run = 7559
Weights = [0.117 0.129 0.107 0.138 0.112 0.054 0.126 0.196 0.02], Final Value =
\$1579638.98, Sharpe Ratio = -18.34

Simulation Run = 7560
Weights = [0.065 0.052 0.099 0.186 0.04 0.18 0.051 0.135 0.192], Final Value =
\$1486932.15, Sharpe Ratio = -19.68

Simulation Run = 7561
Weights = [0.22 0.156 0.048 0.015 0.147 0.109 0.076 0.023 0.205], Final Value =
\$1454285.76, Sharpe Ratio = -22.20

Simulation Run = 7562
Weights = [0.054 0.177 0.184 0.092 0.075 0.096 0.202 0.114 0.007], Final Value =
\$1525868.72, Sharpe Ratio = -14.87

Simulation Run = 7563
Weights = [0.106 0.167 0.154 0.131 0.084 0.125 0.105 0.027 0.1], Final Value =
\$1493703.11, Sharpe Ratio = -18.85

Simulation Run = 7564
Weights = [0.194 0.197 0.046 0.169 0.129 0.095 0.079 0.066 0.026], Final Value =
\$1621496.30, Sharpe Ratio = -20.75

Simulation Run = 7565
Weights = [0.037 0.134 0.073 0.033 0.196 0.164 0.032 0.229 0.102], Final Value =
\$1552228.53, Sharpe Ratio = -22.53

Simulation Run = 7566
Weights = [0.181 0.066 0.05 0.004 0.164 0.064 0.168 0.031 0.273], Final Value =
\$1392056.46, Sharpe Ratio = -18.74

Simulation Run = 7567
Weights = [0.34 0.031 0.082 0.024 0.069 0.006 0.079 0.298 0.07], Final Value =
\$1563712.45, Sharpe Ratio = -18.21

Simulation Run = 7568
Weights = [0.207 0.102 0.075 0.003 0.055 0.133 0.207 0.117 0.101], Final Value =

\$1525327.56, Sharpe Ratio = -14.39

Simulation Run = 7569

Weights = [0.018 0.01 0.163 0.259 0.204 0.177 0.038 0.098 0.034], Final Value = \$1657588.12, Sharpe Ratio = -18.14

Simulation Run = 7570

Weights = [0.095 0.064 0.109 0.122 0.261 0.07 0.096 0.069 0.115], Final Value = \$1548801.12, Sharpe Ratio = -21.28

Simulation Run = 7571

Weights = [0.094 0.069 0.071 0.051 0.128 0.257 0.154 0.097 0.078], Final Value = \$1613307.32, Sharpe Ratio = -14.72

Simulation Run = 7572

Weights = [0.242 0.199 0.178 0.147 0.015 0.067 0.101 0.035 0.016], Final Value = \$1537637.73, Sharpe Ratio = -17.49

Simulation Run = 7573

Weights = [0.162 0.178 0.18 0.179 0.024 0.142 0.051 0.021 0.062], Final Value = \$1528150.49, Sharpe Ratio = -18.68

Simulation Run = 7574

Weights = [0.148 0.043 0.079 0.104 0.145 0.026 0.16 0.134 0.16], Final Value = \$1484518.10, Sharpe Ratio = -18.48

Simulation Run = 7575

Weights = [0.247 0.111 0.24 0.019 0.019 0.091 0.012 0.154 0.108], Final Value = \$1445781.29, Sharpe Ratio = -18.92

Simulation Run = 7576

Weights = [0.084 0.194 0.025 0.136 0.141 0.066 0.094 0.047 0.213], Final Value = \$1430639.78, Sharpe Ratio = -24.96

Simulation Run = 7577

Weights = [0.178 0.038 0.175 0.003 0.133 0.07 0.101 0.203 0.1], Final Value = \$1501333.43, Sharpe Ratio = -18.07

Simulation Run = 7578
Weights = [0.141 0.099 0.19 0.088 0.15 0.085 0.119 0.064 0.063], Final Value =
\$1528896.65, Sharpe Ratio = -17.73

Simulation Run = 7579
Weights = [0.104 0.21 0.164 0.009 0.022 0.041 0.228 0.102 0.121], Final Value =
\$1379975.50, Sharpe Ratio = -15.24

Simulation Run = 7580
Weights = [0.137 0.265 0.058 0.034 0.027 0.201 0.044 0.075 0.159], Final Value =
\$1457799.20, Sharpe Ratio = -20.91

Simulation Run = 7581
Weights = [0.103 0.088 0.221 0.047 0.106 0.07 0.201 0.021 0.144], Final Value =
\$1410287.91, Sharpe Ratio = -15.38

Simulation Run = 7582
Weights = [0.184 0.09 0.118 0.01 0.055 0.192 0.051 0.201 0.098], Final Value =
\$1543439.17, Sharpe Ratio = -17.69

Simulation Run = 7583
Weights = [0.032 0.233 0.067 0.042 0.232 0.07 0.138 0.008 0.178], Final Value =
\$1425284.81, Sharpe Ratio = -22.41

Simulation Run = 7584
Weights = [0.149 0.161 0.098 0.083 0.005 0.137 0.132 0.189 0.046], Final Value =
\$1549690.99, Sharpe Ratio = -16.46

Simulation Run = 7585
Weights = [0.179 0.131 0.148 0.091 0.105 0.04 0.223 0.08 0.004], Final Value =
\$1562710.95, Sharpe Ratio = -14.45

Simulation Run = 7586
Weights = [0.035 0.181 0.063 0.124 0.009 0.159 0.162 0.11 0.158], Final Value =
\$1455235.25, Sharpe Ratio = -17.13

Simulation Run = 7587
Weights = [0.047 0.072 0.16 0.122 0.161 0.067 0.086 0.081 0.204], Final Value =
\$1414508.82, Sharpe Ratio = -21.96

Simulation Run = 7588
Weights = [0.121 0.152 0.005 0.173 0.114 0.094 0.154 0.078 0.108], Final Value =
\$1557681.29, Sharpe Ratio = -18.73

Simulation Run = 7589
Weights = [0.023 0.04 0.182 0.072 0.106 0.138 0.151 0.202 0.086], Final Value =
\$1513769.51, Sharpe Ratio = -15.87

Simulation Run = 7590
Weights = [0.018 0.13 0.194 0.093 0.158 0.09 0.018 0.097 0.201], Final Value =
\$1386863.74, Sharpe Ratio = -24.60

Simulation Run = 7591
Weights = [0.172 0.09 0.026 0.208 0.035 0.225 0.084 0.098 0.063], Final Value =
\$1656321.64, Sharpe Ratio = -16.50

Simulation Run = 7592
Weights = [0.165 0.103 0.145 0.166 0.099 0.102 0.068 0.139 0.013], Final Value =
\$1608753.21, Sharpe Ratio = -18.44

Simulation Run = 7593
Weights = [0.071 0.041 0.011 0.159 0.032 0.104 0.242 0.149 0.193], Final Value =
\$1479461.97, Sharpe Ratio = -14.67

Simulation Run = 7594
Weights = [0.078 0.28 0.118 0.231 0.101 0.029 0.037 0.009 0.117], Final Value =
\$1451857.42, Sharpe Ratio = -26.35

Simulation Run = 7595
Weights = [0.142 0.197 0.038 0.033 0.02 0.128 0.125 0.165 0.153], Final Value =
\$1458542.76, Sharpe Ratio = -18.80

Simulation Run = 7596
Weights = [0.079 0.156 0.065 0.059 0.107 0.167 0.126 0.076 0.165], Final Value =
\$1477610.73, Sharpe Ratio = -18.80

Simulation Run = 7597

Weights = [0.091 0.188 0.129 0.058 0.149 0.026 0.1 0.086 0.173], Final Value = \$1396459.83, Sharpe Ratio = -23.22

Simulation Run = 7598

Weights = [0.001 0.044 0.103 0.086 0.156 0.14 0.172 0.173 0.125], Final Value = \$1521104.24, Sharpe Ratio = -16.59

Simulation Run = 7599

Weights = [0.116 0.155 0.068 0.001 0.168 0.185 0.022 0.182 0.103], Final Value = \$1555253.64, Sharpe Ratio = -21.53

Simulation Run = 7600

Weights = [0.042 0.093 0.074 0.132 0.09 0.142 0.202 0.192 0.034], Final Value = \$1599887.06, Sharpe Ratio = -14.79

Simulation Run = 7601

Weights = [0.005 0.197 0.339 0.06 0.095 0.122 0.113 0.05 0.021], Final Value = \$1446973.25, Sharpe Ratio = -16.03

Simulation Run = 7602

Weights = [0.195 0.142 0.114 0.023 0.031 0.043 0.157 0.151 0.145], Final Value = \$1426000.88, Sharpe Ratio = -17.54

Simulation Run = 7603

Weights = [0.01 0.232 0.067 0.177 0.054 0.04 0.217 0.118 0.086], Final Value = \$1473792.90, Sharpe Ratio = -16.80

Simulation Run = 7604

Weights = [0.06 0.129 0.13 0.109 0.078 0.089 0.128 0.14 0.136], Final Value = \$1455725.92, Sharpe Ratio = -19.01

Simulation Run = 7605

Weights = [0.101 0.174 0.165 0.06 0.108 0.135 0.085 0.052 0.122], Final Value = \$1462747.58, Sharpe Ratio = -19.85

Simulation Run = 7606

Weights = [0.122 0.134 0.077 0.134 0.141 0.194 0.026 0. 0.172], Final Value = \$1519152.65, Sharpe Ratio = -21.99

Simulation Run = 7607
Weights = [0.188 0.101 0.135 0.06 0.092 0.159 0.13 0.078 0.058], Final Value =
\$1570340.97, Sharpe Ratio = -16.07

Simulation Run = 7608
Weights = [0.141 0.226 0.039 0.184 0.222 0.031 0.018 0.133 0.004], Final Value =
\$1634317.24, Sharpe Ratio = -25.95

Simulation Run = 7609
Weights = [0.052 0.071 0.041 0.222 0.029 0.01 0.193 0.156 0.227], Final Value =
\$1406405.47, Sharpe Ratio = -17.92

Simulation Run = 7610
Weights = [0.082 0.189 0.249 0.168 0.034 0.081 0.039 0.065 0.093], Final Value =
\$1434296.90, Sharpe Ratio = -20.02

Simulation Run = 7611
Weights = [0.188 0.127 0.056 0.088 0.125 0.22 0.011 0.151 0.034], Final Value =
\$1662481.42, Sharpe Ratio = -18.82

Simulation Run = 7612
Weights = [0.151 0.137 0.09 0.137 0.138 0.048 0.141 0. 0.157], Final Value =
\$1469267.93, Sharpe Ratio = -19.90

Simulation Run = 7613
Weights = [0.125 0.141 0.134 0.141 0.118 0.099 0.161 0.029 0.051], Final Value =
\$1553698.92, Sharpe Ratio = -16.78

Simulation Run = 7614
Weights = [0.152 0.147 0.05 0.174 0.065 0.116 0.134 0.16 0.002], Final Value =
\$1638850.34, Sharpe Ratio = -16.99

Simulation Run = 7615
Weights = [0.134 0.066 0.108 0.015 0.141 0.192 0.133 0.166 0.045], Final Value =
\$1609023.04, Sharpe Ratio = -15.71

Simulation Run = 7616
Weights = [0.101 0.096 0.017 0.159 0.138 0.167 0.164 0.07 0.089], Final Value =

\$1611231.49, Sharpe Ratio = -16.58

Simulation Run = 7617

Weights = [0.042 0.072 0.026 0.254 0.008 0.214 0.268 0.018 0.098], Final Value = \$1594543.23, Sharpe Ratio = -12.44

Simulation Run = 7618

Weights = [0.221 0.088 0.127 0.081 0.006 0.085 0.123 0.133 0.136], Final Value = \$1470890.28, Sharpe Ratio = -17.25

Simulation Run = 7619

Weights = [0.016 0.072 0.016 0.004 0.15 0.181 0.156 0.185 0.22], Final Value = \$1465801.24, Sharpe Ratio = -17.68

Simulation Run = 7620

Weights = [0.035 0.219 0.003 0.054 0.164 0.2 0.059 0.018 0.248], Final Value = \$1433217.25, Sharpe Ratio = -23.59

Simulation Run = 7621

Weights = [0.097 0.117 0.076 0.056 0.187 0.034 0.141 0.188 0.104], Final Value = \$1511850.68, Sharpe Ratio = -19.95

Simulation Run = 7622

Weights = [0.001 0.168 0.088 0.091 0.035 0.191 0.09 0.265 0.071], Final Value = \$1537284.02, Sharpe Ratio = -18.18

Simulation Run = 7623

Weights = [0.143 0.075 0.017 0.11 0.206 0.125 0.01 0.111 0.204], Final Value = \$1524046.37, Sharpe Ratio = -25.49

Simulation Run = 7624

Weights = [0.093 0.138 0.185 0.144 0.043 0.086 0.162 0.079 0.071], Final Value = \$1487815.77, Sharpe Ratio = -16.21

Simulation Run = 7625

Weights = [0.065 0.263 0.026 0.056 0.003 0.207 0.094 0.24 0.046], Final Value = \$1559751.47, Sharpe Ratio = -17.97

Simulation Run = 7626
Weights = [0.163 0.064 0.079 0.154 0.16 0.034 0.152 0.062 0.131], Final Value =
\$1523972.55, Sharpe Ratio = -18.67

Simulation Run = 7627
Weights = [0.001 0.041 0.191 0.076 0.234 0.012 0.22 0.165 0.061], Final Value =
\$1507802.89, Sharpe Ratio = -15.42

Simulation Run = 7628
Weights = [0.022 0.02 0.22 0.182 0.162 0.119 0.012 0.127 0.137], Final Value =
\$1495634.36, Sharpe Ratio = -20.53

Simulation Run = 7629
Weights = [0.092 0.151 0.037 0.035 0.226 0.13 0.047 0.177 0.105], Final Value =
\$1562995.66, Sharpe Ratio = -23.52

Simulation Run = 7630
Weights = [0.151 0.155 0.039 0.069 0.085 0.088 0.141 0.111 0.161], Final Value =
\$1471888.53, Sharpe Ratio = -19.25

Simulation Run = 7631
Weights = [0.002 0.277 0.237 0.257 0.041 0.05 0.091 0.04 0.005], Final Value =
\$1485055.70, Sharpe Ratio = -18.68

Simulation Run = 7632
Weights = [0.012 0.177 0.114 0.182 0.01 0.083 0.113 0.141 0.169], Final Value =
\$1409140.60, Sharpe Ratio = -20.36

Simulation Run = 7633
Weights = [0.152 0.19 0.174 0.033 0.086 0.011 0.11 0.182 0.062], Final Value =
\$1460559.47, Sharpe Ratio = -19.54

Simulation Run = 7634
Weights = [0.186 0.121 0.102 0.058 0.101 0.032 0.07 0.178 0.153], Final Value =
\$1454301.45, Sharpe Ratio = -22.43

Simulation Run = 7635
Weights = [0.09 0.15 0.141 0.071 0.147 0.169 0.075 0.074 0.084], Final Value =
\$1537607.57, Sharpe Ratio = -19.39

Simulation Run = 7636
Weights = [0.033 0.098 0.208 0.074 0.183 0.098 0.148 0.147 0.01], Final Value =
\$1558848.22, Sharpe Ratio = -16.42

Simulation Run = 7637
Weights = [0.166 0.011 0.114 0. 0.112 0.181 0.143 0.19 0.084], Final Value =
\$1578450.44, Sharpe Ratio = -15.11

Simulation Run = 7638
Weights = [0.029 0.021 0.126 0.15 0.148 0.151 0.157 0.067 0.151], Final Value =
\$1514088.49, Sharpe Ratio = -16.72

Simulation Run = 7639
Weights = [0.067 0.112 0.017 0.149 0.265 0.005 0.272 0.019 0.095], Final Value =
\$1557192.63, Sharpe Ratio = -15.35

Simulation Run = 7640
Weights = [0.196 0.034 0.037 0.136 0.049 0.016 0.278 0.001 0.252], Final Value =
\$1401131.24, Sharpe Ratio = -14.19

Simulation Run = 7641
Weights = [0.116 0.013 0.042 0.266 0.116 0.002 0.304 0.125 0.016], Final Value =
\$1639218.35, Sharpe Ratio = -12.62

Simulation Run = 7642
Weights = [0.116 0.126 0.056 0.117 0.135 0.186 0.181 0.076 0.007], Final Value =
\$1657585.08, Sharpe Ratio = -14.95

Simulation Run = 7643
Weights = [0.183 0.113 0.14 0.072 0.031 0.03 0.001 0.205 0.224], Final Value =
\$1368048.11, Sharpe Ratio = -24.80

Simulation Run = 7644
Weights = [0.094 0.082 0.066 0.046 0.053 0.091 0.255 0.106 0.205], Final Value =
\$1413589.61, Sharpe Ratio = -14.43

Simulation Run = 7645

Weights = [0.07 0.195 0.019 0.256 0.059 0.37 0.003 0.009 0.019], Final Value = \$1724609.07, Sharpe Ratio = -16.04

Simulation Run = 7646

Weights = [0.179 0.163 0.174 0.035 0.098 0.134 0.102 0.106 0.008], Final Value = \$1568023.71, Sharpe Ratio = -17.06

Simulation Run = 7647

Weights = [0.161 0.077 0.035 0.033 0.196 0.16 0.139 0.016 0.182], Final Value = \$1522471.88, Sharpe Ratio = -18.14

Simulation Run = 7648

Weights = [0.176 0.065 0.032 0.154 0.092 0.111 0.104 0.127 0.139], Final Value = \$1553973.67, Sharpe Ratio = -19.22

Simulation Run = 7649

Weights = [0.052 0.017 0.193 0.265 0.029 0.295 0.018 0.053 0.078], Final Value = \$1613192.54, Sharpe Ratio = -15.31

Simulation Run = 7650

Weights = [0.127 0.127 0.044 0.053 0.221 0.086 0.022 0.214 0.106], Final Value = \$1559748.44, Sharpe Ratio = -25.19

Simulation Run = 7651

Weights = [0.039 0.113 0.156 0.144 0.062 0.145 0.126 0.048 0.168], Final Value = \$1439978.38, Sharpe Ratio = -18.00

Simulation Run = 7652

Weights = [0.135 0.06 0.146 0.089 0.091 0.148 0.102 0.162 0.068], Final Value = \$1563646.64, Sharpe Ratio = -16.96

Simulation Run = 7653

Weights = [0.103 0.103 0.131 0.169 0.151 0.073 0.144 0.116 0.01], Final Value = \$1604613.40, Sharpe Ratio = -17.20

Simulation Run = 7654

Weights = [0.005 0.11 0.104 0.096 0.179 0.121 0.079 0.149 0.157], Final Value = \$1481219.89, Sharpe Ratio = -22.17

Simulation Run = 7655
Weights = [0.019 0.026 0.153 0.145 0.168 0.052 0.186 0.082 0.169], Final Value =
\$1450194.18, Sharpe Ratio = -17.08

Simulation Run = 7656
Weights = [0.133 0.077 0.062 0.138 0.068 0.101 0.147 0.143 0.132], Final Value =
\$1521178.33, Sharpe Ratio = -17.62

Simulation Run = 7657
Weights = [0.116 0.152 0.017 0.054 0.162 0.135 0.171 0.123 0.068], Final Value =
\$1589100.00, Sharpe Ratio = -17.01

Simulation Run = 7658
Weights = [0.226 0.019 0.031 0.201 0.116 0.025 0.152 0.086 0.144], Final Value =
\$1551213.14, Sharpe Ratio = -18.06

Simulation Run = 7659
Weights = [0.109 0.122 0.038 0.069 0.071 0.188 0.042 0.179 0.182], Final Value =
\$1495902.02, Sharpe Ratio = -20.96

Simulation Run = 7660
Weights = [0.223 0.126 0.053 0.096 0.074 0.183 0.078 0.068 0.1], Final Value =
\$1581561.54, Sharpe Ratio = -18.14

Simulation Run = 7661
Weights = [0.086 0.032 0.044 0.149 0.179 0.11 0.197 0.179 0.022], Final Value =
\$1660537.86, Sharpe Ratio = -15.27

Simulation Run = 7662
Weights = [0.023 0.037 0.313 0.055 0.032 0.023 0.166 0.302 0.048], Final Value =
\$1429578.58, Sharpe Ratio = -14.48

Simulation Run = 7663
Weights = [0.157 0.062 0.185 0.022 0.14 0.003 0.143 0.217 0.07], Final Value =
\$1491803.58, Sharpe Ratio = -17.40

Simulation Run = 7664
Weights = [0.153 0.15 0.038 0.093 0.06 0.111 0.005 0.2 0.19], Final Value =

\$1465124.99, Sharpe Ratio = -24.95

Simulation Run = 7665

Weights = [0.132 0.184 0.126 0.1 0.086 0.101 0.084 0.096 0.092], Final Value = \$1499755.78, Sharpe Ratio = -20.42

Simulation Run = 7666

Weights = [0.19 0.165 0.054 0.043 0.153 0.148 0.106 0.035 0.105], Final Value = \$1552591.07, Sharpe Ratio = -19.21

Simulation Run = 7667

Weights = [0.131 0.023 0.142 0.087 0.196 0.001 0.099 0.214 0.107], Final Value = \$1512897.88, Sharpe Ratio = -20.24

Simulation Run = 7668

Weights = [0.083 0.173 0.136 0.163 0.1 0.029 0.165 0.104 0.048], Final Value = \$1514193.27, Sharpe Ratio = -17.72

Simulation Run = 7669

Weights = [0.14 0.146 0.064 0.086 0.148 0.064 0.112 0.127 0.114], Final Value = \$1515587.99, Sharpe Ratio = -20.94

Simulation Run = 7670

Weights = [0.016 0.177 0.123 0.065 0.131 0.127 0.094 0.108 0.158], Final Value = \$1437910.37, Sharpe Ratio = -21.39

Simulation Run = 7671

Weights = [0.083 0.203 0.019 0.164 0.163 0.017 0.165 0.071 0.116], Final Value = \$1506010.54, Sharpe Ratio = -20.50

Simulation Run = 7672

Weights = [0.07 0.169 0.013 0.221 0.039 0.077 0.236 0.112 0.063], Final Value = \$1561645.82, Sharpe Ratio = -15.11

Simulation Run = 7673

Weights = [0.162 0.147 0.063 0.047 0.177 0.119 0.125 0.056 0.105], Final Value = \$1544866.11, Sharpe Ratio = -19.17

Simulation Run = 7674
Weights = [0.207 0.005 0.075 0.078 0.196 0.176 0.053 0.151 0.059], Final Value =
\$1665777.24, Sharpe Ratio = -18.03

Simulation Run = 7675
Weights = [0.152 0.074 0.147 0.072 0.092 0.125 0.034 0.188 0.117], Final Value =
\$1512151.52, Sharpe Ratio = -20.19

Simulation Run = 7676
Weights = [0.005 0.105 0.071 0.173 0.135 0.158 0.129 0.122 0.103], Final Value =
\$1560089.28, Sharpe Ratio = -18.31

Simulation Run = 7677
Weights = [0.183 0.08 0.016 0.071 0.156 0.244 0.04 0.113 0.096], Final Value =
\$1646200.56, Sharpe Ratio = -18.25

Simulation Run = 7678
Weights = [0.142 0.163 0.143 0.14 0.148 0.031 0.106 0.088 0.039], Final Value =
\$1543545.01, Sharpe Ratio = -19.93

Simulation Run = 7679
Weights = [0.104 0.224 0.063 0.102 0.184 0.036 0.039 0.118 0.13], Final Value =
\$1479878.36, Sharpe Ratio = -27.98

Simulation Run = 7680
Weights = [0.215 0.216 0.06 0.025 0.17 0.082 0.155 0.075 0.004], Final Value =
\$1603144.14, Sharpe Ratio = -17.60

Simulation Run = 7681
Weights = [0.103 0.05 0.082 0.169 0.164 0.013 0.175 0.077 0.166], Final Value =
\$1480598.42, Sharpe Ratio = -18.47

Simulation Run = 7682
Weights = [0.11 0.053 0.205 0.14 0.055 0.041 0.174 0.129 0.094], Final Value =
\$1471162.88, Sharpe Ratio = -15.63

Simulation Run = 7683
Weights = [0.146 0.117 0.077 0.06 0.164 0.173 0.122 0.065 0.075], Final Value =
\$1590735.44, Sharpe Ratio = -17.50

Simulation Run = 7684
Weights = [0.245 0.137 0.152 0.017 0.013 0.232 0.031 0.027 0.146], Final Value =
\$1489093.36, Sharpe Ratio = -17.37

Simulation Run = 7685
Weights = [0.102 0.184 0.004 0.118 0.016 0.106 0.13 0.108 0.233], Final Value =
\$1406345.76, Sharpe Ratio = -20.41

Simulation Run = 7686
Weights = [0.103 0.134 0.159 0.148 0.131 0.075 0.067 0.073 0.11], Final Value =
\$1491211.01, Sharpe Ratio = -21.45

Simulation Run = 7687
Weights = [0.021 0.165 0.111 0.047 0.108 0.117 0.142 0.143 0.146], Final Value =
\$1441908.15, Sharpe Ratio = -18.93

Simulation Run = 7688
Weights = [0.095 0.016 0.03 0.001 0.08 0.257 0.183 0.154 0.183], Final Value =
\$1529117.32, Sharpe Ratio = -14.10

Simulation Run = 7689
Weights = [0.173 0.129 0.01 0.163 0.164 0.021 0.174 0.008 0.158], Final Value =
\$1508919.99, Sharpe Ratio = -19.21

Simulation Run = 7690
Weights = [0.075 0.131 0.154 0.085 0.061 0.106 0.133 0.121 0.134], Final Value =
\$1445477.32, Sharpe Ratio = -18.02

Simulation Run = 7691
Weights = [0.057 0.063 0.15 0.084 0.15 0.095 0.02 0.202 0.181], Final Value =
\$1448653.22, Sharpe Ratio = -23.58

Simulation Run = 7692
Weights = [0.148 0.089 0.112 0.055 0.18 0.033 0.067 0.171 0.145], Final Value =
\$1478507.59, Sharpe Ratio = -23.03

Simulation Run = 7693

Weights = [0.139 0.017 0.022 0.23 0.024 0.133 0.25 0.16 0.025], Final Value = \$1664907.87, Sharpe Ratio = -12.70

Simulation Run = 7694

Weights = [0.163 0.022 0.062 0.086 0.203 0.202 0.169 0.002 0.091], Final Value = \$1633479.61, Sharpe Ratio = -15.18

Simulation Run = 7695

Weights = [0.06 0.189 0.188 0.01 0.154 0.028 0.103 0.15 0.119], Final Value = \$1406783.59, Sharpe Ratio = -21.35

Simulation Run = 7696

Weights = [0.048 0.104 0.045 0.065 0.163 0.111 0.2 0.12 0.145], Final Value = \$1502643.38, Sharpe Ratio = -16.78

Simulation Run = 7697

Weights = [0.221 0.099 0.067 0.059 0.177 0.058 0.01 0.069 0.239], Final Value = \$1434827.55, Sharpe Ratio = -26.67

Simulation Run = 7698

Weights = [0.061 0.215 0.223 0.033 0.046 0.123 0.16 0.084 0.055], Final Value = \$1450855.85, Sharpe Ratio = -15.95

Simulation Run = 7699

Weights = [0.038 0.116 0.139 0.109 0.152 0.115 0.138 0.052 0.14], Final Value = \$1473772.67, Sharpe Ratio = -18.71

Simulation Run = 7700

Weights = [0.082 0.008 0.143 0.17 0.213 0.023 0.104 0.064 0.193], Final Value = \$1459233.67, Sharpe Ratio = -21.18

Simulation Run = 7701

Weights = [0.073 0.069 0.057 0.162 0.183 0.165 0.15 0.108 0.033], Final Value = \$1658817.57, Sharpe Ratio = -16.50

Simulation Run = 7702

Weights = [0.122 0.199 0.199 0.046 0.137 0.127 0.151 0.001 0.016], Final Value = \$1535609.69, Sharpe Ratio = -16.35

Simulation Run = 7703
Weights = [0.037 0.056 0.165 0.119 0.177 0.049 0.094 0.176 0.127], Final Value =
\$1480377.23, Sharpe Ratio = -20.59

Simulation Run = 7704
Weights = [0.014 0.064 0.241 0.204 0.035 0.183 0.025 0.215 0.019], Final Value =
\$1575106.47, Sharpe Ratio = -16.54

Simulation Run = 7705
Weights = [0.021 0.185 0.171 0.039 0.211 0.191 0.018 0.004 0.158], Final Value =
\$1457161.82, Sharpe Ratio = -22.66

Simulation Run = 7706
Weights = [0.07 0.076 0.2 0.2 0.067 0.122 0.206 0.023 0.036], Final Value =
\$1553037.99, Sharpe Ratio = -13.88

Simulation Run = 7707
Weights = [0.175 0.104 0.014 0.11 0.164 0.132 0.215 0.063 0.023], Final Value =
\$1660995.04, Sharpe Ratio = -14.68

Simulation Run = 7708
Weights = [0.071 0.068 0.208 0.034 0.215 0.127 0.015 0.114 0.148], Final Value =
\$1469603.31, Sharpe Ratio = -21.85

Simulation Run = 7709
Weights = [0.149 0.182 0.061 0.054 0.163 0.077 0.054 0.137 0.123], Final Value =
\$1506060.79, Sharpe Ratio = -24.30

Simulation Run = 7710
Weights = [0.066 0.108 0.166 0.167 0.098 0.057 0.144 0.164 0.031], Final Value =
\$1545301.27, Sharpe Ratio = -17.08

Simulation Run = 7711
Weights = [0.045 0.114 0.246 0.082 0.135 0.058 0.095 0.138 0.088], Final Value =
\$1450543.26, Sharpe Ratio = -18.90

Simulation Run = 7712
Weights = [0.006 0.03 0.189 0.01 0.14 0.201 0.145 0.069 0.21], Final Value =

\$1417500.52, Sharpe Ratio = -16.30

Simulation Run = 7713

Weights = [0.008 0.208 0.031 0.008 0.228 0.034 0.211 0.193 0.079], Final Value = \$1506850.40, Sharpe Ratio = -17.92

Simulation Run = 7714

Weights = [0.017 0.047 0.01 0.312 0.141 0.3 0.07 0.031 0.073], Final Value = \$1715146.95, Sharpe Ratio = -16.45

Simulation Run = 7715

Weights = [0.015 0.149 0.051 0.149 0.01 0.154 0.212 0.051 0.209], Final Value = \$1420119.27, Sharpe Ratio = -15.73

Simulation Run = 7716

Weights = [0.128 0.192 0.017 0.057 0.106 0.184 0.011 0.048 0.257], Final Value = \$1427137.36, Sharpe Ratio = -24.58

Simulation Run = 7717

Weights = [0.011 0.163 0.005 0.165 0.107 0.156 0.069 0.161 0.164], Final Value = \$1513211.24, Sharpe Ratio = -22.75

Simulation Run = 7718

Weights = [0.115 0.003 0.048 0.277 0.134 0.051 0.078 0.289 0.004], Final Value = \$1691696.13, Sharpe Ratio = -18.80

Simulation Run = 7719

Weights = [0.083 0.125 0.178 0.183 0.169 0.026 0.1 0.063 0.073], Final Value = \$1511463.86, Sharpe Ratio = -20.16

Simulation Run = 7720

Weights = [0.184 0.174 0.046 0.107 0.011 0.163 0.081 0.181 0.052], Final Value = \$1587634.09, Sharpe Ratio = -18.04

Simulation Run = 7721

Weights = [0.003 0.184 0.213 0.06 0.122 0.119 0.103 0.154 0.043], Final Value = \$1492087.56, Sharpe Ratio = -18.39

Simulation Run = 7722
Weights = [0.154 0.081 0.13 0.096 0.147 0.184 0.084 0.084 0.042], Final Value =
\$1619244.83, Sharpe Ratio = -17.28

Simulation Run = 7723
Weights = [0.148 0.069 0.101 0.146 0.016 0.153 0.137 0.158 0.072], Final Value =
\$1572379.31, Sharpe Ratio = -15.71

Simulation Run = 7724
Weights = [0.083 0.166 0.126 0.002 0.146 0.194 0.051 0.019 0.214], Final Value =
\$1417684.45, Sharpe Ratio = -21.51

Simulation Run = 7725
Weights = [0.167 0.042 0.184 0.026 0.103 0.183 0.043 0.204 0.048], Final Value =
\$1583359.21, Sharpe Ratio = -16.99

Simulation Run = 7726
Weights = [0.166 0.073 0.11 0.152 0.054 0.032 0.143 0.131 0.139], Final Value =
\$1475973.41, Sharpe Ratio = -18.10

Simulation Run = 7727
Weights = [0.051 0.202 0.166 0.224 0.155 0.025 0.029 0.088 0.059], Final Value =
\$1512157.75, Sharpe Ratio = -23.78

Simulation Run = 7728
Weights = [0.12 0.141 0.154 0.245 0.065 0.032 0.004 0.1 0.14], Final Value =
\$1461946.88, Sharpe Ratio = -23.91

Simulation Run = 7729
Weights = [0.146 0.098 0.144 0.11 0.104 0.041 0.163 0.117 0.076], Final Value =
\$1512718.37, Sharpe Ratio = -16.99

Simulation Run = 7730
Weights = [0.138 0.084 0.011 0.055 0.156 0.128 0.11 0.162 0.154], Final Value =
\$1538355.11, Sharpe Ratio = -19.78

Simulation Run = 7731
Weights = [0.032 0.108 0.187 0.228 0.196 0.015 0.041 0.149 0.045], Final Value =
\$1546066.74, Sharpe Ratio = -21.69

Simulation Run = 7732
Weights = [0.097 0.099 0.037 0.161 0.153 0.064 0.114 0.155 0.119], Final Value =
\$1545919.03, Sharpe Ratio = -20.95

Simulation Run = 7733
Weights = [0.19 0.067 0.118 0.103 0.123 0.039 0.042 0.135 0.183], Final Value =
\$1455656.62, Sharpe Ratio = -23.26

Simulation Run = 7734
Weights = [0.149 0.089 0.107 0.019 0.133 0.16 0.144 0.153 0.047], Final Value =
\$1589826.94, Sharpe Ratio = -15.99

Simulation Run = 7735
Weights = [0.158 0.109 0.048 0.168 0.118 0.155 0.121 0.017 0.106], Final Value =
\$1583911.80, Sharpe Ratio = -18.10

Simulation Run = 7736
Weights = [0.17 0.084 0.116 0.133 0.111 0.088 0.052 0.159 0.086], Final Value =
\$1554498.75, Sharpe Ratio = -20.56

Simulation Run = 7737
Weights = [0.125 0.17 0.022 0.034 0.162 0.048 0.143 0.161 0.135], Final Value =
\$1489928.51, Sharpe Ratio = -20.56

Simulation Run = 7738
Weights = [0.149 0.139 0.03 0.197 0.062 0.072 0.023 0.268 0.06], Final Value =
\$1594426.89, Sharpe Ratio = -22.78

Simulation Run = 7739
Weights = [0.168 0.176 0.025 0.127 0.108 0.019 0.072 0.128 0.178], Final Value =
\$1456830.80, Sharpe Ratio = -25.29

Simulation Run = 7740
Weights = [0.078 0.163 0.153 0.147 0.096 0.086 0.112 0.132 0.033], Final Value =
\$1542752.97, Sharpe Ratio = -18.54

Simulation Run = 7741

Weights = [0.221 0.055 0.016 0.065 0.093 0.205 0.166 0.066 0.114], Final Value = \$1603611.15, Sharpe Ratio = -14.83

Simulation Run = 7742

Weights = [0.187 0.021 0.148 0.018 0.216 0.09 0.092 0.024 0.204], Final Value = \$1455691.31, Sharpe Ratio = -20.17

Simulation Run = 7743

Weights = [0.021 0.133 0.084 0.152 0.171 0.014 0.102 0.149 0.172], Final Value = \$1441426.20, Sharpe Ratio = -23.90

Simulation Run = 7744

Weights = [0.011 0.244 0.22 0.022 0.05 0.157 0.12 0.137 0.039], Final Value = \$1464480.77, Sharpe Ratio = -16.98

Simulation Run = 7745

Weights = [0.027 0.09 0.131 0.036 0.169 0.122 0.232 0.014 0.18], Final Value = \$1431406.26, Sharpe Ratio = -15.27

Simulation Run = 7746

Weights = [0.052 0.007 0.151 0.026 0.231 0.176 0.249 0.019 0.089], Final Value = \$1563082.38, Sharpe Ratio = -13.26

Simulation Run = 7747

Weights = [0.003 0.221 0.044 0.19 0.005 0.046 0.152 0.211 0.128], Final Value = \$1447119.71, Sharpe Ratio = -19.72

Simulation Run = 7748

Weights = [0.202 0.117 0.069 0.204 0.032 0.074 0.05 0.168 0.084], Final Value = \$1563332.87, Sharpe Ratio = -20.66

Simulation Run = 7749

Weights = [0.082 0.161 0.08 0.087 0.213 0.177 0.073 0.038 0.089], Final Value = \$1575486.80, Sharpe Ratio = -20.68

Simulation Run = 7750

Weights = [0.031 0.145 0.128 0.095 0.056 0.212 0.086 0.132 0.116], Final Value = \$1504772.76, Sharpe Ratio = -17.94

Simulation Run = 7751
Weights = [0.124 0.007 0.029 0.176 0.22 0.06 0.055 0.166 0.163], Final Value =
\$1562336.23, Sharpe Ratio = -23.63

Simulation Run = 7752
Weights = [0.213 0.192 0.251 0.074 0.084 0.006 0.133 0.038 0.008], Final Value =
\$1488410.23, Sharpe Ratio = -16.82

Simulation Run = 7753
Weights = [0.075 0.306 0.059 0.097 0.023 0.285 0.074 0.026 0.055], Final Value =
\$1567724.58, Sharpe Ratio = -17.34

Simulation Run = 7754
Weights = [0.095 0.167 0.115 0.162 0.09 0.073 0.154 0.078 0.066], Final Value =
\$1524910.73, Sharpe Ratio = -17.85

Simulation Run = 7755
Weights = [0.12 0.199 0.106 0.013 0.11 0.105 0.095 0.07 0.182], Final Value =
\$1410513.77, Sharpe Ratio = -21.62

Simulation Run = 7756
Weights = [0.11 0.154 0.055 0.047 0.116 0.156 0.053 0.104 0.206], Final Value =
\$1452209.30, Sharpe Ratio = -22.70

Simulation Run = 7757
Weights = [0.136 0.171 0.137 0.088 0.086 0.136 0.053 0.03 0.162], Final Value =
\$1449654.63, Sharpe Ratio = -21.55

Simulation Run = 7758
Weights = [0.082 0.186 0.106 0.06 0.116 0.106 0.126 0.149 0.069], Final Value =
\$1518418.88, Sharpe Ratio = -18.97

Simulation Run = 7759
Weights = [0.173 0.174 0.024 0.149 0.076 0.192 0.011 0.177 0.023], Final Value =
\$1660208.19, Sharpe Ratio = -19.89

Simulation Run = 7760
Weights = [0.067 0.018 0.126 0.103 0.069 0.152 0.18 0.116 0.17], Final Value =

\$1476072.60, Sharpe Ratio = -15.43

Simulation Run = 7761

Weights = [0.177 0.004 0.054 0.085 0.094 0.164 0.168 0.073 0.181], Final Value = \$1525154.45, Sharpe Ratio = -15.66

Simulation Run = 7762

Weights = [0.063 0.189 0.172 0.006 0.111 0.096 0.248 0.022 0.092], Final Value = \$1440392.70, Sharpe Ratio = -14.35

Simulation Run = 7763

Weights = [0.021 0.085 0.193 0.057 0.031 0.196 0.143 0.152 0.122], Final Value = \$1463840.24, Sharpe Ratio = -15.33

Simulation Run = 7764

Weights = [0.184 0.008 0.026 0.147 0.115 0.208 0.069 0.037 0.207], Final Value = \$1553552.40, Sharpe Ratio = -18.66

Simulation Run = 7765

Weights = [0.151 0.001 0.019 0.161 0.183 0.164 0.125 0.181 0.016], Final Value = \$1724454.21, Sharpe Ratio = -16.26

Simulation Run = 7766

Weights = [0.091 0.174 0.031 0.019 0.134 0.149 0.173 0.124 0.106], Final Value = \$1530454.85, Sharpe Ratio = -17.04

Simulation Run = 7767

Weights = [0.106 0.148 0.043 0.089 0.148 0.074 0.085 0.154 0.154], Final Value = \$1489203.89, Sharpe Ratio = -23.33

Simulation Run = 7768

Weights = [0.048 0.201 0.065 0.06 0.189 0.027 0.159 0.023 0.229], Final Value = \$1368339.07, Sharpe Ratio = -21.78

Simulation Run = 7769

Weights = [0.162 0.113 0.011 0.17 0.063 0.067 0.169 0.129 0.116], Final Value = \$1543296.28, Sharpe Ratio = -17.51

Simulation Run = 7770
Weights = [0.002 0.154 0.083 0.262 0.105 0.152 0.04 0.007 0.194], Final Value =
\$1473115.14, Sharpe Ratio = -23.53

Simulation Run = 7771
Weights = [0.012 0. 0.162 0.096 0.19 0.015 0.197 0.143 0.185], Final Value =
\$1419751.90, Sharpe Ratio = -16.97

Simulation Run = 7772
Weights = [0.194 0.186 0.134 0.075 0.122 0.013 0.188 0.045 0.042], Final Value =
\$1514061.42, Sharpe Ratio = -16.69

Simulation Run = 7773
Weights = [0.082 0.081 0.171 0.046 0.09 0.19 0.018 0.147 0.177], Final Value =
\$1453475.88, Sharpe Ratio = -20.12

Simulation Run = 7774
Weights = [0.163 0.186 0.021 0.073 0.07 0.137 0.035 0.155 0.16], Final Value =
\$1496192.28, Sharpe Ratio = -23.07

Simulation Run = 7775
Weights = [0.012 0.027 0.121 0.109 0.199 0.094 0.164 0.154 0.122], Final Value =
\$1521280.52, Sharpe Ratio = -17.46

Simulation Run = 7776
Weights = [0.168 0.134 0.005 0.139 0.115 0.052 0.187 0.121 0.078], Final Value =
\$1573519.00, Sharpe Ratio = -17.13

Simulation Run = 7777
Weights = [0.073 0.069 0.141 0.174 0.017 0.059 0.11 0.175 0.18], Final Value =
\$1420972.10, Sharpe Ratio = -19.21

Simulation Run = 7778
Weights = [0.059 0.112 0.073 0.077 0.173 0.14 0.106 0.136 0.125], Final Value =
\$1531016.51, Sharpe Ratio = -19.98

Simulation Run = 7779
Weights = [0.101 0.129 0.082 0.164 0.113 0.093 0.125 0.044 0.151], Final Value =
\$1490400.90, Sharpe Ratio = -19.92

Simulation Run = 7780
Weights = [0.082 0.011 0.024 0.196 0.19 0.125 0.203 0.143 0.027], Final Value =
\$1687475.30, Sharpe Ratio = -14.99

Simulation Run = 7781
Weights = [0.218 0.076 0.116 0.017 0.117 0.149 0.176 0.026 0.106], Final Value =
\$1537040.55, Sharpe Ratio = -15.15

Simulation Run = 7782
Weights = [0.114 0.142 0.072 0.174 0.152 0.052 0.124 0.067 0.104], Final Value =
\$1531041.65, Sharpe Ratio = -20.59

Simulation Run = 7783
Weights = [0.158 0.088 0.122 0.072 0.144 0.142 0.116 0.085 0.073], Final Value =
\$1570613.70, Sharpe Ratio = -17.48

Simulation Run = 7784
Weights = [0.184 0.113 0.112 0.191 0.054 0.207 0.079 0.005 0.055], Final Value =
\$1616233.10, Sharpe Ratio = -16.76

Simulation Run = 7785
Weights = [0.046 0.162 0.012 0.136 0.037 0.096 0.162 0.281 0.067], Final Value =
\$1552575.15, Sharpe Ratio = -17.55

Simulation Run = 7786
Weights = [0.008 0.166 0.093 0.128 0.174 0.123 0.053 0.124 0.131], Final Value =
\$1501534.17, Sharpe Ratio = -23.80

Simulation Run = 7787
Weights = [0.087 0.13 0.143 0.08 0.108 0.104 0.147 0.145 0.054], Final Value =
\$1532714.63, Sharpe Ratio = -17.07

Simulation Run = 7788
Weights = [0.176 0.151 0.16 0.122 0.166 0.047 0.078 0.07 0.03], Final Value =
\$1561606.42, Sharpe Ratio = -20.24

Simulation Run = 7789

Weights = [0.158 0.136 0.091 0.002 0.178 0.202 0.044 0.123 0.065], Final Value = \$1597538.52, Sharpe Ratio = -19.22

Simulation Run = 7790

Weights = [0.149 0.006 0.01 0.218 0.21 0.102 0.071 0.103 0.132], Final Value = \$1622115.26, Sharpe Ratio = -21.27

Simulation Run = 7791

Weights = [0.101 0.035 0.068 0.148 0.039 0.223 0.155 0.229 0.002], Final Value = \$1681284.50, Sharpe Ratio = -13.87

Simulation Run = 7792

Weights = [0.123 0.173 0.003 0.17 0.108 0.075 0.171 0.078 0.098], Final Value = \$1552712.76, Sharpe Ratio = -18.28

Simulation Run = 7793

Weights = [0.128 0.08 0.145 0.175 0.024 0.112 0.207 0.076 0.053], Final Value = \$1551094.96, Sharpe Ratio = -14.08

Simulation Run = 7794

Weights = [0.113 0.138 0.218 0.225 0.065 0.002 0.121 0.11 0.007], Final Value = \$1528319.50, Sharpe Ratio = -17.22

Simulation Run = 7795

Weights = [0.069 0.039 0.119 0.133 0.153 0.168 0.118 0.112 0.091], Final Value = \$1579340.12, Sharpe Ratio = -17.24

Simulation Run = 7796

Weights = [0.18 0.108 0.15 0.022 0.067 0.043 0.179 0.048 0.202], Final Value = \$1372680.89, Sharpe Ratio = -17.02

Simulation Run = 7797

Weights = [0.005 0.173 0.175 0.199 0.092 0.04 0.1 0.163 0.053], Final Value = \$1495264.88, Sharpe Ratio = -19.86

Simulation Run = 7798

Weights = [0.12 0.089 0.219 0.022 0.102 0.194 0.022 0.102 0.131], Final Value = \$1476697.50, Sharpe Ratio = -18.70

Simulation Run = 7799
Weights = [0.344 0.076 0.105 0.133 0.103 0.059 0.115 0.026 0.038], Final Value =
\$1614029.27, Sharpe Ratio = -16.92

Simulation Run = 7800
Weights = [0.21 0.201 0.018 0.028 0.173 0.189 0.063 0.089 0.03], Final Value =
\$1647886.18, Sharpe Ratio = -19.27

Simulation Run = 7801
Weights = [0.219 0.096 0.002 0.175 0.004 0.033 0.147 0.227 0.096], Final Value =
\$1556436.75, Sharpe Ratio = -17.57

Simulation Run = 7802
Weights = [0.086 0.061 0.097 0.101 0.123 0.128 0.109 0.149 0.146], Final Value =
\$1509481.96, Sharpe Ratio = -19.02

Simulation Run = 7803
Weights = [0.113 0.195 0.105 0.033 0.07 0.175 0.021 0.222 0.068], Final Value =
\$1538921.20, Sharpe Ratio = -20.58

Simulation Run = 7804
Weights = [0.121 0.132 0.204 0.127 0.008 0.091 0.047 0.232 0.038], Final Value =
\$1514848.71, Sharpe Ratio = -18.49

Simulation Run = 7805
Weights = [0.024 0.133 0.177 0.139 0.087 0.168 0.091 0.159 0.022], Final Value =
\$1570566.64, Sharpe Ratio = -17.25

Simulation Run = 7806
Weights = [0.146 0.05 0.092 0.189 0.082 0.003 0.216 0.168 0.055], Final Value =
\$1561232.00, Sharpe Ratio = -15.13

Simulation Run = 7807
Weights = [0.173 0.167 0.15 0.131 0.028 0.118 0.174 0.049 0.01], Final Value =
\$1566359.95, Sharpe Ratio = -14.98

Simulation Run = 7808
Weights = [0.222 0.099 0.127 0.009 0.046 0.025 0.23 0.191 0.053], Final Value =

\$1507900.47, Sharpe Ratio = -14.08

Simulation Run = 7809

Weights = [0.067 0.013 0.256 0.003 0.134 0.023 0.276 0.033 0.195], Final Value = \$1340650.85, Sharpe Ratio = -13.35

Simulation Run = 7810

Weights = [0.007 0.006 0.145 0.052 0.208 0.257 0.233 0.066 0.026], Final Value = \$1645029.42, Sharpe Ratio = -12.47

Simulation Run = 7811

Weights = [0.04 0.187 0.073 0.152 0.164 0.095 0.148 0.052 0.089], Final Value = \$1531739.00, Sharpe Ratio = -19.46

Simulation Run = 7812

Weights = [0.133 0.136 0.174 0.168 0.071 0.069 0.048 0.083 0.118], Final Value = \$1471199.62, Sharpe Ratio = -21.28

Simulation Run = 7813

Weights = [0.053 0.062 0.096 0.21 0.008 0.064 0.132 0.218 0.156], Final Value = \$1465612.78, Sharpe Ratio = -18.37

Simulation Run = 7814

Weights = [0.156 0.063 0.026 0.145 0.014 0.139 0.166 0.146 0.145], Final Value = \$1533948.96, Sharpe Ratio = -15.98

Simulation Run = 7815

Weights = [0.059 0.052 0.084 0.114 0.154 0.002 0.178 0.183 0.174], Final Value = \$1447728.19, Sharpe Ratio = -18.63

Simulation Run = 7816

Weights = [0.223 0.018 0.126 0.155 0.02 0.209 0.148 0.011 0.089], Final Value = \$1593736.99, Sharpe Ratio = -14.06

Simulation Run = 7817

Weights = [0.01 0.112 0.114 0.178 0.127 0.025 0.198 0.087 0.15], Final Value = \$1444061.28, Sharpe Ratio = -17.54

Simulation Run = 7818
Weights = [0.217 0.123 0.136 0.08 0.121 0.001 0.021 0.107 0.194], Final Value =
\$1408489.10, Sharpe Ratio = -25.29

Simulation Run = 7819
Weights = [0.029 0.109 0.182 0.105 0.11 0.085 0.134 0.047 0.199], Final Value =
\$1382677.60, Sharpe Ratio = -19.12

Simulation Run = 7820
Weights = [0.164 0.159 0.008 0.024 0.098 0.157 0.161 0.097 0.13], Final Value =
\$1530183.50, Sharpe Ratio = -16.90

Simulation Run = 7821
Weights = [0.018 0.151 0.142 0.08 0.119 0.012 0.174 0.188 0.117], Final Value =
\$1427620.56, Sharpe Ratio = -18.36

Simulation Run = 7822
Weights = [0.157 0.086 0.089 0.125 0.097 0.098 0.064 0.152 0.133], Final Value =
\$1519853.59, Sharpe Ratio = -20.97

Simulation Run = 7823
Weights = [0.178 0.066 0.123 0.189 0.012 0.081 0.113 0.106 0.134], Final Value =
\$1496807.21, Sharpe Ratio = -17.85

Simulation Run = 7824
Weights = [0.155 0.021 0.072 0.164 0.005 0.158 0.132 0.148 0.145], Final Value =
\$1536967.67, Sharpe Ratio = -16.12

Simulation Run = 7825
Weights = [0.173 0.109 0.086 0.101 0.152 0.048 0.212 0.015 0.104], Final Value =
\$1521013.76, Sharpe Ratio = -16.08

Simulation Run = 7826
Weights = [0.077 0.066 0.141 0.14 0.091 0.088 0.012 0.192 0.194], Final Value =
\$1437658.87, Sharpe Ratio = -23.62

Simulation Run = 7827
Weights = [0.122 0.095 0.157 0.052 0.154 0.115 0.04 0.114 0.15], Final Value =
\$1474203.08, Sharpe Ratio = -21.82

Simulation Run = 7828
Weights = [0.12 0.094 0.175 0.108 0.153 0.16 0.06 0.111 0.02], Final Value =
\$1607595.20, Sharpe Ratio = -18.02

Simulation Run = 7829
Weights = [0.106 0.065 0.119 0.068 0.262 0. 0.15 0.124 0.105], Final Value =
\$1515581.65, Sharpe Ratio = -19.34

Simulation Run = 7830
Weights = [0.026 0.101 0.007 0.094 0.107 0.05 0.174 0.286 0.156], Final Value =
\$1480653.84, Sharpe Ratio = -18.80

Simulation Run = 7831
Weights = [0.102 0.044 0.14 0.17 0.167 0.135 0.142 0.089 0.012], Final Value =
\$1641936.64, Sharpe Ratio = -15.98

Simulation Run = 7832
Weights = [0.137 0.041 0.175 0.09 0.181 0.046 0.116 0.2 0.014], Final Value =
\$1589464.28, Sharpe Ratio = -17.46

Simulation Run = 7833
Weights = [0.154 0.051 0.09 0.049 0.157 0.049 0.15 0.15 0.15], Final Value =
\$1488276.13, Sharpe Ratio = -18.45

Simulation Run = 7834
Weights = [0.182 0.113 0.085 0.098 0.045 0.126 0.177 0.028 0.146], Final Value =
\$1489673.88, Sharpe Ratio = -16.00

Simulation Run = 7835
Weights = [0.006 0.034 0.171 0.04 0.019 0.124 0.148 0.277 0.179], Final Value =
\$1402641.37, Sharpe Ratio = -16.39

Simulation Run = 7836
Weights = [0.017 0.195 0.125 0.058 0.097 0.036 0.142 0.182 0.148], Final Value =
\$1396506.39, Sharpe Ratio = -20.35

Simulation Run = 7837

Weights = [0.107 0.085 0.121 0.131 0.077 0.132 0.11 0.096 0.141], Final Value = \$1496080.19, Sharpe Ratio = -18.39

Simulation Run = 7838

Weights = [0.014 0.03 0.074 0.233 0.087 0.236 0.232 0.066 0.027], Final Value = \$1669727.40, Sharpe Ratio = -12.64

Simulation Run = 7839

Weights = [0.109 0.02 0.03 0.156 0.249 0.143 0.064 0.136 0.092], Final Value = \$1650144.74, Sharpe Ratio = -20.60

Simulation Run = 7840

Weights = [0.117 0.082 0.002 0.022 0.17 0.211 0.078 0.086 0.233], Final Value = \$1497280.27, Sharpe Ratio = -19.98

Simulation Run = 7841

Weights = [0.118 0.082 0.124 0.061 0.204 0.171 0.067 0.029 0.143], Final Value = \$1527543.56, Sharpe Ratio = -20.09

Simulation Run = 7842

Weights = [0.166 0.216 0.204 0.08 0.041 0.118 0.117 0.017 0.04], Final Value = \$1497473.23, Sharpe Ratio = -17.05

Simulation Run = 7843

Weights = [0.036 0.125 0.136 0.026 0.149 0.137 0.189 0.036 0.166], Final Value = \$1436252.13, Sharpe Ratio = -16.54

Simulation Run = 7844

Weights = [0.189 0.121 0.07 0.024 0.156 0.054 0.181 0.087 0.12], Final Value = \$1503259.57, Sharpe Ratio = -17.32

Simulation Run = 7845

Weights = [0.182 0.186 0.042 0.207 0.108 0.061 0. 0.066 0.147], Final Value = \$1512067.20, Sharpe Ratio = -27.03

Simulation Run = 7846

Weights = [0.203 0.015 0.143 0.03 0.159 0.067 0. 0.183 0.199], Final Value = \$1454494.95, Sharpe Ratio = -23.18

Simulation Run = 7847
Weights = [0.143 0.142 0.013 0.132 0.105 0.103 0.103 0.14 0.119], Final Value =
\$1548887.64, Sharpe Ratio = -20.60

Simulation Run = 7848
Weights = [0.164 0.121 0.124 0.147 0.042 0.159 0.112 0.069 0.063], Final Value =
\$1567800.36, Sharpe Ratio = -16.74

Simulation Run = 7849
Weights = [0.123 0.132 0.16 0.027 0.108 0.119 0.113 0.178 0.04], Final Value =
\$1540615.48, Sharpe Ratio = -17.49

Simulation Run = 7850
Weights = [0.147 0.119 0.18 0.026 0.147 0.165 0.044 0.125 0.046], Final Value =
\$1564072.65, Sharpe Ratio = -18.68

Simulation Run = 7851
Weights = [0.117 0.261 0.102 0.161 0.013 0.059 0.187 0.097 0.003], Final Value =
\$1537122.74, Sharpe Ratio = -16.28

Simulation Run = 7852
Weights = [0.139 0.029 0.262 0.1 0.06 0.009 0.066 0.227 0.106], Final Value =
\$1437504.31, Sharpe Ratio = -18.28

Simulation Run = 7853
Weights = [0.181 0.119 0.091 0.112 0.041 0.199 0.178 0.033 0.046], Final Value =
\$1602328.88, Sharpe Ratio = -14.21

Simulation Run = 7854
Weights = [0.165 0.171 0.168 0.06 0.173 0.076 0.064 0.114 0.01], Final Value =
\$1569593.69, Sharpe Ratio = -20.20

Simulation Run = 7855
Weights = [0.111 0.049 0.099 0.09 0.226 0.148 0.005 0.167 0.104], Final Value =
\$1589697.76, Sharpe Ratio = -22.11

Simulation Run = 7856
Weights = [0.001 0.097 0.151 0.144 0.112 0.113 0.093 0.123 0.166], Final Value =

\$1445461.85, Sharpe Ratio = -20.36

Simulation Run = 7857

Weights = [0.112 0.15 0.065 0.2 0.036 0.191 0.019 0.06 0.168], Final Value = \$1510189.02, Sharpe Ratio = -21.40

Simulation Run = 7858

Weights = [0.278 0.061 0.007 0.039 0.056 0.012 0.245 0.27 0.033], Final Value = \$1600437.38, Sharpe Ratio = -13.67

Simulation Run = 7859

Weights = [0.042 0.118 0.11 0.138 0.123 0.16 0.137 0.004 0.167], Final Value = \$1477054.55, Sharpe Ratio = -18.29

Simulation Run = 7860

Weights = [0.195 0.16 0.074 0.175 0.025 0.121 0.14 0.048 0.06], Final Value = \$1570752.49, Sharpe Ratio = -16.81

Simulation Run = 7861

Weights = [0.014 0.141 0.131 0.097 0.145 0.148 0.019 0.141 0.164], Final Value = \$1462598.10, Sharpe Ratio = -23.66

Simulation Run = 7862

Weights = [0.091 0.105 0.102 0.178 0.166 0.131 0.04 0.07 0.118], Final Value = \$1551538.11, Sharpe Ratio = -22.24

Simulation Run = 7863

Weights = [0.147 0.174 0.159 0.085 0.09 0.111 0.059 0.04 0.135], Final Value = \$1455717.30, Sharpe Ratio = -21.22

Simulation Run = 7864

Weights = [0.172 0.03 0.176 0.002 0.311 0.109 0.086 0.07 0.044], Final Value = \$1607403.26, Sharpe Ratio = -18.39

Simulation Run = 7865

Weights = [0.059 0.192 0.007 0.039 0.129 0.131 0.207 0.229 0.006], Final Value = \$1613926.64, Sharpe Ratio = -15.52

Simulation Run = 7866
Weights = [0.128 0.113 0.157 0.09 0.104 0.01 0.21 0.067 0.122], Final Value =
\$1439662.27, Sharpe Ratio = -16.07

Simulation Run = 7867
Weights = [0.198 0.005 0.124 0.067 0.158 0.201 0.067 0.015 0.167], Final Value =
\$1542368.41, Sharpe Ratio = -17.94

Simulation Run = 7868
Weights = [0.141 0.174 0.113 0.222 0.07 0.108 0.027 0.017 0.127], Final Value =
\$1505172.64, Sharpe Ratio = -22.83

Simulation Run = 7869
Weights = [0.208 0.102 0.007 0.083 0.108 0.039 0.059 0.182 0.213], Final Value =
\$1460555.15, Sharpe Ratio = -24.40

Simulation Run = 7870
Weights = [0.13 0.075 0.147 0.168 0.102 0.054 0.022 0.121 0.181], Final Value =
\$1447543.62, Sharpe Ratio = -23.55

Simulation Run = 7871
Weights = [0.025 0.007 0.179 0.076 0.217 0.053 0.146 0.087 0.209], Final Value =
\$1410818.29, Sharpe Ratio = -18.89

Simulation Run = 7872
Weights = [0.01 0.195 0.007 0.125 0.132 0.178 0.171 0.111 0.07], Final Value =
\$1584928.86, Sharpe Ratio = -17.07

Simulation Run = 7873
Weights = [0.027 0.065 0.017 0.162 0.227 0.038 0.075 0.225 0.164], Final Value =
\$1524880.97, Sharpe Ratio = -25.17

Simulation Run = 7874
Weights = [0.186 0.052 0.041 0.159 0.195 0.075 0.082 0.13 0.08], Final Value =
\$1622113.05, Sharpe Ratio = -20.60

Simulation Run = 7875
Weights = [0.17 0.033 0.099 0.027 0.156 0.15 0.093 0.185 0.087], Final Value =
\$1584379.58, Sharpe Ratio = -17.73

Simulation Run = 7876
Weights = [0.072 0.253 0.039 0.256 0.02 0.057 0.2 0.042 0.062], Final Value =
\$1525687.60, Sharpe Ratio = -16.92

Simulation Run = 7877
Weights = [0.124 0.072 0.126 0.07 0.003 0.146 0.209 0.144 0.107], Final Value =
\$1499215.92, Sharpe Ratio = -13.92

Simulation Run = 7878
Weights = [0.032 0.178 0.035 0.167 0.115 0.115 0.135 0.067 0.156], Final Value =
\$1488583.51, Sharpe Ratio = -20.36

Simulation Run = 7879
Weights = [0.179 0.03 0.092 0.015 0.172 0.027 0.333 0.131 0.019], Final Value =
\$1589750.51, Sharpe Ratio = -11.73

Simulation Run = 7880
Weights = [0.158 0.215 0.187 0.034 0.087 0.043 0.042 0.035 0.2], Final Value =
\$1341792.44, Sharpe Ratio = -24.26

Simulation Run = 7881
Weights = [0.118 0.046 0.167 0.14 0.087 0.144 0.041 0.128 0.129], Final Value =
\$1514509.73, Sharpe Ratio = -19.32

Simulation Run = 7882
Weights = [0.039 0.184 0.001 0.003 0.177 0.119 0.211 0.072 0.194], Final Value =
\$1446092.70, Sharpe Ratio = -17.27

Simulation Run = 7883
Weights = [0.045 0.128 0.108 0.064 0.114 0.127 0.268 0.128 0.017], Final Value =
\$1572096.58, Sharpe Ratio = -13.14

Simulation Run = 7884
Weights = [0.111 0.02 0.197 0.084 0.034 0.092 0.171 0.12 0.17], Final Value =
\$1418464.21, Sharpe Ratio = -15.51

Simulation Run = 7885

Weights = [0.02 0.142 0.057 0.014 0.231 0.065 0.095 0.305 0.07], Final Value = \$1546908.60, Sharpe Ratio = -22.43

Simulation Run = 7886

Weights = [0.062 0.252 0.25 0.087 0.087 0.038 0.108 0.01 0.106], Final Value = \$1376419.50, Sharpe Ratio = -19.80

Simulation Run = 7887

Weights = [0.103 0.103 0.139 0.032 0.165 0.155 0.04 0.123 0.14], Final Value = \$1497354.49, Sharpe Ratio = -21.20

Simulation Run = 7888

Weights = [0.191 0.233 0.193 0.036 0.006 0.086 0.001 0.016 0.237], Final Value = \$1305072.98, Sharpe Ratio = -23.92

Simulation Run = 7889

Weights = [0.075 0.194 0.143 0.048 0.102 0.167 0.063 0.12 0.088], Final Value = \$1502549.69, Sharpe Ratio = -19.98

Simulation Run = 7890

Weights = [0.004 0.18 0.103 0.171 0.086 0.179 0.09 0.08 0.108], Final Value = \$1517592.34, Sharpe Ratio = -19.52

Simulation Run = 7891

Weights = [0.102 0.066 0.149 0.145 0.129 0.146 0.009 0.148 0.104], Final Value = \$1549618.05, Sharpe Ratio = -20.80

Simulation Run = 7892

Weights = [0.071 0.155 0.106 0.015 0.034 0.135 0.136 0.183 0.165], Final Value = \$1421434.09, Sharpe Ratio = -17.99

Simulation Run = 7893

Weights = [0.166 0.123 0.031 0.102 0.086 0.097 0.122 0.12 0.153], Final Value = \$1504654.19, Sharpe Ratio = -19.55

Simulation Run = 7894

Weights = [0.162 0.027 0.01 0.232 0.225 0.164 0.118 0.046 0.017], Final Value = \$1745282.31, Sharpe Ratio = -17.02

Simulation Run = 7895
Weights = [0.07 0.079 0.125 0.296 0.012 0.009 0.133 0.136 0.141], Final Value =
\$1463310.41, Sharpe Ratio = -18.49

Simulation Run = 7896
Weights = [0.09 0.175 0.113 0.112 0.177 0.14 0.15 0.005 0.038], Final Value =
\$1581595.53, Sharpe Ratio = -17.43

Simulation Run = 7897
Weights = [0.158 0.115 0.091 0.144 0.087 0.003 0.216 0.117 0.069], Final Value =
\$1524415.30, Sharpe Ratio = -15.73

Simulation Run = 7898
Weights = [0.139 0.021 0.055 0.188 0.209 0.132 0.034 0.165 0.057], Final Value =
\$1670896.00, Sharpe Ratio = -20.51

Simulation Run = 7899
Weights = [0.056 0.128 0.193 0.165 0.098 0.07 0.084 0.175 0.031], Final Value =
\$1535473.52, Sharpe Ratio = -18.86

Simulation Run = 7900
Weights = [0.017 0.009 0.227 0.282 0.05 0.038 0.014 0.139 0.224], Final Value =
\$1382392.44, Sharpe Ratio = -21.15

Simulation Run = 7901
Weights = [0.17 0.034 0.051 0.144 0.106 0.115 0.147 0.089 0.144], Final Value =
\$1549222.03, Sharpe Ratio = -17.26

Simulation Run = 7902
Weights = [0.163 0.049 0.067 0.119 0.154 0.087 0.187 0.039 0.135], Final Value =
\$1537745.84, Sharpe Ratio = -16.52

Simulation Run = 7903
Weights = [0.133 0.165 0.086 0.013 0.158 0.171 0.068 0.088 0.119], Final Value =
\$1523925.49, Sharpe Ratio = -20.47

Simulation Run = 7904
Weights = [0.075 0.165 0.162 0.025 0.179 0.029 0.186 0.045 0.134], Final Value =

\$1416300.66, Sharpe Ratio = -17.88

Simulation Run = 7905

Weights = [0.147 0.031 0.073 0.108 0.059 0.082 0.288 0.153 0.06], Final Value = \$1571343.40, Sharpe Ratio = -12.45

Simulation Run = 7906

Weights = [0.215 0.011 0.141 0.053 0.106 0.217 0.097 0.098 0.063], Final Value = \$1617924.86, Sharpe Ratio = -15.21

Simulation Run = 7907

Weights = [0.128 0.158 0.084 0.03 0.043 0.02 0.178 0.207 0.152], Final Value = \$1411726.51, Sharpe Ratio = -17.84

Simulation Run = 7908

Weights = [0.168 0.047 0.178 0.05 0.106 0.149 0.046 0.185 0.072], Final Value = \$1555911.42, Sharpe Ratio = -18.04

Simulation Run = 7909

Weights = [0.027 0.013 0.165 0.142 0.163 0.123 0.109 0.126 0.132], Final Value = \$1512433.62, Sharpe Ratio = -18.29

Simulation Run = 7910

Weights = [0.182 0.05 0.019 0.141 0.145 0.037 0.172 0.037 0.217], Final Value = \$1472942.01, Sharpe Ratio = -18.67

Simulation Run = 7911

Weights = [0.198 0.084 0.143 0.124 0.098 0.034 0.139 0.013 0.167], Final Value = \$1443994.39, Sharpe Ratio = -18.55

Simulation Run = 7912

Weights = [0.014 0.018 0.091 0.222 0.133 0.215 0.015 0.06 0.231], Final Value = \$1500665.77, Sharpe Ratio = -21.18

Simulation Run = 7913

Weights = [0.194 0.105 0.09 0.084 0.069 0.092 0.124 0.216 0.026], Final Value = \$1593927.20, Sharpe Ratio = -17.04

Simulation Run = 7914
Weights = [0.268 0.028 0.108 0.11 0.272 0.009 0.038 0.048 0.118], Final Value =
\$1566732.53, Sharpe Ratio = -22.67

Simulation Run = 7915
Weights = [0.052 0.102 0.126 0.168 0.029 0.143 0.161 0.129 0.091], Final Value =
\$1521757.38, Sharpe Ratio = -15.88

Simulation Run = 7916
Weights = [0.022 0.168 0.021 0.003 0.193 0.198 0.179 0.154 0.062], Final Value =
\$1592272.57, Sharpe Ratio = -16.16

Simulation Run = 7917
Weights = [0.247 0.1 0.165 0.15 0.039 0.188 0.035 0.026 0.05], Final Value =
\$1596806.13, Sharpe Ratio = -17.07

Simulation Run = 7918
Weights = [0.026 0.07 0.208 0.218 0.041 0.091 0.075 0.142 0.13], Final Value =
\$1457730.24, Sharpe Ratio = -18.76

Simulation Run = 7919
Weights = [0.009 0.138 0.156 0.07 0.033 0.089 0.162 0.192 0.15], Final Value =
\$1400679.59, Sharpe Ratio = -17.34

Simulation Run = 7920
Weights = [0.077 0.185 0.205 0.006 0.188 0.037 0.102 0.01 0.189], Final Value =
\$1350639.64, Sharpe Ratio = -22.03

Simulation Run = 7921
Weights = [0.208 0.256 0.114 0.058 0.085 0.051 0.111 0.085 0.033], Final Value =
\$1520797.06, Sharpe Ratio = -19.63

Simulation Run = 7922
Weights = [0.276 0.005 0.009 0.008 0.141 0.136 0.343 0.053 0.028], Final Value =
\$1668507.80, Sharpe Ratio = -10.70

Simulation Run = 7923
Weights = [0.068 0.141 0.119 0.184 0.139 0.274 0.007 0.03 0.038], Final Value =
\$1649986.98, Sharpe Ratio = -18.15

Simulation Run = 7924
Weights = [0.034 0.22 0.136 0.078 0.021 0.24 0.067 0.176 0.029], Final Value =
\$1557855.71, Sharpe Ratio = -17.13

Simulation Run = 7925
Weights = [0.171 0.132 0.04 0.098 0.155 0.062 0.236 0.04 0.066], Final Value =
\$1570989.54, Sharpe Ratio = -15.19

Simulation Run = 7926
Weights = [0.237 0.034 0.1 0.12 0.001 0.278 0.055 0.141 0.035], Final Value =
\$1671761.60, Sharpe Ratio = -14.47

Simulation Run = 7927
Weights = [0.117 0.09 0.032 0.086 0.004 0.094 0.171 0.175 0.229], Final Value =
\$1411832.52, Sharpe Ratio = -17.39

Simulation Run = 7928
Weights = [0.17 0.083 0.063 0.207 0.184 0.132 0.132 0.005 0.024], Final Value =
\$1674277.22, Sharpe Ratio = -17.22

Simulation Run = 7929
Weights = [0.146 0.111 0.008 0.091 0.099 0.206 0.162 0.099 0.078], Final Value =
\$1618600.48, Sharpe Ratio = -15.51

Simulation Run = 7930
Weights = [0.12 0.149 0.14 0.118 0.125 0.106 0.14 0.018 0.086], Final Value =
\$1518069.93, Sharpe Ratio = -17.92

Simulation Run = 7931
Weights = [0.142 0.165 0.117 0.039 0.121 0.174 0.169 0.05 0.023], Final Value =
\$1588250.72, Sharpe Ratio = -15.34

Simulation Run = 7932
Weights = [0.055 0.196 0.03 0.119 0.21 0.075 0.141 0.042 0.131], Final Value =
\$1509550.51, Sharpe Ratio = -21.41

Simulation Run = 7933

Weights = [0.143 0.104 0.164 0.127 0.138 0.154 0.106 0.049 0.016], Final Value = \$1610590.31, Sharpe Ratio = -16.80

Simulation Run = 7934

Weights = [0.203 0.084 0.041 0.04 0.166 0.183 0.078 0.093 0.113], Final Value = \$1594307.56, Sharpe Ratio = -18.65

Simulation Run = 7935

Weights = [0.124 0.167 0.025 0.079 0.113 0.165 0.01 0.194 0.124], Final Value = \$1549297.14, Sharpe Ratio = -23.08

Simulation Run = 7936

Weights = [0.189 0.047 0.08 0.192 0.295 0.006 0.014 0.059 0.118], Final Value = \$1583301.40, Sharpe Ratio = -25.08

Simulation Run = 7937

Weights = [0.174 0.117 0.019 0.134 0.176 0.207 0.085 0.084 0.003], Final Value = \$1716699.25, Sharpe Ratio = -17.46

Simulation Run = 7938

Weights = [0.009 0.189 0.086 0.078 0.237 0.075 0.068 0.241 0.017], Final Value = \$1586725.65, Sharpe Ratio = -23.12

Simulation Run = 7939

Weights = [0.105 0.105 0.247 0.213 0.245 0.01 0.01 0.059 0.005], Final Value = \$1577310.11, Sharpe Ratio = -20.49

Simulation Run = 7940

Weights = [0.182 0.055 0.002 0.191 0.176 0.178 0.065 0.143 0.008], Final Value = \$1741728.73, Sharpe Ratio = -18.08

Simulation Run = 7941

Weights = [0.06 0.002 0.149 0.184 0.152 0.055 0.294 0.076 0.027], Final Value = \$1590040.47, Sharpe Ratio = -12.44

Simulation Run = 7942

Weights = [0.022 0.176 0.186 0.007 0.14 0.05 0.168 0.167 0.084], Final Value = \$1435974.45, Sharpe Ratio = -17.67

Simulation Run = 7943
Weights = [0.014 0.125 0.248 0.196 0.024 0.192 0.052 0.124 0.025], Final Value =
\$1546213.20, Sharpe Ratio = -16.39

Simulation Run = 7944
Weights = [0.079 0.069 0.109 0.075 0.135 0.075 0.134 0.174 0.15], Final Value =
\$1473251.94, Sharpe Ratio = -19.08

Simulation Run = 7945
Weights = [0.25 0.001 0.088 0.136 0.076 0.271 0.079 0.03 0.071], Final Value =
\$1672351.99, Sharpe Ratio = -14.76

Simulation Run = 7946
Weights = [0.264 0.165 0.045 0.189 0.087 0.102 0.008 0.094 0.046], Final Value =
\$1625806.41, Sharpe Ratio = -21.81

Simulation Run = 7947
Weights = [0.148 0.192 0.003 0.059 0.072 0.187 0.147 0.186 0.006], Final Value =
\$1644985.99, Sharpe Ratio = -15.94

Simulation Run = 7948
Weights = [0.142 0.178 0.202 0.078 0.146 0.05 0.095 0.101 0.01], Final Value =
\$1534734.58, Sharpe Ratio = -19.02

Simulation Run = 7949
Weights = [0.177 0.062 0.109 0.003 0.141 0.18 0.117 0.178 0.033], Final Value =
\$1622058.26, Sharpe Ratio = -15.93

Simulation Run = 7950
Weights = [0.023 0.174 0.015 0.107 0.145 0.082 0.154 0.124 0.175], Final Value =
\$1461627.03, Sharpe Ratio = -20.59

Simulation Run = 7951
Weights = [0.037 0.038 0.22 0.259 0.023 0.104 0.059 0.011 0.25], Final Value =
\$1365432.86, Sharpe Ratio = -19.68

Simulation Run = 7952
Weights = [0.024 0.199 0.101 0.21 0.076 0.011 0.051 0.118 0.211], Final Value =

\$1373531.92, Sharpe Ratio = -27.08

Simulation Run = 7953

Weights = [0.121 0.159 0.014 0.18 0.157 0.132 0.133 0.024 0.08], Final Value = \$1603533.13, Sharpe Ratio = -19.02

Simulation Run = 7954

Weights = [0.105 0.004 0.073 0.19 0.1 0.322 0.027 0.017 0.163], Final Value = \$1610859.73, Sharpe Ratio = -16.55

Simulation Run = 7955

Weights = [0.002 0.022 0.147 0.138 0.202 0.108 0.229 0.106 0.048], Final Value = \$1582932.02, Sharpe Ratio = -14.30

Simulation Run = 7956

Weights = [0.082 0.136 0.08 0.098 0.081 0.171 0.189 0.143 0.019], Final Value = \$1606558.26, Sharpe Ratio = -14.77

Simulation Run = 7957

Weights = [0.064 0.15 0.192 0.12 0.072 0.077 0.096 0.192 0.037], Final Value = \$1511894.20, Sharpe Ratio = -18.48

Simulation Run = 7958

Weights = [0.089 0.031 0.192 0.249 0.062 0.023 0.108 0.008 0.237], Final Value = \$1372955.52, Sharpe Ratio = -19.54

Simulation Run = 7959

Weights = [0.141 0.132 0.177 0.072 0.162 0.043 0.001 0.108 0.164], Final Value = \$1427599.22, Sharpe Ratio = -25.20

Simulation Run = 7960

Weights = [0.153 0.139 0.131 0.206 0.079 0.036 0.035 0.189 0.031], Final Value = \$1568600.99, Sharpe Ratio = -21.29

Simulation Run = 7961

Weights = [0.048 0.052 0.096 0.219 0.176 0.03 0.042 0.215 0.122], Final Value = \$1534151.31, Sharpe Ratio = -23.78

Simulation Run = 7962
Weights = [0.04 0.051 0.158 0.181 0.029 0.05 0.178 0.13 0.183], Final Value =
\$1406257.05, Sharpe Ratio = -16.65

Simulation Run = 7963
Weights = [0.022 0.127 0.106 0.137 0.167 0.2 0.088 0.134 0.019], Final Value =
\$1634217.91, Sharpe Ratio = -17.96

Simulation Run = 7964
Weights = [0.18 0.166 0.027 0.176 0.048 0.141 0.063 0.11 0.089], Final Value =
\$1580585.51, Sharpe Ratio = -20.23

Simulation Run = 7965
Weights = [0.01 0.165 0.06 0.114 0.125 0.215 0.162 0.036 0.112], Final Value =
\$1543151.87, Sharpe Ratio = -16.59

Simulation Run = 7966
Weights = [0.063 0.173 0.164 0.146 0.074 0.072 0.196 0.04 0.072], Final Value =
\$1480709.20, Sharpe Ratio = -15.99

Simulation Run = 7967
Weights = [0.034 0.258 0.078 0.167 0.172 0.01 0.008 0.038 0.234], Final Value =
\$1362856.16, Sharpe Ratio = -32.78

Simulation Run = 7968
Weights = [0.154 0.158 0.111 0.066 0.146 0.15 0.072 0.109 0.034], Final Value =
\$1594871.93, Sharpe Ratio = -19.21

Simulation Run = 7969
Weights = [0.134 0.056 0.128 0.159 0.134 0.185 0.083 0.046 0.076], Final Value =
\$1603684.14, Sharpe Ratio = -17.51

Simulation Run = 7970
Weights = [0.198 0.087 0.139 0.137 0.172 0.018 0.122 0.127 0.001], Final Value =
\$1609389.20, Sharpe Ratio = -17.95

Simulation Run = 7971
Weights = [0.131 0.208 0.05 0.086 0.219 0.125 0.056 0.071 0.054], Final Value =
\$1597979.92, Sharpe Ratio = -22.87

Simulation Run = 7972

Weights = [0.136 0.179 0.088 0.091 0.07 0.141 0.044 0.121 0.131], Final Value = \$1495595.60, Sharpe Ratio = -21.76

Simulation Run = 7973

Weights = [0.062 0.096 0.139 0.06 0.155 0.138 0.118 0.051 0.18], Final Value = \$1448392.05, Sharpe Ratio = -19.23

Simulation Run = 7974

Weights = [0.004 0.106 0.101 0.178 0.015 0.14 0.214 0.208 0.033], Final Value = \$1569298.94, Sharpe Ratio = -14.09

Simulation Run = 7975

Weights = [0.067 0.047 0.062 0.241 0.194 0.006 0.039 0.129 0.215], Final Value = \$1469568.36, Sharpe Ratio = -26.85

Simulation Run = 7976

Weights = [0.154 0.2 0.073 0.114 0.187 0.045 0.19 0.019 0.018], Final Value = \$1585626.72, Sharpe Ratio = -17.20

Simulation Run = 7977

Weights = [0.122 0.206 0.058 0.032 0.119 0.055 0.165 0.218 0.026], Final Value = \$1552497.36, Sharpe Ratio = -17.90

Simulation Run = 7978

Weights = [0.167 0.1 0.14 0. 0.221 0.016 0.078 0.058 0.22], Final Value = \$1390642.80, Sharpe Ratio = -23.68

Simulation Run = 7979

Weights = [0.05 0.099 0.152 0.1 0.152 0.08 0.147 0.068 0.152], Final Value = \$1449890.23, Sharpe Ratio = -18.65

Simulation Run = 7980

Weights = [0.156 0.125 0.104 0.024 0.041 0.019 0.175 0.169 0.187], Final Value = \$1383778.59, Sharpe Ratio = -17.72

Simulation Run = 7981

Weights = [0.06 0.154 0.076 0.165 0.069 0.144 0.013 0.174 0.146], Final Value = \$1500363.42, Sharpe Ratio = -23.47

Simulation Run = 7982

Weights = [0.064 0.037 0.121 0.138 0.052 0.206 0.176 0.065 0.142], Final Value = \$1519672.23, Sharpe Ratio = -14.68

Simulation Run = 7983

Weights = [0.147 0.122 0.163 0.028 0.106 0.152 0.023 0.114 0.146], Final Value = \$1469080.41, Sharpe Ratio = -20.90

Simulation Run = 7984

Weights = [0.198 0.056 0.011 0.14 0.238 0.034 0.059 0.18 0.085], Final Value = \$1624935.46, Sharpe Ratio = -22.92

Simulation Run = 7985

Weights = [0.134 0.03 0.048 0.128 0.204 0.186 0.017 0.118 0.134], Final Value = \$1609510.44, Sharpe Ratio = -21.09

Simulation Run = 7986

Weights = [0.048 0.205 0.107 0.031 0.085 0.157 0.171 0.145 0.05], Final Value = \$1525699.04, Sharpe Ratio = -16.19

Simulation Run = 7987

Weights = [0.107 0.212 0.145 0.121 0.071 0.085 0.128 0.038 0.093], Final Value = \$1469923.85, Sharpe Ratio = -18.98

Simulation Run = 7988

Weights = [0.041 0.145 0.144 0.142 0.189 0.087 0.111 0.077 0.064], Final Value = \$1540200.92, Sharpe Ratio = -19.83

Simulation Run = 7989

Weights = [0.05 0.15 0.14 0.122 0.153 0.096 0.099 0.088 0.102], Final Value = \$1498567.85, Sharpe Ratio = -20.55

Simulation Run = 7990

Weights = [0.163 0.011 0.1 0.228 0.053 0.112 0.105 0.114 0.113], Final Value = \$1567529.13, Sharpe Ratio = -17.42

Simulation Run = 7991
Weights = [0.175 0.111 0.217 0.086 0.057 0.052 0.107 0.057 0.138], Final Value =
\$1418567.22, Sharpe Ratio = -18.35

Simulation Run = 7992
Weights = [0.147 0.057 0.005 0.108 0.046 0.172 0.208 0.216 0.042], Final Value =
\$1643963.84, Sharpe Ratio = -13.73

Simulation Run = 7993
Weights = [0.082 0.105 0.163 0.136 0.072 0.03 0.095 0.184 0.134], Final Value =
\$1439362.41, Sharpe Ratio = -20.40

Simulation Run = 7994
Weights = [0.067 0.09 0.148 0.169 0.002 0.269 0.003 0.187 0.065], Final Value =
\$1592473.44, Sharpe Ratio = -16.70

Simulation Run = 7995
Weights = [0.043 0.158 0.147 0.122 0.122 0.114 0.032 0.116 0.146], Final Value =
\$1457312.29, Sharpe Ratio = -23.42

Simulation Run = 7996
Weights = [0.14 0.133 0.121 0.085 0.134 0.082 0.077 0.095 0.134], Final Value =
\$1482937.86, Sharpe Ratio = -21.59

Simulation Run = 7997
Weights = [0.131 0.146 0.125 0.119 0.088 0.15 0.07 0.102 0.07], Final Value =
\$1553918.87, Sharpe Ratio = -19.16

Simulation Run = 7998
Weights = [0.081 0.224 0.016 0.133 0.055 0.116 0.208 0.082 0.086], Final Value =
\$1528407.41, Sharpe Ratio = -16.20

Simulation Run = 7999
Weights = [0.09 0.184 0.017 0.159 0.021 0.109 0.054 0.168 0.198], Final Value =
\$1447494.84, Sharpe Ratio = -23.98

Simulation Run = 8000
Weights = [0.014 0.15 0.135 0.168 0.075 0.095 0.079 0.236 0.049], Final Value =

\$1535888.71, Sharpe Ratio = -19.92

Simulation Run = 8001

Weights = [0.152 0.016 0.108 0.167 0.071 0.166 0.12 0.169 0.033], Final Value = \$1642303.47, Sharpe Ratio = -15.50

Simulation Run = 8002

Weights = [0.169 0.218 0.016 0.093 0.102 0.056 0.163 0.091 0.092], Final Value = \$1523162.28, Sharpe Ratio = -18.80

Simulation Run = 8003

Weights = [0.171 0.03 0.197 0.061 0.138 0.046 0.115 0.014 0.228], Final Value = \$1380226.98, Sharpe Ratio = -19.26

Simulation Run = 8004

Weights = [0.09 0.252 0.039 0.019 0.061 0.084 0.267 0.15 0.037], Final Value = \$1517798.17, Sharpe Ratio = -14.09

Simulation Run = 8005

Weights = [0.169 0.173 0.016 0.175 0.127 0.106 0.071 0.135 0.026], Final Value = \$1642429.85, Sharpe Ratio = -20.90

Simulation Run = 8006

Weights = [0.095 0.022 0.066 0.237 0.149 0.074 0.302 0.051 0.003], Final Value = \$1662238.93, Sharpe Ratio = -12.34

Simulation Run = 8007

Weights = [0.037 0.033 0.147 0.11 0.194 0.149 0.113 0.032 0.184], Final Value = \$1479072.60, Sharpe Ratio = -18.92

Simulation Run = 8008

Weights = [0.132 0.055 0.065 0.011 0.222 0.158 0.015 0.101 0.242], Final Value = \$1468948.10, Sharpe Ratio = -23.83

Simulation Run = 8009

Weights = [0.094 0.029 0.149 0.091 0.139 0.114 0.015 0.086 0.283], Final Value = \$1378113.51, Sharpe Ratio = -24.05

Simulation Run = 8010
Weights = [0.084 0.251 0.178 0.018 0.027 0.228 0.074 0.081 0.058], Final Value =
\$1496132.27, Sharpe Ratio = -17.25

Simulation Run = 8011
Weights = [0.04 0.059 0.265 0.152 0.007 0.015 0.057 0.196 0.209], Final Value =
\$1321401.00, Sharpe Ratio = -19.88

Simulation Run = 8012
Weights = [0.088 0.167 0.135 0.043 0.161 0.098 0.004 0.139 0.166], Final Value =
\$1439373.31, Sharpe Ratio = -25.81

Simulation Run = 8013
Weights = [0.132 0.147 0.109 0.154 0.089 0.029 0.094 0.123 0.122], Final Value =
\$1476057.91, Sharpe Ratio = -21.52

Simulation Run = 8014
Weights = [0.154 0.047 0.07 0.181 0.049 0.2 0.225 0.041 0.033], Final Value =
\$1652324.52, Sharpe Ratio = -12.80

Simulation Run = 8015
Weights = [0.105 0.051 0.127 0.202 0.048 0.136 0.019 0.113 0.199], Final Value =
\$1466732.48, Sharpe Ratio = -21.42

Simulation Run = 8016
Weights = [0.082 0.04 0.141 0.071 0.175 0.143 0.188 0.076 0.084], Final Value =
\$1555667.99, Sharpe Ratio = -15.22

Simulation Run = 8017
Weights = [0.148 0.034 0.017 0.104 0.004 0.075 0.18 0.238 0.2], Final Value =
\$1461877.06, Sharpe Ratio = -16.50

Simulation Run = 8018
Weights = [0.038 0.002 0.035 0.216 0.195 0.136 0.181 0.054 0.143], Final Value =
\$1584289.97, Sharpe Ratio = -16.71

Simulation Run = 8019
Weights = [0.027 0.049 0.008 0.142 0.156 0.077 0.187 0.166 0.189], Final Value =
\$1495115.46, Sharpe Ratio = -18.06

Simulation Run = 8020
Weights = [0.143 0.18 0.146 0.173 0.003 0.145 0.015 0.136 0.059], Final Value =
\$1540379.94, Sharpe Ratio = -19.83

Simulation Run = 8021
Weights = [0.193 0.151 0.017 0.212 0.105 0.161 0.054 0.046 0.06], Final Value =
\$1644715.27, Sharpe Ratio = -20.04

Simulation Run = 8022
Weights = [0.024 0.144 0.235 0.147 0.128 0.025 0.014 0.132 0.151], Final Value =
\$1392510.60, Sharpe Ratio = -23.53

Simulation Run = 8023
Weights = [0.122 0.08 0.094 0.066 0.138 0.117 0.144 0.1 0.138], Final Value =
\$1506950.82, Sharpe Ratio = -17.87

Simulation Run = 8024
Weights = [0.095 0.073 0.097 0.097 0.179 0.058 0.144 0.106 0.151], Final Value =
\$1487241.62, Sharpe Ratio = -19.35

Simulation Run = 8025
Weights = [0.085 0.07 0.168 0.082 0.053 0.15 0.084 0.126 0.183], Final Value =
\$1432749.60, Sharpe Ratio = -18.64

Simulation Run = 8026
Weights = [0.072 0.055 0.104 0.077 0.202 0.186 0.063 0.09 0.151], Final Value =
\$1539244.32, Sharpe Ratio = -20.10

Simulation Run = 8027
Weights = [0.048 0.174 0.137 0.118 0.124 0.158 0.08 0.028 0.133], Final Value =
\$1480833.54, Sharpe Ratio = -20.51

Simulation Run = 8028
Weights = [0.067 0.032 0.26 0.152 0.002 0.162 0.124 0.17 0.031], Final Value =
\$1540768.60, Sharpe Ratio = -14.21

Simulation Run = 8029

Weights = [0.011 0.091 0.125 0.183 0.22 0.185 0.157 0.004 0.023], Final Value = \$1641316.20, Sharpe Ratio = -16.00

Simulation Run = 8030

Weights = [0.232 0.211 0.093 0.012 0.059 0.032 0.04 0.077 0.244], Final Value = \$1340473.00, Sharpe Ratio = -25.52

Simulation Run = 8031

Weights = [0.108 0.022 0.327 0.095 0.047 0.136 0.234 0.01 0.022], Final Value = \$1510526.91, Sharpe Ratio = -11.85

Simulation Run = 8032

Weights = [0.147 0.041 0.114 0.02 0.172 0.115 0.158 0.098 0.134], Final Value = \$1514409.78, Sharpe Ratio = -16.87

Simulation Run = 8033

Weights = [0.046 0.137 0.132 0.147 0.122 0.148 0.134 0.002 0.133], Final Value = \$1490863.64, Sharpe Ratio = -18.23

Simulation Run = 8034

Weights = [0.209 0.187 0.174 0.106 0.1 0.013 0.085 0.001 0.125], Final Value = \$1433629.12, Sharpe Ratio = -21.29

Simulation Run = 8035

Weights = [0.192 0.161 0.087 0.097 0.172 0.012 0.033 0.224 0.022], Final Value = \$1588023.80, Sharpe Ratio = -23.47

Simulation Run = 8036

Weights = [0.154 0.051 0.158 0.023 0.151 0.154 0.148 0.096 0.064], Final Value = \$1566733.38, Sharpe Ratio = -15.57

Simulation Run = 8037

Weights = [0.005 0.023 0.033 0.202 0.16 0.001 0.272 0.301 0.003], Final Value = \$1634397.42, Sharpe Ratio = -13.87

Simulation Run = 8038

Weights = [0.298 0.008 0.288 0.012 0.026 0.13 0.178 0.004 0.057], Final Value = \$1510479.35, Sharpe Ratio = -12.73

Simulation Run = 8039
Weights = [0.082 0.073 0.056 0.148 0.24 0.118 0.047 0.041 0.195], Final Value =
\$1516453.37, Sharpe Ratio = -24.60

Simulation Run = 8040
Weights = [0.023 0.148 0.204 0.088 0.059 0.079 0.212 0.155 0.033], Final Value =
\$1486534.23, Sharpe Ratio = -14.58

Simulation Run = 8041
Weights = [0.147 0.024 0.297 0.086 0.24 0.106 0.044 0.024 0.033], Final Value =
\$1565710.93, Sharpe Ratio = -17.53

Simulation Run = 8042
Weights = [0.269 0.057 0.01 0.207 0.001 0.087 0.118 0.224 0.027], Final Value =
\$1661322.42, Sharpe Ratio = -16.33

Simulation Run = 8043
Weights = [0.128 0.125 0.054 0.186 0.173 0.005 0.15 0.061 0.118], Final Value =
\$1522141.23, Sharpe Ratio = -20.17

Simulation Run = 8044
Weights = [0.119 0.042 0.044 0.23 0.145 0.173 0.166 0.007 0.075], Final Value =
\$1648147.96, Sharpe Ratio = -15.73

Simulation Run = 8045
Weights = [0.081 0.123 0.085 0.171 0.186 0.02 0.065 0.051 0.218], Final Value =
\$1424531.87, Sharpe Ratio = -26.44

Simulation Run = 8046
Weights = [0.064 0.1 0.043 0.209 0.085 0.135 0.111 0.031 0.221], Final Value =
\$1464737.79, Sharpe Ratio = -20.49

Simulation Run = 8047
Weights = [0.116 0.011 0.008 0.183 0.15 0.1 0.028 0.22 0.184], Final Value =
\$1551164.39, Sharpe Ratio = -23.77

Simulation Run = 8048
Weights = [0.066 0.129 0.136 0.038 0.066 0.077 0.143 0.182 0.161], Final Value =

\$1409746.87, Sharpe Ratio = -18.53

Simulation Run = 8049

Weights = [0.067 0.032 0.223 0.093 0.055 0.033 0.17 0.292 0.035], Final Value = \$1504890.79, Sharpe Ratio = -15.03

Simulation Run = 8050

Weights = [0.097 0.137 0.127 0.01 0.165 0.192 0.022 0.125 0.126], Final Value = \$1515258.72, Sharpe Ratio = -21.07

Simulation Run = 8051

Weights = [0.042 0.161 0.022 0.135 0.139 0.12 0.162 0.098 0.121], Final Value = \$1531034.71, Sharpe Ratio = -18.63

Simulation Run = 8052

Weights = [0.103 0.091 0.062 0.055 0.132 0.157 0.172 0.196 0.033], Final Value = \$1617854.71, Sharpe Ratio = -15.52

Simulation Run = 8053

Weights = [0.073 0.112 0.134 0.099 0.132 0.119 0.059 0.157 0.115], Final Value = \$1506975.00, Sharpe Ratio = -21.16

Simulation Run = 8054

Weights = [0.145 0.055 0.112 0.162 0.136 0.071 0.126 0.153 0.04], Final Value = \$1602183.33, Sharpe Ratio = -17.59

Simulation Run = 8055

Weights = [0.21 0.076 0.19 0.115 0.135 0.005 0.127 0.114 0.029], Final Value = \$1549897.97, Sharpe Ratio = -17.27

Simulation Run = 8056

Weights = [0.107 0.17 0.168 0.003 0.123 0.108 0.118 0.112 0.092], Final Value = \$1471401.36, Sharpe Ratio = -18.60

Simulation Run = 8057

Weights = [0.118 0.082 0.15 0.17 0.097 0.241 0.032 0.025 0.084], Final Value = \$1594281.23, Sharpe Ratio = -17.59

Simulation Run = 8058
Weights = [0.004 0.069 0.15 0.008 0.323 0.004 0.169 0.19 0.084], Final Value =
\$1506060.52, Sharpe Ratio = -18.52

Simulation Run = 8059
Weights = [0.02 0.027 0.219 0.016 0.284 0.057 0.131 0.09 0.155], Final Value =
\$1440920.10, Sharpe Ratio = -18.90

Simulation Run = 8060
Weights = [0.074 0.037 0.103 0.027 0.239 0.068 0.098 0.134 0.22], Final Value =
\$1436583.74, Sharpe Ratio = -22.29

Simulation Run = 8061
Weights = [0.043 0.05 0.224 0.275 0.045 0.074 0.276 0.01 0.003], Final Value =
\$1562974.49, Sharpe Ratio = -12.03

Simulation Run = 8062
Weights = [0.147 0.059 0.118 0.015 0.068 0.207 0.034 0.222 0.13], Final Value =
\$1528656.05, Sharpe Ratio = -18.21

Simulation Run = 8063
Weights = [0.13 0.03 0.11 0.107 0.126 0.04 0.115 0.175 0.167], Final Value =
\$1471230.72, Sharpe Ratio = -19.84

Simulation Run = 8064
Weights = [0.091 0.015 0.091 0.034 0.076 0.213 0.084 0.128 0.269], Final Value =
\$1423425.93, Sharpe Ratio = -18.31

Simulation Run = 8065
Weights = [0.112 0.136 0.043 0.111 0.152 0.084 0.128 0.111 0.122], Final Value =
\$1527565.04, Sharpe Ratio = -20.21

Simulation Run = 8066
Weights = [0.008 0.198 0.154 0.061 0.02 0.07 0.226 0.176 0.088], Final Value =
\$1423583.20, Sharpe Ratio = -15.09

Simulation Run = 8067
Weights = [0.121 0.064 0.14 0.1 0.026 0.229 0.055 0.096 0.167], Final Value =
\$1493410.17, Sharpe Ratio = -17.43

Simulation Run = 8068
Weights = [0.038 0.224 0.138 0.012 0.216 0.036 0.056 0.129 0.151], Final Value =
\$1407710.48, Sharpe Ratio = -26.44

Simulation Run = 8069
Weights = [0.181 0.049 0.043 0.161 0.046 0.022 0.104 0.205 0.19], Final Value =
\$1468521.68, Sharpe Ratio = -20.65

Simulation Run = 8070
Weights = [0.163 0.017 0.063 0.218 0.07 0.065 0.223 0.143 0.039], Final Value =
\$1624336.98, Sharpe Ratio = -14.09

Simulation Run = 8071
Weights = [0.043 0.092 0.162 0.091 0.027 0.041 0.162 0.258 0.124], Final Value =
\$1426706.03, Sharpe Ratio = -17.03

Simulation Run = 8072
Weights = [0.085 0.181 0.177 0.021 0.169 0.031 0.167 0.024 0.145], Final Value =
\$1395780.78, Sharpe Ratio = -18.70

Simulation Run = 8073
Weights = [0.108 0.162 0.231 0.087 0.108 0.016 0.006 0.111 0.172], Final Value =
\$1364130.03, Sharpe Ratio = -24.27

Simulation Run = 8074
Weights = [0.28 0.035 0.095 0.007 0.046 0.056 0.155 0.261 0.064], Final Value =
\$1556486.78, Sharpe Ratio = -15.44

Simulation Run = 8075
Weights = [0.144 0.135 0.167 0.066 0.117 0.054 0.106 0.089 0.121], Final Value =
\$1453783.40, Sharpe Ratio = -19.82

Simulation Run = 8076
Weights = [0.087 0.149 0.033 0.181 0.139 0.036 0.176 0.129 0.071], Final Value =
\$1560552.82, Sharpe Ratio = -18.33

Simulation Run = 8077

Weights = [0.006 0.108 0.251 0.071 0.325 0.029 0.166 0.018 0.026], Final Value = \$1525291.94, Sharpe Ratio = -16.99

Simulation Run = 8078

Weights = [0.092 0.116 0.177 0.092 0.143 0.019 0.15 0.209 0.003], Final Value = \$1549133.95, Sharpe Ratio = -17.14

Simulation Run = 8079

Weights = [0.026 0.059 0.129 0.172 0.155 0.133 0.14 0.104 0.082], Final Value = \$1564814.79, Sharpe Ratio = -17.24

Simulation Run = 8080

Weights = [0.037 0.073 0.183 0.131 0.009 0.229 0.145 0.189 0.005], Final Value = \$1599932.26, Sharpe Ratio = -13.72

Simulation Run = 8081

Weights = [0.044 0.039 0.196 0.06 0.136 0.149 0.131 0.136 0.11], Final Value = \$1498851.16, Sharpe Ratio = -16.58

Simulation Run = 8082

Weights = [0.033 0.052 0.164 0.126 0.149 0.198 0.085 0.11 0.084], Final Value = \$1567926.31, Sharpe Ratio = -17.43

Simulation Run = 8083

Weights = [0.003 0.206 0.171 0.048 0.199 0.078 0.095 0.043 0.157], Final Value = \$1401646.30, Sharpe Ratio = -22.69

Simulation Run = 8084

Weights = [0.137 0.163 0.076 0.076 0.088 0.142 0.095 0.144 0.081], Final Value = \$1548030.60, Sharpe Ratio = -19.12

Simulation Run = 8085

Weights = [0.252 0.136 0.043 0.003 0.027 0.214 0.083 0.224 0.018], Final Value = \$1642428.74, Sharpe Ratio = -15.73

Simulation Run = 8086

Weights = [0.199 0.009 0.161 0.135 0.197 0.042 0.126 0.071 0.061], Final Value = \$1582426.36, Sharpe Ratio = -17.41

Simulation Run = 8087
Weights = [0.161 0.088 0.105 0.089 0.138 0.155 0.017 0.067 0.179], Final Value =
\$1497920.41, Sharpe Ratio = -22.18

Simulation Run = 8088
Weights = [0.147 0.165 0.136 0.085 0.091 0.022 0.151 0.084 0.117], Final Value =
\$1445712.60, Sharpe Ratio = -18.71

Simulation Run = 8089
Weights = [0.056 0.219 0.099 0.034 0.102 0.209 0.051 0.096 0.135], Final Value =
\$1482608.99, Sharpe Ratio = -20.72

Simulation Run = 8090
Weights = [0.05 0.169 0.043 0.133 0.106 0.082 0.153 0.16 0.103], Final Value =
\$1515843.36, Sharpe Ratio = -19.12

Simulation Run = 8091
Weights = [0.166 0.199 0.162 0.087 0.003 0.017 0.122 0.088 0.157], Final Value =
\$1372273.36, Sharpe Ratio = -19.58

Simulation Run = 8092
Weights = [0.056 0.105 0.082 0.059 0.166 0.117 0.174 0.122 0.118], Final Value =
\$1515712.27, Sharpe Ratio = -17.30

Simulation Run = 8093
Weights = [0.183 0.077 0.067 0.152 0.05 0.107 0.169 0.051 0.144], Final Value =
\$1515222.52, Sharpe Ratio = -16.45

Simulation Run = 8094
Weights = [0.007 0.111 0.154 0.113 0.183 0.146 0.072 0.193 0.021], Final Value =
\$1595337.68, Sharpe Ratio = -19.10

Simulation Run = 8095
Weights = [0.04 0.043 0.054 0.082 0.193 0.004 0.179 0.187 0.217], Final Value =
\$1425324.03, Sharpe Ratio = -19.44

Simulation Run = 8096
Weights = [0.129 0.096 0.167 0.028 0.193 0.074 0.15 0.056 0.107], Final Value =

\$1489380.99, Sharpe Ratio = -17.79

Simulation Run = 8097

Weights = [0.041 0.144 0.173 0.216 0.072 0.1 0.04 0.092 0.123], Final Value = \$1472324.86, Sharpe Ratio = -21.50

Simulation Run = 8098

Weights = [0.164 0.05 0.178 0.119 0.035 0.04 0.11 0.176 0.128], Final Value = \$1458307.19, Sharpe Ratio = -17.90

Simulation Run = 8099

Weights = [0.14 0.079 0.078 0.159 0.037 0.128 0.155 0.143 0.082], Final Value = \$1565778.01, Sharpe Ratio = -16.06

Simulation Run = 8100

Weights = [0.05 0.147 0.155 0.107 0.166 0.261 0.071 0.04 0.004], Final Value = \$1641724.69, Sharpe Ratio = -16.66

Simulation Run = 8101

Weights = [0.152 0.238 0.069 0.039 0.121 0.215 0.008 0.088 0.069], Final Value = \$1574314.02, Sharpe Ratio = -20.92

Simulation Run = 8102

Weights = [0.272 0.006 0.164 0.012 0.218 0.135 0.053 0.047 0.094], Final Value = \$1582940.94, Sharpe Ratio = -18.20

Simulation Run = 8103

Weights = [0.048 0.058 0.174 0.089 0.132 0.095 0.091 0.205 0.108], Final Value = \$1494731.47, Sharpe Ratio = -19.15

Simulation Run = 8104

Weights = [0.146 0.013 0.155 0.133 0.191 0.093 0.026 0.103 0.142], Final Value = \$1527711.71, Sharpe Ratio = -21.60

Simulation Run = 8105

Weights = [0.096 0.075 0.077 0.118 0.054 0.173 0.057 0.178 0.173], Final Value = \$1498522.18, Sharpe Ratio = -19.88

Simulation Run = 8106
Weights = [0.133 0.031 0.12 0.081 0.129 0.102 0.105 0.114 0.185], Final Value =
\$1468111.68, Sharpe Ratio = -19.37

Simulation Run = 8107
Weights = [0.148 0. 0.207 0.027 0.115 0.076 0.07 0.153 0.204], Final Value =
\$1405176.93, Sharpe Ratio = -19.59

Simulation Run = 8108
Weights = [0.013 0.156 0.096 0.067 0.203 0.014 0.184 0.113 0.154], Final Value =
\$1428129.09, Sharpe Ratio = -19.32

Simulation Run = 8109
Weights = [0.05 0.002 0.11 0.201 0.013 0.258 0.021 0.227 0.118], Final Value =
\$1587861.67, Sharpe Ratio = -16.78

Simulation Run = 8110
Weights = [0.127 0.174 0.093 0.096 0.003 0.066 0.206 0.089 0.145], Final Value =
\$1426634.37, Sharpe Ratio = -16.04

Simulation Run = 8111
Weights = [0.159 0.086 0.124 0.028 0.103 0.149 0.174 0.018 0.157], Final Value =
\$1474541.59, Sharpe Ratio = -15.84

Simulation Run = 8112
Weights = [0.046 0.19 0.136 0.155 0.139 0.157 0.021 0.131 0.025], Final Value =
\$1588670.12, Sharpe Ratio = -21.16

Simulation Run = 8113
Weights = [0.073 0.079 0.121 0.219 0.151 0.174 0.107 0.075 0.001], Final Value =
\$1667709.23, Sharpe Ratio = -16.73

Simulation Run = 8114
Weights = [0.041 0.088 0.127 0.08 0.15 0.196 0.083 0.118 0.116], Final Value =
\$1535557.61, Sharpe Ratio = -18.62

Simulation Run = 8115
Weights = [0.03 0.202 0.08 0.148 0.078 0.059 0.208 0.091 0.105], Final Value =
\$1469952.93, Sharpe Ratio = -16.95

Simulation Run = 8116
Weights = [0.014 0.188 0.043 0.046 0.188 0.179 0.057 0.063 0.223], Final Value =
\$1441064.18, Sharpe Ratio = -24.00

Simulation Run = 8117
Weights = [0.008 0.094 0.143 0.232 0.149 0.203 0.104 0.027 0.039], Final Value =
\$1622123.11, Sharpe Ratio = -16.89

Simulation Run = 8118
Weights = [0.083 0.103 0.185 0.183 0.073 0.14 0.127 0.085 0.021], Final Value =
\$1578145.76, Sharpe Ratio = -15.98

Simulation Run = 8119
Weights = [0.126 0.069 0.057 0.265 0.061 0.177 0.22 0.013 0.013], Final Value =
\$1676740.26, Sharpe Ratio = -13.33

Simulation Run = 8120
Weights = [0.159 0.167 0.208 0.137 0.026 0.077 0.033 0.03 0.162], Final Value =
\$1399154.05, Sharpe Ratio = -21.43

Simulation Run = 8121
Weights = [0.13 0.114 0.053 0.08 0.094 0.228 0.203 0.06 0.039], Final Value =
\$1632014.74, Sharpe Ratio = -13.70

Simulation Run = 8122
Weights = [0.165 0.001 0.053 0.037 0.189 0.081 0.167 0.183 0.123], Final Value =
\$1559693.25, Sharpe Ratio = -16.89

Simulation Run = 8123
Weights = [0.003 0.081 0.132 0.223 0.133 0.048 0.207 0.032 0.141], Final Value =
\$1470138.74, Sharpe Ratio = -16.49

Simulation Run = 8124
Weights = [0.103 0.135 0.114 0.157 0.118 0.018 0.039 0.155 0.161], Final Value =
\$1446034.25, Sharpe Ratio = -25.41

Simulation Run = 8125

Weights = [0.155 0.021 0.205 0.126 0.194 0.156 0.042 0.093 0.008], Final Value = \$1644642.33, Sharpe Ratio = -17.35

Simulation Run = 8126

Weights = [0.01 0.119 0.21 0.039 0.26 0.106 0.057 0.027 0.172], Final Value = \$1423868.40, Sharpe Ratio = -22.58

Simulation Run = 8127

Weights = [0.176 0.068 0.183 0.005 0.077 0.053 0.211 0.049 0.176], Final Value = \$1392502.32, Sharpe Ratio = -15.12

Simulation Run = 8128

Weights = [0.064 0.035 0.011 0.242 0.061 0.115 0.191 0.179 0.102], Final Value = \$1592791.82, Sharpe Ratio = -15.67

Simulation Run = 8129

Weights = [0.044 0.075 0.166 0.202 0.175 0.145 0.02 0.068 0.104], Final Value = \$1551399.77, Sharpe Ratio = -21.04

Simulation Run = 8130

Weights = [0.175 0.159 0.042 0.146 0.114 0.056 0.16 0.071 0.076], Final Value = \$1558682.48, Sharpe Ratio = -18.18

Simulation Run = 8131

Weights = [0.098 0.182 0.157 0.108 0.013 0.152 0.069 0.171 0.05], Final Value = \$1523686.05, Sharpe Ratio = -18.27

Simulation Run = 8132

Weights = [0.154 0.088 0.065 0.163 0.159 0.069 0.181 0.045 0.075], Final Value = \$1583043.18, Sharpe Ratio = -16.85

Simulation Run = 8133

Weights = [0.146 0.16 0.148 0.067 0.253 0.049 0.027 0.124 0.026], Final Value = \$1577200.75, Sharpe Ratio = -23.19

Simulation Run = 8134

Weights = [0.162 0.08 0.155 0.028 0.018 0.196 0.193 0.042 0.126], Final Value = \$1487367.69, Sharpe Ratio = -13.74

Simulation Run = 8135
Weights = [0.204 0.145 0.055 0.052 0.042 0.197 0.085 0.176 0.045], Final Value =
\$1609739.05, Sharpe Ratio = -16.87

Simulation Run = 8136
Weights = [0.128 0.222 0.107 0.118 0.14 0.003 0.036 0.092 0.155], Final Value =
\$1425274.95, Sharpe Ratio = -27.61

Simulation Run = 8137
Weights = [0.12 0.149 0.016 0. 0.039 0.186 0.212 0.228 0.05], Final Value =
\$1582846.88, Sharpe Ratio = -13.91

Simulation Run = 8138
Weights = [0.063 0.042 0.146 0.208 0.045 0.2 0.194 0.061 0.041], Final Value =
\$1605996.80, Sharpe Ratio = -13.43

Simulation Run = 8139
Weights = [0.04 0.197 0.027 0.036 0.221 0.113 0.134 0.21 0.021], Final Value =
\$1607128.69, Sharpe Ratio = -19.51

Simulation Run = 8140
Weights = [0.041 0.143 0.038 0.079 0.125 0.163 0.145 0.18 0.084], Final Value =
\$1564580.75, Sharpe Ratio = -17.65

Simulation Run = 8141
Weights = [0.094 0.153 0.122 0.147 0.069 0.138 0.13 0.125 0.022], Final Value =
\$1582501.59, Sharpe Ratio = -16.86

Simulation Run = 8142
Weights = [0.095 0.164 0.198 0.088 0.132 0.191 0.064 0.039 0.029], Final Value =
\$1566536.13, Sharpe Ratio = -17.87

Simulation Run = 8143
Weights = [0.168 0.109 0.105 0.039 0.153 0.038 0.214 0.057 0.118], Final Value =
\$1484179.47, Sharpe Ratio = -16.04

Simulation Run = 8144
Weights = [0.122 0.092 0.137 0.187 0.134 0.047 0.234 0.004 0.043], Final Value =

\$1561974.79, Sharpe Ratio = -14.55

Simulation Run = 8145

Weights = [0.185 0.154 0.137 0.001 0.03 0.039 0.199 0.029 0.225], Final Value = \$1329409.34, Sharpe Ratio = -16.54

Simulation Run = 8146

Weights = [0.119 0.075 0.044 0.067 0.225 0.042 0.027 0.223 0.178], Final Value = \$1497024.51, Sharpe Ratio = -26.88

Simulation Run = 8147

Weights = [0.007 0.13 0.069 0.123 0.085 0.122 0.168 0.145 0.151], Final Value = \$1473094.51, Sharpe Ratio = -17.73

Simulation Run = 8148

Weights = [0.193 0.187 0.095 0.173 0.021 0.153 0.03 0.014 0.134], Final Value = \$1506150.67, Sharpe Ratio = -21.03

Simulation Run = 8149

Weights = [0.049 0.174 0.04 0.238 0.111 0.075 0.15 0.021 0.143], Final Value = \$1500514.94, Sharpe Ratio = -20.01

Simulation Run = 8150

Weights = [0.071 0.094 0.038 0.055 0.174 0.202 0.159 0.147 0.06], Final Value = \$1624196.81, Sharpe Ratio = -15.97

Simulation Run = 8151

Weights = [0.197 0.116 0.013 0.12 0.231 0.105 0.019 0.071 0.127], Final Value = \$1590577.00, Sharpe Ratio = -24.68

Simulation Run = 8152

Weights = [0.134 0.066 0.062 0.185 0.208 0.02 0.203 0.08 0.043], Final Value = \$1613350.50, Sharpe Ratio = -16.40

Simulation Run = 8153

Weights = [0.086 0.059 0.05 0.004 0.031 0.041 0.239 0.066 0.424], Final Value = \$1199111.18, Sharpe Ratio = -16.26

Simulation Run = 8154
Weights = [0.182 0.051 0.067 0.082 0.162 0.038 0.084 0.242 0.093], Final Value =
\$1563594.01, Sharpe Ratio = -20.73

Simulation Run = 8155
Weights = [0.173 0.057 0.159 0.047 0.055 0.103 0.085 0.183 0.138], Final Value =
\$1470470.20, Sharpe Ratio = -18.35

Simulation Run = 8156
Weights = [0.151 0.139 0.103 0.153 0.046 0.169 0.043 0.015 0.18], Final Value =
\$1475665.89, Sharpe Ratio = -20.75

Simulation Run = 8157
Weights = [0.099 0.109 0.041 0.032 0.239 0.205 0.059 0.091 0.124], Final Value =
\$1585145.61, Sharpe Ratio = -20.45

Simulation Run = 8158
Weights = [0.093 0.134 0.094 0.081 0.033 0.131 0.156 0.12 0.157], Final Value =
\$1453072.65, Sharpe Ratio = -17.16

Simulation Run = 8159
Weights = [0.198 0.004 0.184 0.111 0.061 0.092 0.201 0.107 0.043], Final Value =
\$1565671.75, Sharpe Ratio = -13.58

Simulation Run = 8160
Weights = [0.094 0.189 0.089 0.093 0.097 0.177 0.116 0.036 0.108], Final Value =
\$1519773.43, Sharpe Ratio = -18.45

Simulation Run = 8161
Weights = [0.004 0.045 0.073 0.143 0.09 0.122 0.175 0.178 0.17], Final Value =
\$1483115.68, Sharpe Ratio = -16.94

Simulation Run = 8162
Weights = [0.033 0.12 0.149 0.202 0.043 0.112 0.145 0.077 0.119], Final Value =
\$1478460.18, Sharpe Ratio = -17.24

Simulation Run = 8163
Weights = [0.079 0.112 0.2 0.21 0.122 0.033 0.024 0.205 0.014], Final Value =
\$1561277.87, Sharpe Ratio = -20.49

Simulation Run = 8164
Weights = [0.181 0.212 0.09 0.017 0.13 0.122 0.14 0.005 0.102], Final Value =
\$1502282.65, Sharpe Ratio = -18.32

Simulation Run = 8165
Weights = [0.144 0.027 0.115 0.154 0.142 0.153 0.088 0.134 0.044], Final Value =
\$1637234.93, Sharpe Ratio = -17.33

Simulation Run = 8166
Weights = [0.225 0.047 0.04 0.126 0.165 0.175 0.194 0.006 0.022], Final Value =
\$1695058.77, Sharpe Ratio = -14.13

Simulation Run = 8167
Weights = [0.042 0.067 0.138 0.174 0.167 0.057 0.062 0.15 0.142], Final Value =
\$1489337.48, Sharpe Ratio = -22.50

Simulation Run = 8168
Weights = [0.096 0.107 0.128 0.195 0.165 0.076 0.058 0.137 0.037], Final Value =
\$1595448.15, Sharpe Ratio = -20.83

Simulation Run = 8169
Weights = [0.111 0.222 0.076 0.011 0.114 0.078 0.069 0.134 0.184], Final Value =
\$1406117.69, Sharpe Ratio = -24.51

Simulation Run = 8170
Weights = [0.069 0.178 0.149 0.103 0.066 0.033 0.054 0.25 0.1], Final Value =
\$1449120.61, Sharpe Ratio = -22.84

Simulation Run = 8171
Weights = [0.038 0.1 0.209 0.098 0.059 0.158 0.163 0.078 0.097], Final Value =
\$1476924.85, Sharpe Ratio = -15.28

Simulation Run = 8172
Weights = [0.081 0.046 0.083 0.068 0.104 0.129 0.218 0.176 0.095], Final Value =
\$1545801.05, Sharpe Ratio = -14.52

Simulation Run = 8173

Weights = [0.09 0.205 0.225 0.055 0.003 0.022 0.061 0.129 0.211], Final Value = \$1283340.77, Sharpe Ratio = -22.26

Simulation Run = 8174

Weights = [0.183 0.191 0.061 0.106 0.065 0.068 0.13 0.111 0.085], Final Value = \$1520646.83, Sharpe Ratio = -19.12

Simulation Run = 8175

Weights = [0.225 0.066 0.214 0.018 0.005 0.179 0.155 0.008 0.131], Final Value = \$1462621.17, Sharpe Ratio = -14.19

Simulation Run = 8176

Weights = [0.167 0.157 0.037 0.1 0.004 0.027 0.202 0.246 0.061], Final Value = \$1525468.73, Sharpe Ratio = -15.87

Simulation Run = 8177

Weights = [0.157 0.075 0.134 0.051 0.137 0.063 0.096 0.134 0.154], Final Value = \$1464831.97, Sharpe Ratio = -20.31

Simulation Run = 8178

Weights = [0.12 0.021 0.111 0.129 0.07 0.178 0.192 0.022 0.158], Final Value = \$1513406.25, Sharpe Ratio = -14.61

Simulation Run = 8179

Weights = [0.192 0.159 0.008 0.02 0.04 0.168 0.236 0.026 0.151], Final Value = \$1499900.73, Sharpe Ratio = -13.99

Simulation Run = 8180

Weights = [0.147 0.097 0.029 0.065 0.184 0.159 0.179 0.095 0.046], Final Value = \$1639691.56, Sharpe Ratio = -15.71

Simulation Run = 8181

Weights = [0.121 0.153 0.164 0.022 0.182 0.146 0.069 0.009 0.135], Final Value = \$1475837.10, Sharpe Ratio = -20.66

Simulation Run = 8182

Weights = [0.019 0.21 0.046 0.073 0.215 0.138 0.191 0.05 0.057], Final Value = \$1570043.29, Sharpe Ratio = -17.19

Simulation Run = 8183
Weights = [0.188 0.109 0.033 0.094 0.14 0.159 0.002 0.15 0.125], Final Value =
\$1579322.93, Sharpe Ratio = -22.32

Simulation Run = 8184
Weights = [0.078 0.184 0.126 0.168 0.056 0.07 0.099 0.144 0.074], Final Value =
\$1501956.89, Sharpe Ratio = -20.06

Simulation Run = 8185
Weights = [0.186 0.128 0. 0.199 0.019 0.056 0.191 0.105 0.116], Final Value =
\$1537188.98, Sharpe Ratio = -16.50

Simulation Run = 8186
Weights = [0.191 0.083 0.272 0.162 0.019 0.004 0.012 0.11 0.147], Final Value =
\$1394638.86, Sharpe Ratio = -19.96

Simulation Run = 8187
Weights = [0.116 0.077 0.117 0.108 0.126 0.125 0.061 0.125 0.144], Final Value =
\$1507172.50, Sharpe Ratio = -20.81

Simulation Run = 8188
Weights = [0.079 0.05 0.15 0.136 0.155 0.166 0.072 0.037 0.156], Final Value =
\$1510073.61, Sharpe Ratio = -19.43

Simulation Run = 8189
Weights = [0.102 0.153 0.003 0.08 0.065 0.126 0.243 0.043 0.186], Final Value =
\$1460404.71, Sharpe Ratio = -15.04

Simulation Run = 8190
Weights = [0.182 0.166 0.178 0.078 0.013 0.201 0.007 0.075 0.1], Final Value =
\$1503431.05, Sharpe Ratio = -18.64

Simulation Run = 8191
Weights = [0.168 0.061 0.142 0.105 0.119 0.092 0.115 0.037 0.161], Final Value =
\$1474903.95, Sharpe Ratio = -18.72

Simulation Run = 8192
Weights = [0.049 0.001 0.027 0.072 0.214 0.156 0.178 0.152 0.151], Final Value =

\$1566301.34, Sharpe Ratio = -16.54

Simulation Run = 8193

Weights = [0.191 0.05 0.151 0.003 0.065 0.201 0.022 0.136 0.18], Final Value = \$1475000.94, Sharpe Ratio = -18.54

Simulation Run = 8194

Weights = [0.195 0.115 0.024 0.11 0.173 0.099 0.096 0.17 0.017], Final Value = \$1661351.47, Sharpe Ratio = -19.23

Simulation Run = 8195

Weights = [0.107 0.074 0.132 0.107 0.123 0.082 0.12 0.094 0.161], Final Value = \$1463708.08, Sharpe Ratio = -19.31

Simulation Run = 8196

Weights = [0.009 0.065 0.076 0.095 0.228 0.184 0.221 0.041 0.08], Final Value = \$1598046.88, Sharpe Ratio = -14.66

Simulation Run = 8197

Weights = [0.182 0.191 0.048 0.072 0.052 0.196 0.097 0.08 0.081], Final Value = \$1567773.31, Sharpe Ratio = -17.70

Simulation Run = 8198

Weights = [0.172 0.084 0.128 0.018 0.189 0.113 0.208 0.055 0.034], Final Value = \$1588628.65, Sharpe Ratio = -14.63

Simulation Run = 8199

Weights = [0.016 0.036 0.006 0.156 0.141 0.264 0.022 0.259 0.1], Final Value = \$1656034.34, Sharpe Ratio = -18.62

Simulation Run = 8200

Weights = [0.074 0.155 0.21 0.158 0.021 0.137 0.019 0.008 0.218], Final Value = \$1363952.60, Sharpe Ratio = -21.61

Simulation Run = 8201

Weights = [0.157 0.055 0.112 0.06 0.086 0.154 0.122 0.135 0.12], Final Value = \$1530699.36, Sharpe Ratio = -16.83

Simulation Run = 8202
Weights = [0.008 0.126 0.141 0.118 0.149 0.199 0.043 0.069 0.146], Final Value =
\$1498407.94, Sharpe Ratio = -20.75

Simulation Run = 8203
Weights = [0.099 0.105 0.149 0.14 0.026 0.058 0.166 0.081 0.177], Final Value =
\$1403930.89, Sharpe Ratio = -17.30

Simulation Run = 8204
Weights = [0.158 0.02 0.088 0.103 0.064 0.193 0.099 0.091 0.185], Final Value =
\$1511714.21, Sharpe Ratio = -17.23

Simulation Run = 8205
Weights = [0.276 0.02 0.132 0.021 0.064 0.114 0.21 0.068 0.095], Final Value =
\$1538317.33, Sharpe Ratio = -13.55

Simulation Run = 8206
Weights = [0.171 0.163 0.113 0.105 0.009 0.151 0.151 0.043 0.096], Final Value =
\$1509797.03, Sharpe Ratio = -16.08

Simulation Run = 8207
Weights = [0.206 0.152 0.068 0.1 0.021 0.094 0.081 0.135 0.143], Final Value =
\$1483004.31, Sharpe Ratio = -20.27

Simulation Run = 8208
Weights = [0.065 0.098 0.024 0.15 0.184 0.005 0.214 0.16 0.1], Final Value =
\$1539202.55, Sharpe Ratio = -17.25

Simulation Run = 8209
Weights = [0.154 0.01 0.012 0.123 0.1 0.241 0.139 0.054 0.167], Final Value =
\$1588949.90, Sharpe Ratio = -15.55

Simulation Run = 8210
Weights = [0.101 0.116 0.134 0.023 0.154 0.03 0.132 0.153 0.157], Final Value =
\$1425321.95, Sharpe Ratio = -20.15

Simulation Run = 8211
Weights = [0.14 0.138 0.15 0.076 0.15 0.211 0.015 0.059 0.061], Final Value =
\$1586109.35, Sharpe Ratio = -19.30

Simulation Run = 8212
Weights = [0.054 0.147 0.123 0.094 0.063 0.059 0.172 0.134 0.153], Final Value =
\$1417310.93, Sharpe Ratio = -17.86

Simulation Run = 8213
Weights = [0.104 0.143 0.02 0.222 0.104 0.227 0.096 0.016 0.069], Final Value =
\$1645085.51, Sharpe Ratio = -17.67

Simulation Run = 8214
Weights = [0.224 0.05 0.224 0.132 0.038 0.038 0.078 0.212 0.005], Final Value =
\$1562918.64, Sharpe Ratio = -16.57

Simulation Run = 8215
Weights = [0.041 0.158 0.113 0.216 0.109 0.04 0.122 0.174 0.026], Final Value =
\$1562011.96, Sharpe Ratio = -19.27

Simulation Run = 8216
Weights = [0.133 0.137 0.101 0.163 0.051 0.113 0.168 0.115 0.02], Final Value =
\$1591504.22, Sharpe Ratio = -15.72

Simulation Run = 8217
Weights = [0.076 0.016 0.146 0.099 0.167 0.144 0.161 0.128 0.064], Final Value =
\$1584717.73, Sharpe Ratio = -15.59

Simulation Run = 8218
Weights = [0.119 0.232 0.136 0.174 0.108 0.011 0.067 0.152 0.001], Final Value =
\$1550722.86, Sharpe Ratio = -21.85

Simulation Run = 8219
Weights = [0.103 0.11 0.045 0.182 0.061 0.16 0.068 0.129 0.14], Final Value =
\$1541104.21, Sharpe Ratio = -20.18

Simulation Run = 8220
Weights = [0.182 0.044 0.162 0.078 0.052 0.136 0.164 0.085 0.098], Final Value =
\$1521923.83, Sharpe Ratio = -14.91

Simulation Run = 8221

Weights = [0.201 0.22 0.06 0.041 0.137 0.119 0.001 0.134 0.086], Final Value = \$1547021.52, Sharpe Ratio = -24.10

Simulation Run = 8222

Weights = [0.196 0.005 0.177 0.174 0.124 0.041 0.13 0.024 0.13], Final Value = \$1505196.93, Sharpe Ratio = -17.40

Simulation Run = 8223

Weights = [0.143 0.022 0.041 0.095 0.099 0.239 0.123 0.045 0.193], Final Value = \$1542188.75, Sharpe Ratio = -16.29

Simulation Run = 8224

Weights = [0.084 0.057 0.195 0.131 0.059 0.193 0.159 0.044 0.077], Final Value = \$1539832.49, Sharpe Ratio = -14.47

Simulation Run = 8225

Weights = [0.103 0.119 0.091 0.075 0.087 0.19 0.051 0.145 0.14], Final Value = \$1516164.22, Sharpe Ratio = -19.89

Simulation Run = 8226

Weights = [0.098 0.024 0.161 0.089 0.129 0.132 0.14 0.13 0.096], Final Value = \$1537271.83, Sharpe Ratio = -16.33

Simulation Run = 8227

Weights = [0.2 0.07 0.09 0.204 0.165 0.05 0.126 0.095 0.], Final Value = \$1658641.57, Sharpe Ratio = -17.60

Simulation Run = 8228

Weights = [0.195 0.092 0.067 0.018 0.182 0.182 0.072 0.076 0.117], Final Value = \$1575225.41, Sharpe Ratio = -19.04

Simulation Run = 8229

Weights = [0.053 0.032 0.004 0.15 0.183 0.227 0.115 0.215 0.022], Final Value = \$1722278.23, Sharpe Ratio = -16.27

Simulation Run = 8230

Weights = [0.141 0.02 0.163 0.071 0.065 0.087 0.202 0.046 0.206], Final Value = \$1406712.34, Sharpe Ratio = -15.25

Simulation Run = 8231
Weights = [0.034 0.167 0.081 0.026 0.142 0.202 0.259 0.063 0.026], Final Value =
\$1588443.36, Sharpe Ratio = -13.10

Simulation Run = 8232
Weights = [0.203 0.092 0.148 0.077 0.024 0.084 0.133 0.154 0.084], Final Value =
\$1507671.01, Sharpe Ratio = -16.50

Simulation Run = 8233
Weights = [0.142 0.001 0.187 0.141 0.173 0.042 0.152 0.034 0.127], Final Value =
\$1498800.69, Sharpe Ratio = -17.05

Simulation Run = 8234
Weights = [0.168 0.051 0.175 0.128 0.135 0.171 0.024 0.062 0.086], Final Value =
\$1574178.77, Sharpe Ratio = -18.77

Simulation Run = 8235
Weights = [0.121 0.195 0.272 0.039 0.094 0.009 0.116 0.1 0.053], Final Value =
\$1421930.29, Sharpe Ratio = -18.06

Simulation Run = 8236
Weights = [0.159 0.175 0.038 0.134 0.035 0.067 0.129 0.091 0.173], Final Value =
\$1451472.78, Sharpe Ratio = -20.14

Simulation Run = 8237
Weights = [0.012 0.192 0.138 0.127 0.154 0.155 0.011 0.049 0.162], Final Value =
\$1457147.13, Sharpe Ratio = -24.42

Simulation Run = 8238
Weights = [0.191 0.161 0.142 0.052 0.036 0.126 0.002 0.164 0.127], Final Value =
\$1471827.58, Sharpe Ratio = -21.54

Simulation Run = 8239
Weights = [0.188 0.076 0.214 0.101 0.091 0.079 0.072 0.09 0.088], Final Value =
\$1499828.58, Sharpe Ratio = -18.39

Simulation Run = 8240
Weights = [0.053 0.161 0.166 0.082 0.098 0.161 0.032 0.076 0.172], Final Value =

\$1429160.03, Sharpe Ratio = -21.91

Simulation Run = 8241

Weights = [0.035 0.053 0.072 0.142 0.128 0.139 0.136 0.143 0.153], Final Value = \$1519353.44, Sharpe Ratio = -18.26

Simulation Run = 8242

Weights = [0.184 0.177 0.031 0.126 0.13 0.067 0.076 0.131 0.077], Final Value = \$1568022.00, Sharpe Ratio = -22.29

Simulation Run = 8243

Weights = [0.122 0.062 0.105 0.198 0.207 0.091 0.097 0.065 0.055], Final Value = \$1619220.06, Sharpe Ratio = -19.37

Simulation Run = 8244

Weights = [0.043 0.113 0.039 0.001 0.214 0.067 0.201 0.157 0.165], Final Value = \$1467868.36, Sharpe Ratio = -17.79

Simulation Run = 8245

Weights = [0.079 0.041 0.16 0.087 0.194 0.125 0.07 0.156 0.089], Final Value = \$1553397.94, Sharpe Ratio = -19.43

Simulation Run = 8246

Weights = [0.151 0.035 0.171 0.082 0.135 0.104 0.056 0.091 0.173], Final Value = \$1465400.38, Sharpe Ratio = -20.38

Simulation Run = 8247

Weights = [0.107 0.001 0.14 0.198 0.043 0.09 0.2 0.061 0.16], Final Value = \$1478091.52, Sharpe Ratio = -14.99

Simulation Run = 8248

Weights = [0.182 0.072 0.06 0.112 0.031 0.085 0.129 0.189 0.14], Final Value = \$1506071.66, Sharpe Ratio = -17.92

Simulation Run = 8249

Weights = [0.156 0.069 0.146 0.04 0.174 0.141 0.041 0.026 0.207], Final Value = \$1450673.41, Sharpe Ratio = -21.71

Simulation Run = 8250
Weights = [0.193 0.145 0.021 0.13 0.059 0.088 0.054 0.169 0.141], Final Value =
\$1519109.71, Sharpe Ratio = -22.50

Simulation Run = 8251
Weights = [0.092 0.19 0.111 0.135 0.096 0.169 0.16 0.037 0.009], Final Value =
\$1599645.04, Sharpe Ratio = -15.92

Simulation Run = 8252
Weights = [0.056 0.217 0.091 0.024 0.032 0.115 0.12 0.207 0.14], Final Value =
\$1425913.57, Sharpe Ratio = -19.58

Simulation Run = 8253
Weights = [0.154 0.045 0.18 0.099 0.082 0.138 0.173 0.017 0.11], Final Value =
\$1509701.95, Sharpe Ratio = -14.95

Simulation Run = 8254
Weights = [0.101 0.121 0.135 0.052 0.118 0.112 0.124 0.062 0.174], Final Value =
\$1434236.97, Sharpe Ratio = -19.17

Simulation Run = 8255
Weights = [0.122 0.003 0.198 0.023 0.206 0.051 0.175 0.192 0.029], Final Value =
\$1563940.04, Sharpe Ratio = -15.36

Simulation Run = 8256
Weights = [0.131 0.107 0.063 0.031 0.044 0.102 0.176 0.208 0.137], Final Value =
\$1479022.42, Sharpe Ratio = -16.43

Simulation Run = 8257
Weights = [0.074 0.199 0.043 0.069 0.053 0.21 0.08 0.081 0.191], Final Value =
\$1458372.06, Sharpe Ratio = -19.97

Simulation Run = 8258
Weights = [0.05 0.106 0.115 0.216 0.158 0.019 0.114 0.15 0.071], Final Value =
\$1541915.28, Sharpe Ratio = -20.28

Simulation Run = 8259
Weights = [0.184 0.188 0.011 0.133 0.06 0.089 0.086 0.177 0.072], Final Value =
\$1570669.67, Sharpe Ratio = -20.71

Simulation Run = 8260
Weights = [0.178 0.018 0.129 0.133 0.107 0.121 0.001 0.17 0.143], Final Value =
\$1533798.86, Sharpe Ratio = -21.00

Simulation Run = 8261
Weights = [0.115 0.107 0.145 0.131 0.085 0.034 0.07 0.185 0.129], Final Value =
\$1461541.83, Sharpe Ratio = -21.59

Simulation Run = 8262
Weights = [0.141 0.135 0.131 0.136 0.109 0.095 0.118 0.016 0.119], Final Value =
\$1497464.19, Sharpe Ratio = -19.05

Simulation Run = 8263
Weights = [0.086 0.023 0.086 0.125 0.143 0.055 0.094 0.182 0.206], Final Value =
\$1456147.91, Sharpe Ratio = -21.83

Simulation Run = 8264
Weights = [0.157 0.095 0.079 0.113 0.035 0.085 0.191 0.14 0.104], Final Value =
\$1516373.91, Sharpe Ratio = -15.63

Simulation Run = 8265
Weights = [0.196 0.071 0.036 0.116 0.1 0.011 0.286 0.065 0.119], Final Value =
\$1516613.92, Sharpe Ratio = -13.66

Simulation Run = 8266
Weights = [0.13 0.127 0.17 0.135 0.111 0.11 0.05 0.135 0.032], Final Value =
\$1569113.90, Sharpe Ratio = -19.47

Simulation Run = 8267
Weights = [0.095 0.188 0.044 0.169 0.021 0.133 0.066 0.08 0.204], Final Value =
\$1439586.47, Sharpe Ratio = -22.56

Simulation Run = 8268
Weights = [0.139 0.059 0.114 0.019 0.047 0.062 0.008 0.325 0.228], Final Value =
\$1388328.91, Sharpe Ratio = -23.92

Simulation Run = 8269

Weights = [0.095 0.091 0.027 0.038 0.007 0.211 0.077 0.32 0.134], Final Value = \$1536157.73, Sharpe Ratio = -17.55

Simulation Run = 8270

Weights = [0.219 0.039 0.016 0.184 0.055 0.067 0.149 0.036 0.235], Final Value = \$1467325.78, Sharpe Ratio = -18.40

Simulation Run = 8271

Weights = [0.256 0.122 0.117 0.095 0.174 0.013 0.074 0.107 0.043], Final Value = \$1574338.43, Sharpe Ratio = -20.68

Simulation Run = 8272

Weights = [0.087 0.069 0.239 0.039 0.19 0.009 0.078 0.207 0.081], Final Value = \$1467743.70, Sharpe Ratio = -19.80

Simulation Run = 8273

Weights = [0.084 0.145 0.121 0.115 0.041 0.201 0.178 0.013 0.103], Final Value = \$1516091.21, Sharpe Ratio = -15.00

Simulation Run = 8274

Weights = [0.043 0.186 0.129 0.062 0.216 0.128 0.118 0.019 0.1], Final Value = \$1505728.08, Sharpe Ratio = -20.11

Simulation Run = 8275

Weights = [0.127 0.171 0.151 0.041 0.152 0.036 0.047 0.178 0.097], Final Value = \$1471453.72, Sharpe Ratio = -23.49

Simulation Run = 8276

Weights = [0.114 0.123 0.001 0.236 0.134 0.154 0.098 0.1 0.039], Final Value = \$1672382.53, Sharpe Ratio = -18.84

Simulation Run = 8277

Weights = [0.104 0.029 0.033 0.002 0.034 0.124 0.255 0.26 0.159], Final Value = \$1485041.77, Sharpe Ratio = -13.42

Simulation Run = 8278

Weights = [0.069 0.09 0.144 0.094 0.188 0.187 0.125 0.036 0.068], Final Value = \$1580915.29, Sharpe Ratio = -16.93

Simulation Run = 8279
Weights = [0.177 0.173 0.038 0.134 0.124 0.109 0.09 0.146 0.009], Final Value =
\$1640661.39, Sharpe Ratio = -19.49

Simulation Run = 8280
Weights = [0.043 0.091 0.189 0.137 0.049 0.209 0.125 0.03 0.127], Final Value =
\$1488043.35, Sharpe Ratio = -15.90

Simulation Run = 8281
Weights = [0.025 0.12 0.301 0.17 0.063 0.091 0.028 0.166 0.036], Final Value =
\$1485717.21, Sharpe Ratio = -18.00

Simulation Run = 8282
Weights = [0.101 0.095 0.077 0.254 0.153 0.003 0.166 0.028 0.123], Final Value =
\$1518549.14, Sharpe Ratio = -18.82

Simulation Run = 8283
Weights = [0.116 0.189 0.022 0.072 0.201 0.038 0.101 0.031 0.232], Final Value =
\$1412842.02, Sharpe Ratio = -25.46

Simulation Run = 8284
Weights = [0.187 0.072 0.174 0.188 0.125 0.015 0.13 0.066 0.043], Final Value =
\$1556676.87, Sharpe Ratio = -17.39

Simulation Run = 8285
Weights = [0.084 0.019 0.037 0.197 0.171 0.034 0.177 0.171 0.11], Final Value =
\$1570908.71, Sharpe Ratio = -17.67

Simulation Run = 8286
Weights = [0.181 0.174 0.152 0.176 0.025 0.158 0.024 0.093 0.017], Final Value =
\$1593146.75, Sharpe Ratio = -18.57

Simulation Run = 8287
Weights = [0.158 0.104 0.109 0.147 0.007 0.166 0.109 0.165 0.036], Final Value =
\$1597397.79, Sharpe Ratio = -16.07

Simulation Run = 8288
Weights = [0.035 0.081 0.039 0.177 0.205 0.128 0.137 0.168 0.029], Final Value =

\$1657119.15, Sharpe Ratio = -18.00

Simulation Run = 8289

Weights = [0.229 0.008 0.151 0.06 0.131 0.08 0.102 0.01 0.23], Final Value = \$1425222.13, Sharpe Ratio = -19.16

Simulation Run = 8290

Weights = [0.191 0.01 0.138 0.112 0.187 0.028 0.155 0.171 0.009], Final Value = \$1623738.74, Sharpe Ratio = -16.22

Simulation Run = 8291

Weights = [0.246 0.105 0.15 0.224 0.027 0.037 0.056 0.1 0.053], Final Value = \$1555567.81, Sharpe Ratio = -19.03

Simulation Run = 8292

Weights = [0.179 0.023 0.041 0.129 0.053 0.152 0.061 0.188 0.174], Final Value = \$1535150.59, Sharpe Ratio = -19.28

Simulation Run = 8293

Weights = [0.009 0.073 0.135 0.19 0.112 0.18 0.002 0.2 0.099], Final Value = \$1561684.82, Sharpe Ratio = -20.47

Simulation Run = 8294

Weights = [0.097 0.153 0.04 0.147 0.118 0.056 0.192 0.073 0.124], Final Value = \$1503786.40, Sharpe Ratio = -17.72

Simulation Run = 8295

Weights = [0.197 0.12 0.075 0.127 0.036 0.094 0.045 0.163 0.142], Final Value = \$1500449.63, Sharpe Ratio = -21.46

Simulation Run = 8296

Weights = [0.062 0.004 0.201 0.092 0.168 0.127 0.201 0.112 0.033], Final Value = \$1579225.26, Sharpe Ratio = -14.01

Simulation Run = 8297

Weights = [0.032 0.027 0.165 0.187 0.157 0.072 0.237 0.043 0.079], Final Value = \$1535968.36, Sharpe Ratio = -14.25

Simulation Run = 8298
Weights = [0.245 0.109 0.12 0.051 0.172 0.012 0.082 0.072 0.136], Final Value =
\$1480520.43, Sharpe Ratio = -21.70

Simulation Run = 8299
Weights = [0.126 0.144 0.172 0.061 0.192 0.197 0.003 0.088 0.017], Final Value =
\$1614894.27, Sharpe Ratio = -19.44

Simulation Run = 8300
Weights = [0.061 0.206 0.165 0.158 0.004 0.225 0.144 0.002 0.036], Final Value =
\$1547823.70, Sharpe Ratio = -15.01

Simulation Run = 8301
Weights = [0.135 0.185 0.055 0.26 0.183 0.035 0.038 0.02 0.088], Final Value =
\$1568646.30, Sharpe Ratio = -25.59

Simulation Run = 8302
Weights = [0.114 0.119 0.211 0.054 0.025 0.201 0.132 0.089 0.055], Final Value =
\$1521209.00, Sharpe Ratio = -14.80

Simulation Run = 8303
Weights = [0.183 0.211 0.073 0.246 0.04 0.099 0.051 0.069 0.028], Final Value =
\$1600526.31, Sharpe Ratio = -20.67

Simulation Run = 8304
Weights = [0.005 0.078 0.228 0.232 0.052 0.079 0.251 0.035 0.041], Final Value =
\$1510340.73, Sharpe Ratio = -13.01

Simulation Run = 8305
Weights = [0.166 0.092 0.155 0.122 0.166 0.19 0.045 0.034 0.031], Final Value =
\$1631636.16, Sharpe Ratio = -18.07

Simulation Run = 8306
Weights = [0.137 0.216 0.049 0.206 0.089 0. 0.052 0.217 0.034], Final Value =
\$1564835.29, Sharpe Ratio = -24.05

Simulation Run = 8307
Weights = [0.224 0.077 0.185 0.041 0.119 0.127 0.05 0.002 0.174], Final Value =
\$1453744.46, Sharpe Ratio = -19.76

Simulation Run = 8308
Weights = [0.212 0.097 0.052 0.139 0.037 0.139 0.132 0.091 0.101], Final Value =
\$1567447.74, Sharpe Ratio = -16.75

Simulation Run = 8309
Weights = [0.11 0.014 0.14 0.233 0.087 0.146 0.024 0.178 0.069], Final Value =
\$1608530.02, Sharpe Ratio = -18.64

Simulation Run = 8310
Weights = [0.132 0.03 0.174 0.168 0.032 0.034 0.163 0.101 0.166], Final Value =
\$1428279.48, Sharpe Ratio = -16.55

Simulation Run = 8311
Weights = [0.245 0.058 0.12 0.015 0.054 0.068 0.196 0.03 0.215], Final Value =
\$1402203.51, Sharpe Ratio = -15.63

Simulation Run = 8312
Weights = [0.225 0.185 0.045 0.211 0.093 0.039 0.032 0.135 0.037], Final Value =
\$1604325.55, Sharpe Ratio = -23.04

Simulation Run = 8313
Weights = [0.162 0.091 0.117 0.002 0.091 0.049 0.165 0.186 0.137], Final Value =
\$1452378.60, Sharpe Ratio = -17.21

Simulation Run = 8314
Weights = [0.158 0.033 0.066 0.253 0.113 0.056 0.099 0.13 0.092], Final Value =
\$1593371.05, Sharpe Ratio = -19.32

Simulation Run = 8315
Weights = [0.151 0.131 0.1 0.119 0.133 0.081 0.082 0.103 0.101], Final Value =
\$1529907.61, Sharpe Ratio = -21.05

Simulation Run = 8316
Weights = [0. 0.199 0.196 0.063 0.157 0.026 0.199 0.011 0.149], Final Value =
\$1366757.07, Sharpe Ratio = -17.52

Simulation Run = 8317

Weights = [0.122 0.045 0.177 0.155 0.136 0.084 0.078 0.07 0.134], Final Value = \$1496175.99, Sharpe Ratio = -19.67

Simulation Run = 8318

Weights = [0.004 0.165 0.169 0.086 0.176 0.139 0.021 0.142 0.097], Final Value = \$1499397.09, Sharpe Ratio = -22.65

Simulation Run = 8319

Weights = [0.142 0.15 0.116 0.119 0.067 0.115 0.028 0.098 0.165], Final Value = \$1458732.28, Sharpe Ratio = -22.89

Simulation Run = 8320

Weights = [0.187 0.119 0.054 0.083 0.186 0.004 0.139 0.043 0.184], Final Value = \$1456816.38, Sharpe Ratio = -21.07

Simulation Run = 8321

Weights = [0.077 0.051 0.203 0.108 0.161 0.18 0.053 0.056 0.11], Final Value = \$1529518.03, Sharpe Ratio = -18.49

Simulation Run = 8322

Weights = [0.199 0.081 0.228 0.112 0.157 0.006 0.097 0.007 0.113], Final Value = \$1460997.32, Sharpe Ratio = -19.14

Simulation Run = 8323

Weights = [0.175 0.089 0.061 0.05 0.268 0.076 0.063 0.151 0.067], Final Value = \$1609637.82, Sharpe Ratio = -22.01

Simulation Run = 8324

Weights = [0.065 0.197 0.201 0.037 0.143 0.046 0.198 0.046 0.067], Final Value = \$1447915.41, Sharpe Ratio = -16.36

Simulation Run = 8325

Weights = [0.14 0.019 0.134 0.027 0.18 0.185 0.181 0.048 0.087], Final Value = \$1578969.89, Sharpe Ratio = -14.58

Simulation Run = 8326

Weights = [0.065 0.163 0.147 0.17 0.01 0.03 0.068 0.221 0.126], Final Value = \$1428196.64, Sharpe Ratio = -21.69

Simulation Run = 8327
Weights = [0.059 0.167 0.056 0.082 0.244 0.065 0.125 0.125 0.078], Final Value =
\$1553215.82, Sharpe Ratio = -21.33

Simulation Run = 8328
Weights = [0.177 0.055 0.162 0.087 0.012 0.046 0.022 0.24 0.2], Final Value =
\$1397699.43, Sharpe Ratio = -21.76

Simulation Run = 8329
Weights = [0.016 0.208 0.201 0.022 0.185 0.107 0.156 0.077 0.029], Final Value =
\$1502998.88, Sharpe Ratio = -17.25

Simulation Run = 8330
Weights = [0.043 0.16 0.189 0.082 0.147 0.061 0.027 0.136 0.156], Final Value =
\$1409512.37, Sharpe Ratio = -24.49

Simulation Run = 8331
Weights = [0.199 0.073 0.018 0.072 0.121 0.024 0.167 0.157 0.17], Final Value =
\$1488124.93, Sharpe Ratio = -18.36

Simulation Run = 8332
Weights = [0.108 0.133 0.064 0.18 0.055 0.052 0.118 0.127 0.165], Final Value =
\$1461467.07, Sharpe Ratio = -20.75

Simulation Run = 8333
Weights = [0.178 0.049 0.016 0.255 0.111 0.035 0.117 0.059 0.181], Final Value =
\$1524403.19, Sharpe Ratio = -20.69

Simulation Run = 8334
Weights = [0.292 0.007 0.018 0.278 0.192 0.108 0.029 0.002 0.074], Final Value =
\$1705344.00, Sharpe Ratio = -20.09

Simulation Run = 8335
Weights = [0.193 0.166 0.058 0.169 0.101 0.142 0.015 0.154 0.002], Final Value =
\$1661829.03, Sharpe Ratio = -20.51

Simulation Run = 8336
Weights = [0.033 0.204 0.097 0.192 0.127 0.139 0.168 0.022 0.017], Final Value =

\$1592968.68, Sharpe Ratio = -16.76

Simulation Run = 8337

Weights = [0.017 0.016 0.118 0.018 0.281 0.134 0.076 0.06 0.281], Final Value = \$1406170.67, Sharpe Ratio = -22.70

Simulation Run = 8338

Weights = [0.122 0.018 0.11 0.082 0.124 0.145 0.188 0.13 0.082], Final Value = \$1575330.60, Sharpe Ratio = -14.78

Simulation Run = 8339

Weights = [0.145 0.131 0.142 0.045 0.079 0.083 0.125 0.106 0.144], Final Value = \$1441589.82, Sharpe Ratio = -18.70

Simulation Run = 8340

Weights = [0.154 0.148 0.11 0.148 0.012 0.104 0.154 0.127 0.043], Final Value = \$1552817.67, Sharpe Ratio = -16.14

Simulation Run = 8341

Weights = [0.129 0.176 0.095 0.038 0.132 0.115 0.024 0.041 0.251], Final Value = \$1380656.32, Sharpe Ratio = -26.03

Simulation Run = 8342

Weights = [0.123 0.089 0.07 0.094 0.131 0.119 0.155 0.116 0.104], Final Value = \$1550078.44, Sharpe Ratio = -17.27

Simulation Run = 8343

Weights = [0.081 0.146 0.008 0.013 0.06 0.2 0.255 0.015 0.222], Final Value = \$1436112.54, Sharpe Ratio = -13.83

Simulation Run = 8344

Weights = [0.072 0.101 0.004 0.085 0.158 0.2 0.151 0.203 0.027], Final Value = \$1669504.43, Sharpe Ratio = -16.05

Simulation Run = 8345

Weights = [0.226 0.186 0.173 0.039 0.074 0.071 0.037 0.133 0.062], Final Value = \$1499133.50, Sharpe Ratio = -20.67

Simulation Run = 8346
Weights = [0.181 0.127 0.017 0.071 0.138 0.002 0.165 0.08 0.218], Final Value =
\$1422585.73, Sharpe Ratio = -20.01

Simulation Run = 8347
Weights = [0.187 0.048 0.129 0.164 0.156 0.105 0.147 0.003 0.061], Final Value =
\$1599992.13, Sharpe Ratio = -16.47

Simulation Run = 8348
Weights = [0.151 0.127 0.136 0.069 0.088 0.068 0.176 0.028 0.158], Final Value =
\$1431380.61, Sharpe Ratio = -17.13

Simulation Run = 8349
Weights = [0.255 0.043 0.178 0.2 0.038 0.072 0.161 0.001 0.051], Final Value =
\$1566497.43, Sharpe Ratio = -14.84

Simulation Run = 8350
Weights = [0.152 0.035 0.07 0.174 0.17 0.081 0.095 0.147 0.078], Final Value =
\$1609820.63, Sharpe Ratio = -19.46

Simulation Run = 8351
Weights = [0.127 0.16 0.044 0.112 0.018 0.066 0.15 0.164 0.159], Final Value =
\$1450753.84, Sharpe Ratio = -18.79

Simulation Run = 8352
Weights = [0.195 0.135 0.204 0.135 0.013 0.077 0.039 0.032 0.169], Final Value =
\$1406142.64, Sharpe Ratio = -20.58

Simulation Run = 8353
Weights = [0.175 0.093 0.165 0.1 0.094 0.005 0.147 0.178 0.045], Final Value =
\$1521630.85, Sharpe Ratio = -17.10

Simulation Run = 8354
Weights = [0.083 0.154 0.182 0.047 0.114 0.162 0.136 0.041 0.081], Final Value =
\$1500211.18, Sharpe Ratio = -16.76

Simulation Run = 8355
Weights = [0.181 0.05 0.021 0.158 0.123 0.128 0.085 0.097 0.157], Final Value =
\$1563618.59, Sharpe Ratio = -20.02

Simulation Run = 8356
Weights = [0.001 0.2 0.004 0.199 0.17 0.058 0.058 0.166 0.144], Final Value =
\$1507152.40, Sharpe Ratio = -27.52

Simulation Run = 8357
Weights = [0.118 0.11 0.121 0.081 0.13 0.136 0.074 0.079 0.15], Final Value =
\$1489168.26, Sharpe Ratio = -20.51

Simulation Run = 8358
Weights = [0.103 0.13 0.164 0.156 0.028 0.14 0.031 0.085 0.164], Final Value =
\$1445914.06, Sharpe Ratio = -20.82

Simulation Run = 8359
Weights = [0.092 0.006 0.156 0.171 0.175 0.156 0.077 0.099 0.067], Final Value =
\$1609559.11, Sharpe Ratio = -17.74

Simulation Run = 8360
Weights = [0.125 0.139 0.074 0.1 0.127 0.118 0.144 0.078 0.094], Final Value =
\$1542711.84, Sharpe Ratio = -18.05

Simulation Run = 8361
Weights = [0.149 0.021 0.124 0.21 0.174 0.038 0.003 0.242 0.038], Final Value =
\$1625649.87, Sharpe Ratio = -21.41

Simulation Run = 8362
Weights = [0.088 0.033 0.164 0.145 0.049 0.185 0.184 0.034 0.118], Final Value =
\$1519535.24, Sharpe Ratio = -14.21

Simulation Run = 8363
Weights = [0.171 0.196 0.025 0.068 0.248 0.072 0.04 0.018 0.163], Final Value =
\$1506336.71, Sharpe Ratio = -27.10

Simulation Run = 8364
Weights = [0.029 0.106 0.222 0.099 0.13 0.08 0.217 0.071 0.046], Final Value =
\$1499094.50, Sharpe Ratio = -14.50

Simulation Run = 8365

Weights = [0.183 0.223 0.129 0.051 0.04 0.053 0.156 0.113 0.052], Final Value = \$1488287.72, Sharpe Ratio = -17.33

Simulation Run = 8366

Weights = [0.077 0.234 0.092 0.04 0.106 0.143 0.131 0.115 0.062], Final Value = \$1522020.91, Sharpe Ratio = -18.47

Simulation Run = 8367

Weights = [0.153 0.163 0.154 0.101 0.127 0.067 0.155 0.033 0.047], Final Value = \$1528960.44, Sharpe Ratio = -17.31

Simulation Run = 8368

Weights = [0.191 0.157 0.096 0.022 0.058 0.146 0.104 0.057 0.169], Final Value = \$1453653.12, Sharpe Ratio = -18.75

Simulation Run = 8369

Weights = [0.091 0.146 0.081 0.048 0.142 0.075 0.161 0.106 0.15], Final Value = \$1459610.95, Sharpe Ratio = -18.83

Simulation Run = 8370

Weights = [0.3 0.024 0.283 0.029 0.024 0.039 0.049 0.104 0.148], Final Value = \$1406974.10, Sharpe Ratio = -17.38

Simulation Run = 8371

Weights = [0.204 0.026 0.013 0.02 0.229 0.191 0.123 0.005 0.189], Final Value = \$1564158.58, Sharpe Ratio = -17.62

Simulation Run = 8372

Weights = [0.024 0.142 0.261 0.127 0.014 0.158 0.163 0.059 0.052], Final Value = \$1475947.70, Sharpe Ratio = -14.49

Simulation Run = 8373

Weights = [0.143 0.19 0.079 0.112 0.202 0.012 0.084 0.137 0.04], Final Value = \$1564544.88, Sharpe Ratio = -22.92

Simulation Run = 8374

Weights = [0.033 0.014 0.008 0.129 0.11 0.051 0.183 0.218 0.253], Final Value = \$1426284.89, Sharpe Ratio = -18.47

Simulation Run = 8375
Weights = [0.095 0.039 0.21 0.051 0.211 0.13 0.019 0.143 0.102], Final Value =
\$1525926.21, Sharpe Ratio = -20.32

Simulation Run = 8376
Weights = [0.005 0.077 0.229 0.033 0.091 0.044 0.208 0.16 0.152], Final Value =
\$1371144.56, Sharpe Ratio = -15.44

Simulation Run = 8377
Weights = [0.023 0.106 0.17 0.018 0.189 0.102 0.13 0.149 0.113], Final Value =
\$1472492.85, Sharpe Ratio = -18.69

Simulation Run = 8378
Weights = [0.116 0.022 0.078 0.11 0.059 0.137 0.075 0.122 0.281], Final Value =
\$1404939.85, Sharpe Ratio = -20.73

Simulation Run = 8379
Weights = [0.03 0.029 0.163 0.054 0.198 0.232 0.061 0.023 0.211], Final Value =
\$1471326.32, Sharpe Ratio = -18.93

Simulation Run = 8380
Weights = [0.124 0.08 0.091 0.065 0.122 0.179 0.105 0.069 0.165], Final Value =
\$1506101.68, Sharpe Ratio = -18.34

Simulation Run = 8381
Weights = [0.142 0.146 0.182 0.145 0.066 0.066 0.099 0.149 0.006], Final Value =
\$1555875.97, Sharpe Ratio = -17.81

Simulation Run = 8382
Weights = [0.023 0.068 0.156 0.098 0.15 0.142 0.086 0.147 0.13], Final Value =
\$1498722.02, Sharpe Ratio = -19.39

Simulation Run = 8383
Weights = [0.01 0.082 0.194 0.043 0.301 0.033 0.114 0.066 0.157], Final Value =
\$1434727.24, Sharpe Ratio = -21.10

Simulation Run = 8384
Weights = [0.067 0.051 0.23 0.222 0.036 0.121 0.088 0.051 0.134], Final Value =

\$1465588.59, Sharpe Ratio = -17.31

Simulation Run = 8385

Weights = [0.134 0.138 0.152 0.158 0.088 0.037 0.129 0.023 0.142], Final Value = \$1443686.78, Sharpe Ratio = -19.41

Simulation Run = 8386

Weights = [0.032 0.059 0.176 0.105 0.112 0.118 0.096 0.188 0.114], Final Value = \$1491642.79, Sharpe Ratio = -18.56

Simulation Run = 8387

Weights = [0.007 0.199 0.161 0.127 0.033 0.09 0.198 0.071 0.115], Final Value = \$1420815.13, Sharpe Ratio = -16.15

Simulation Run = 8388

Weights = [0.152 0.152 0.096 0.182 0.058 0.155 0.003 0.046 0.156], Final Value = \$1502770.52, Sharpe Ratio = -22.50

Simulation Run = 8389

Weights = [0.046 0.099 0.113 0.116 0.215 0.252 0.001 0.058 0.1], Final Value = \$1602622.77, Sharpe Ratio = -19.96

Simulation Run = 8390

Weights = [0.107 0.114 0.16 0.169 0.18 0.111 0.054 0.005 0.101], Final Value = \$1534852.11, Sharpe Ratio = -21.20

Simulation Run = 8391

Weights = [0.171 0.05 0.146 0.094 0.137 0.155 0.128 0.05 0.069], Final Value = \$1583422.34, Sharpe Ratio = -16.24

Simulation Run = 8392

Weights = [0.144 0.131 0.104 0.105 0.022 0.103 0.144 0.143 0.105], Final Value = \$1496896.81, Sharpe Ratio = -17.13

Simulation Run = 8393

Weights = [0.155 0.097 0.047 0.013 0.168 0.158 0.244 0.006 0.112], Final Value = \$1554132.27, Sharpe Ratio = -13.97

Simulation Run = 8394
Weights = [0.058 0.194 0.136 0.157 0.021 0.125 0.099 0.106 0.103], Final Value =
\$1475085.65, Sharpe Ratio = -19.14

Simulation Run = 8395
Weights = [0.057 0.174 0.055 0.151 0.169 0.155 0.197 0.04 0.002], Final Value =
\$1642223.81, Sharpe Ratio = -15.61

Simulation Run = 8396
Weights = [0.079 0.01 0.214 0.039 0.158 0.033 0.227 0.206 0.033], Final Value =
\$1527390.84, Sharpe Ratio = -13.93

Simulation Run = 8397
Weights = [0.101 0.145 0.095 0.059 0.112 0.162 0.094 0.163 0.069], Final Value =
\$1559763.30, Sharpe Ratio = -18.60

Simulation Run = 8398
Weights = [0.061 0.044 0.151 0.148 0.029 0.168 0.194 0.187 0.018], Final Value =
\$1596748.97, Sharpe Ratio = -13.47

Simulation Run = 8399
Weights = [0.007 0.065 0.088 0.134 0.112 0.226 0.013 0.149 0.206], Final Value =
\$1491712.25, Sharpe Ratio = -21.08

Simulation Run = 8400
Weights = [0.184 0.053 0.061 0.077 0.21 0.011 0.136 0.141 0.126], Final Value =
\$1531755.60, Sharpe Ratio = -19.77

Simulation Run = 8401
Weights = [0.081 0.054 0.022 0.259 0.01 0.074 0.193 0.056 0.25], Final Value =
\$1428474.20, Sharpe Ratio = -17.09

Simulation Run = 8402
Weights = [0.159 0.035 0.08 0.014 0.252 0.094 0.173 0.05 0.143], Final Value =
\$1533682.24, Sharpe Ratio = -17.22

Simulation Run = 8403
Weights = [0.067 0.111 0.114 0.107 0.075 0.12 0.077 0.152 0.176], Final Value =
\$1447125.47, Sharpe Ratio = -20.97

Simulation Run = 8404
Weights = [0.165 0.11 0.209 0.161 0.154 0.041 0.033 0.121 0.006], Final Value =
\$1578011.97, Sharpe Ratio = -19.89

Simulation Run = 8405
Weights = [0.087 0.002 0.124 0.002 0.102 0.03 0.253 0.157 0.242], Final Value =
\$1357740.28, Sharpe Ratio = -14.74

Simulation Run = 8406
Weights = [0.138 0.065 0.115 0.049 0.028 0.169 0.179 0.175 0.084], Final Value =
\$1541130.86, Sharpe Ratio = -14.35

Simulation Run = 8407
Weights = [0.062 0.217 0.119 0.093 0.096 0.018 0.092 0.2 0.103], Final Value =
\$1443787.44, Sharpe Ratio = -22.81

Simulation Run = 8408
Weights = [0.133 0.094 0.139 0.14 0.046 0.021 0.138 0.178 0.112], Final Value =
\$1468799.80, Sharpe Ratio = -18.10

Simulation Run = 8409
Weights = [0.057 0.128 0.13 0.151 0.145 0.013 0.049 0.251 0.078], Final Value =
\$1511572.40, Sharpe Ratio = -23.45

Simulation Run = 8410
Weights = [0.154 0.037 0.057 0.179 0.023 0.133 0.156 0.163 0.097], Final Value =
\$1578416.71, Sharpe Ratio = -15.68

Simulation Run = 8411
Weights = [0.155 0.009 0.044 0.027 0.155 0.104 0.145 0.223 0.139], Final Value =
\$1545377.57, Sharpe Ratio = -17.48

Simulation Run = 8412
Weights = [0.013 0.198 0.012 0.148 0.081 0.178 0.024 0.236 0.109], Final Value =
\$1551434.99, Sharpe Ratio = -22.96

Simulation Run = 8413

Weights = [0.134 0.059 0.128 0.127 0.089 0.112 0.126 0.179 0.045], Final Value = \$1584758.09, Sharpe Ratio = -16.67

Simulation Run = 8414

Weights = [0.192 0.292 0.04 0.081 0.043 0.024 0.285 0.028 0.015], Final Value = \$1526373.89, Sharpe Ratio = -13.79

Simulation Run = 8415

Weights = [0.001 0.057 0.187 0.114 0.082 0.149 0.226 0.074 0.11], Final Value = \$1482317.95, Sharpe Ratio = -13.84

Simulation Run = 8416

Weights = [0.186 0.04 0.1 0.083 0.092 0.098 0.117 0.202 0.082], Final Value = \$1564984.27, Sharpe Ratio = -17.34

Simulation Run = 8417

Weights = [0.01 0.046 0.153 0.16 0.133 0.154 0.097 0.128 0.118], Final Value = \$1526570.45, Sharpe Ratio = -18.28

Simulation Run = 8418

Weights = [0.097 0.148 0.151 0.132 0.123 0.101 0.018 0.085 0.145], Final Value = \$1466762.56, Sharpe Ratio = -23.70

Simulation Run = 8419

Weights = [0.068 0.073 0.12 0.284 0.092 0.029 0.026 0.088 0.22], Final Value = \$1427315.78, Sharpe Ratio = -24.80

Simulation Run = 8420

Weights = [0.126 0.013 0.139 0.182 0.093 0.11 0.205 0.127 0.007], Final Value = \$1631373.09, Sharpe Ratio = -13.76

Simulation Run = 8421

Weights = [0.139 0.15 0.01 0.114 0.156 0.101 0.148 0.02 0.161], Final Value = \$1512650.35, Sharpe Ratio = -19.58

Simulation Run = 8422

Weights = [0.04 0.027 0.084 0.02 0.214 0.163 0.024 0.19 0.237], Final Value = \$1459567.66, Sharpe Ratio = -23.36

Simulation Run = 8423
Weights = [0.037 0.065 0.029 0.087 0.115 0.208 0.135 0.21 0.115], Final Value =
\$1579479.29, Sharpe Ratio = -16.72

Simulation Run = 8424
Weights = [0.209 0.132 0.208 0.006 0.207 0.009 0.004 0.02 0.205], Final Value =
\$1373151.79, Sharpe Ratio = -25.20

Simulation Run = 8425
Weights = [0.184 0.077 0.124 0.104 0.123 0.091 0.101 0.021 0.175], Final Value =
\$1470116.31, Sharpe Ratio = -19.80

Simulation Run = 8426
Weights = [0.149 0.102 0.144 0.04 0.188 0.174 0.117 0.083 0.004], Final Value =
\$1632691.83, Sharpe Ratio = -16.39

Simulation Run = 8427
Weights = [0.162 0.105 0.029 0.265 0.035 0.278 0.098 0.017 0.011], Final Value =
\$1724579.57, Sharpe Ratio = -14.87

Simulation Run = 8428
Weights = [0.013 0.108 0.042 0.247 0.066 0.233 0.184 0.026 0.08], Final Value =
\$1613575.95, Sharpe Ratio = -14.69

Simulation Run = 8429
Weights = [0.18 0.242 0.217 0.007 0.133 0.022 0.009 0.006 0.185], Final Value =
\$1338075.31, Sharpe Ratio = -25.56

Simulation Run = 8430
Weights = [0.126 0.128 0.14 0.011 0.001 0.009 0.22 0.187 0.179], Final Value =
\$1351253.88, Sharpe Ratio = -15.60

Simulation Run = 8431
Weights = [0.058 0.072 0.174 0.107 0.157 0.186 0.053 0.038 0.156], Final Value =
\$1493429.92, Sharpe Ratio = -19.65

Simulation Run = 8432
Weights = [0.05 0.128 0.146 0.077 0.168 0.19 0.039 0.112 0.09], Final Value =

\$1546195.35, Sharpe Ratio = -20.18

Simulation Run = 8433

Weights = [0.051 0.079 0.14 0.117 0.007 0.104 0.219 0.013 0.271], Final Value = \$1326950.56, Sharpe Ratio = -15.46

Simulation Run = 8434

Weights = [0.08 0.144 0.001 0.037 0.088 0.103 0.184 0.153 0.209], Final Value = \$1433566.48, Sharpe Ratio = -17.86

Simulation Run = 8435

Weights = [0.189 0.16 0.063 0.188 0.058 0.01 0.043 0.09 0.199], Final Value = \$1429130.43, Sharpe Ratio = -25.73

Simulation Run = 8436

Weights = [0.072 0.116 0.081 0.125 0.199 0.054 0.22 0.049 0.083], Final Value = \$1541352.94, Sharpe Ratio = -16.26

Simulation Run = 8437

Weights = [0.21 0.058 0.12 0.074 0.009 0.184 0.047 0.168 0.131], Final Value = \$1526015.43, Sharpe Ratio = -17.56

Simulation Run = 8438

Weights = [0.036 0.106 0.231 0.049 0.054 0.151 0.097 0.086 0.189], Final Value = \$1374281.67, Sharpe Ratio = -18.04

Simulation Run = 8439

Weights = [0.14 0.097 0.122 0.138 0.073 0.106 0.118 0.128 0.077], Final Value = \$1545144.29, Sharpe Ratio = -17.70

Simulation Run = 8440

Weights = [0.156 0.026 0.014 0.15 0.045 0.092 0.183 0.185 0.148], Final Value = \$1537209.80, Sharpe Ratio = -16.05

Simulation Run = 8441

Weights = [0.127 0.097 0.118 0.172 0.029 0.182 0.155 0.015 0.106], Final Value = \$1539532.01, Sharpe Ratio = -15.44

Simulation Run = 8442
Weights = [0.018 0.065 0.232 0.039 0.095 0.092 0.158 0.086 0.215], Final Value =
\$1341566.37, Sharpe Ratio = -17.07

Simulation Run = 8443
Weights = [0.232 0.103 0.099 0.097 0.068 0.028 0.092 0.192 0.089], Final Value =
\$1522007.19, Sharpe Ratio = -19.58

Simulation Run = 8444
Weights = [0.179 0.055 0.148 0.176 0.184 0.04 0.088 0.053 0.077], Final Value =
\$1563913.04, Sharpe Ratio = -19.69

Simulation Run = 8445
Weights = [0.009 0.209 0.091 0.032 0.079 0.145 0.137 0.141 0.157], Final Value =
\$1426808.64, Sharpe Ratio = -19.02

Simulation Run = 8446
Weights = [0.005 0.084 0.09 0.186 0.122 0.182 0.106 0.094 0.13], Final Value =
\$1542353.14, Sharpe Ratio = -18.55

Simulation Run = 8447
Weights = [0.122 0.138 0.152 0.004 0.164 0.105 0.174 0.134 0.008], Final Value =
\$1569254.86, Sharpe Ratio = -15.81

Simulation Run = 8448
Weights = [0.097 0.105 0.138 0.258 0.071 0.165 0.061 0.035 0.07], Final Value =
\$1584641.40, Sharpe Ratio = -18.40

Simulation Run = 8449
Weights = [0.16 0.112 0.15 0.174 0.075 0.008 0.176 0.072 0.073], Final Value =
\$1503982.46, Sharpe Ratio = -16.57

Simulation Run = 8450
Weights = [0.069 0.088 0.189 0.105 0.097 0.009 0.198 0.057 0.188], Final Value =
\$1366335.80, Sharpe Ratio = -16.77

Simulation Run = 8451
Weights = [0.179 0.062 0.056 0.188 0.164 0.08 0.116 0.009 0.145], Final Value =
\$1550264.20, Sharpe Ratio = -19.88

Simulation Run = 8452
Weights = [0.1 0.054 0.024 0.005 0.068 0.032 0.225 0.283 0.21], Final Value =
\$1413241.81, Sharpe Ratio = -16.01

Simulation Run = 8453
Weights = [0.091 0.137 0.061 0.106 0.118 0.197 0.067 0.044 0.178], Final Value =
\$1501822.19, Sharpe Ratio = -20.59

Simulation Run = 8454
Weights = [0.07 0.076 0.022 0.179 0.031 0.077 0.098 0.234 0.212], Final Value =
\$1452727.09, Sharpe Ratio = -21.42

Simulation Run = 8455
Weights = [0.128 0.149 0.014 0.169 0.172 0.137 0.01 0.144 0.078], Final Value =
\$1622272.55, Sharpe Ratio = -23.77

Simulation Run = 8456
Weights = [0.132 0.241 0.151 0.109 0.129 0.118 0.016 0.06 0.043], Final Value =
\$1539107.76, Sharpe Ratio = -22.59

Simulation Run = 8457
Weights = [0.113 0.196 0.074 0.187 0.059 0.108 0.032 0.197 0.034], Final Value =
\$1585526.36, Sharpe Ratio = -21.78

Simulation Run = 8458
Weights = [0.156 0.208 0.082 0.139 0.233 0.065 0.02 0.092 0.004], Final Value =
\$1627761.21, Sharpe Ratio = -24.30

Simulation Run = 8459
Weights = [0.113 0.051 0.2 0.141 0.139 0.044 0.116 0.014 0.182], Final Value =
\$1420625.11, Sharpe Ratio = -19.23

Simulation Run = 8460
Weights = [0.156 0.06 0.102 0.048 0.147 0.101 0.165 0.041 0.181], Final Value =
\$1467761.11, Sharpe Ratio = -17.36

Simulation Run = 8461

Weights = [0.177 0.076 0.138 0.077 0.162 0.023 0.133 0.062 0.152], Final Value = \$1461140.13, Sharpe Ratio = -19.31

Simulation Run = 8462

Weights = [0.144 0.131 0.101 0.114 0.1 0.11 0.099 0.09 0.109], Final Value = \$1520490.01, Sharpe Ratio = -19.56

Simulation Run = 8463

Weights = [0.17 0.146 0.106 0.097 0.094 0.021 0.132 0.058 0.175], Final Value = \$1420130.96, Sharpe Ratio = -20.32

Simulation Run = 8464

Weights = [0.031 0.17 0.068 0.004 0.078 0.105 0.202 0.206 0.136], Final Value = \$1445549.03, Sharpe Ratio = -16.45

Simulation Run = 8465

Weights = [0.019 0.149 0.067 0.162 0.137 0.008 0.073 0.172 0.213], Final Value = \$1401826.58, Sharpe Ratio = -26.78

Simulation Run = 8466

Weights = [0.045 0.076 0.111 0.145 0.099 0.1 0.157 0.102 0.163], Final Value = \$1466623.69, Sharpe Ratio = -17.83

Simulation Run = 8467

Weights = [0.172 0.121 0.034 0.198 0.064 0.124 0.004 0.078 0.206], Final Value = \$1490282.69, Sharpe Ratio = -24.44

Simulation Run = 8468

Weights = [0.154 0.168 0.192 0.004 0.043 0.07 0.098 0.09 0.181], Final Value = \$1358464.98, Sharpe Ratio = -19.72

Simulation Run = 8469

Weights = [0.028 0.046 0.249 0.022 0.25 0.213 0.011 0.112 0.068], Final Value = \$1560049.96, Sharpe Ratio = -18.29

Simulation Run = 8470

Weights = [0.124 0.157 0.108 0.07 0.177 0.059 0.129 0.106 0.071], Final Value = \$1529807.51, Sharpe Ratio = -19.61

Simulation Run = 8471
Weights = [0.128 0.153 0.037 0.215 0.213 0.002 0.016 0.228 0.008], Final Value =
\$1644618.69, Sharpe Ratio = -25.18

Simulation Run = 8472
Weights = [0.191 0.024 0.076 0.169 0.112 0.148 0.102 0.131 0.048], Final Value =
\$1651549.06, Sharpe Ratio = -16.84

Simulation Run = 8473
Weights = [0.151 0.107 0.101 0.155 0.143 0.064 0.058 0.14 0.081], Final Value =
\$1558771.20, Sharpe Ratio = -21.77

Simulation Run = 8474
Weights = [0.229 0.036 0.171 0.047 0.109 0.156 0.178 0.053 0.02], Final Value =
\$1609847.11, Sharpe Ratio = -13.75

Simulation Run = 8475
Weights = [0.007 0.101 0.147 0.141 0.15 0.101 0.079 0.124 0.149], Final Value =
\$1467680.16, Sharpe Ratio = -21.42

Simulation Run = 8476
Weights = [0.07 0.125 0.139 0.132 0.049 0.149 0.121 0.13 0.085], Final Value =
\$1520357.98, Sharpe Ratio = -17.17

Simulation Run = 8477
Weights = [0.088 0.155 0.091 0.002 0.074 0.22 0.15 0.214 0.006], Final Value =
\$1608873.01, Sharpe Ratio = -14.90

Simulation Run = 8478
Weights = [0.038 0.058 0.034 0.191 0.159 0.09 0.156 0.147 0.126], Final Value =
\$1556689.53, Sharpe Ratio = -18.54

Simulation Run = 8479
Weights = [0.002 0.043 0.044 0.061 0.16 0.193 0.124 0.237 0.137], Final Value =
\$1554888.19, Sharpe Ratio = -17.80

Simulation Run = 8480
Weights = [0.024 0.208 0.127 0.036 0.033 0.19 0.115 0.137 0.131], Final Value =

\$1445514.38, Sharpe Ratio = -17.88

Simulation Run = 8481

Weights = [0.198 0.157 0.038 0.116 0.218 0.064 0.029 0.144 0.036], Final Value = \$1631238.97, Sharpe Ratio = -23.84

Simulation Run = 8482

Weights = [0.176 0.009 0.216 0.156 0.047 0.026 0.036 0.168 0.166], Final Value = \$1431846.39, Sharpe Ratio = -19.92

Simulation Run = 8483

Weights = [0.071 0.102 0.102 0.133 0.219 0.126 0.146 0.012 0.088], Final Value = \$1568976.88, Sharpe Ratio = -18.14

Simulation Run = 8484

Weights = [0.117 0.183 0.155 0.189 0.027 0.053 0.131 0.076 0.068], Final Value = \$1490125.30, Sharpe Ratio = -18.09

Simulation Run = 8485

Weights = [0.049 0.13 0.184 0.117 0.108 0.12 0.137 0.053 0.102], Final Value = \$1479557.07, Sharpe Ratio = -17.50

Simulation Run = 8486

Weights = [0.227 0.058 0.072 0.034 0.113 0.104 0.154 0.071 0.165], Final Value = \$1497749.66, Sharpe Ratio = -17.03

Simulation Run = 8487

Weights = [0.063 0.021 0.165 0.111 0.099 0.137 0.164 0.084 0.156], Final Value = \$1474454.33, Sharpe Ratio = -15.97

Simulation Run = 8488

Weights = [0.04 0.092 0.172 0.034 0.224 0.138 0.232 0.051 0.016], Final Value = \$1581755.66, Sharpe Ratio = -13.93

Simulation Run = 8489

Weights = [0.161 0.023 0.071 0.169 0.15 0.152 0.064 0.15 0.06], Final Value = \$1652080.95, Sharpe Ratio = -18.50

Simulation Run = 8490
Weights = [0.106 0.104 0.068 0.248 0.014 0.172 0.061 0.222 0.005], Final Value =
\$1662103.23, Sharpe Ratio = -17.37

Simulation Run = 8491
Weights = [0.058 0.003 0.172 0.152 0.038 0.175 0.072 0.183 0.146], Final Value =
\$1498760.14, Sharpe Ratio = -17.29

Simulation Run = 8492
Weights = [0.044 0.029 0.25 0.075 0.061 0.012 0.096 0.253 0.181], Final Value =
\$1355238.54, Sharpe Ratio = -18.88

Simulation Run = 8493
Weights = [0.113 0.122 0.133 0.139 0.186 0.038 0.068 0.025 0.176], Final Value =
\$1445985.94, Sharpe Ratio = -24.03

Simulation Run = 8494
Weights = [0.217 0.203 0.121 0.02 0.201 0.047 0.028 0.162 0.001], Final Value =
\$1587539.86, Sharpe Ratio = -22.66

Simulation Run = 8495
Weights = [0.002 0.089 0.166 0.016 0.283 0.221 0.055 0.088 0.079], Final Value =
\$1575643.67, Sharpe Ratio = -19.00

Simulation Run = 8496
Weights = [0.046 0.049 0.009 0.208 0.189 0.006 0.162 0.078 0.254], Final Value =
\$1436933.01, Sharpe Ratio = -21.14

Simulation Run = 8497
Weights = [0.205 0.17 0.147 0.036 0.132 0.011 0.223 0.016 0.06], Final Value =
\$1489828.56, Sharpe Ratio = -15.36

Simulation Run = 8498
Weights = [0.103 0.005 0.103 0.048 0.164 0.212 0.148 0.041 0.177], Final Value =
\$1523419.81, Sharpe Ratio = -16.00

Simulation Run = 8499
Weights = [0.168 0.106 0.052 0.136 0.113 0.037 0.219 0.003 0.166], Final Value =
\$1473939.46, Sharpe Ratio = -16.40

Simulation Run = 8500
Weights = [0.071 0.051 0.057 0.143 0.076 0.114 0.235 0.138 0.116], Final Value =
\$1537081.43, Sharpe Ratio = -14.41

Simulation Run = 8501
Weights = [0.11 0.053 0.1 0.153 0.147 0.088 0.069 0.153 0.126], Final Value =
\$1536057.30, Sharpe Ratio = -21.14

Simulation Run = 8502
Weights = [0.044 0.06 0.142 0.062 0.137 0.164 0.149 0.059 0.182], Final Value =
\$1456350.71, Sharpe Ratio = -17.10

Simulation Run = 8503
Weights = [0.001 0.088 0.184 0.178 0.128 0.157 0.045 0.054 0.165], Final Value =
\$1464631.80, Sharpe Ratio = -20.65

Simulation Run = 8504
Weights = [0.213 0.099 0.029 0.037 0.234 0.158 0.088 0.143 0.], Final Value =
\$1702814.00, Sharpe Ratio = -18.05

Simulation Run = 8505
Weights = [0.157 0.122 0.146 0.125 0.136 0.05 0.051 0.133 0.08], Final Value =
\$1525394.24, Sharpe Ratio = -21.73

Simulation Run = 8506
Weights = [0.134 0.001 0.117 0.154 0.028 0.172 0.19 0.142 0.063], Final Value =
\$1598260.33, Sharpe Ratio = -13.58

Simulation Run = 8507
Weights = [0.013 0.207 0.131 0.045 0.01 0.139 0.19 0.033 0.231], Final Value =
\$1324282.32, Sharpe Ratio = -16.71

Simulation Run = 8508
Weights = [0.125 0.016 0.118 0.277 0.026 0.072 0.03 0.263 0.072], Final Value =
\$1584686.67, Sharpe Ratio = -19.27

Simulation Run = 8509

Weights = [0.155 0.145 0.059 0.039 0.196 0.178 0.049 0.051 0.128], Final Value = \$1554739.22, Sharpe Ratio = -21.30

Simulation Run = 8510

Weights = [0.027 0.16 0.208 0.147 0.009 0.194 0.04 0.152 0.063], Final Value = \$1509454.05, Sharpe Ratio = -17.80

Simulation Run = 8511

Weights = [0.035 0.093 0.155 0.029 0.127 0.168 0.124 0.176 0.093], Final Value = \$1514630.09, Sharpe Ratio = -17.07

Simulation Run = 8512

Weights = [0.001 0.182 0.139 0.118 0.097 0.104 0.137 0.098 0.125], Final Value = \$1448166.66, Sharpe Ratio = -19.07

Simulation Run = 8513

Weights = [0.029 0.198 0.084 0.053 0.078 0.124 0.091 0.182 0.16], Final Value = \$1432910.42, Sharpe Ratio = -21.65

Simulation Run = 8514

Weights = [0.039 0.098 0.093 0.049 0.165 0.149 0.13 0.119 0.157], Final Value = \$1487674.70, Sharpe Ratio = -18.80

Simulation Run = 8515

Weights = [0.187 0.18 0.156 0.06 0.13 0.066 0.094 0.06 0.068], Final Value = \$1506614.62, Sharpe Ratio = -19.91

Simulation Run = 8516

Weights = [0.126 0.169 0.076 0.157 0.075 0.129 0.054 0.033 0.182], Final Value = \$1465050.87, Sharpe Ratio = -22.82

Simulation Run = 8517

Weights = [0.003 0.227 0.162 0.205 0.016 0.091 0.118 0.003 0.175], Final Value = \$1375454.53, Sharpe Ratio = -19.97

Simulation Run = 8518

Weights = [0.159 0.062 0.065 0.076 0.161 0.055 0.122 0.222 0.078], Final Value = \$1571860.83, Sharpe Ratio = -19.01

Simulation Run = 8519
Weights = [0.257 0.028 0.012 0.222 0.041 0.007 0.07 0.34 0.024], Final Value =
\$1657642.87, Sharpe Ratio = -18.85

Simulation Run = 8520
Weights = [0.091 0.037 0.142 0.208 0.225 0.07 0.031 0.067 0.129], Final Value =
\$1542946.77, Sharpe Ratio = -22.75

Simulation Run = 8521
Weights = [0.124 0.14 0.199 0.178 0.05 0.144 0.103 0.058 0.003], Final Value =
\$1580877.86, Sharpe Ratio = -16.27

Simulation Run = 8522
Weights = [0.026 0.059 0.223 0.015 0.066 0.128 0.214 0.029 0.24], Final Value =
\$1323353.89, Sharpe Ratio = -14.79

Simulation Run = 8523
Weights = [0.005 0.189 0.167 0.091 0.039 0.13 0.142 0.135 0.102], Final Value =
\$1445426.42, Sharpe Ratio = -17.38

Simulation Run = 8524
Weights = [0.119 0.158 0.094 0.076 0.241 0.037 0.097 0.021 0.157], Final Value =
\$1468343.38, Sharpe Ratio = -23.66

Simulation Run = 8525
Weights = [0.082 0.21 0.093 0.051 0.045 0.163 0.034 0.071 0.25], Final Value =
\$1363125.02, Sharpe Ratio = -23.58

Simulation Run = 8526
Weights = [0.124 0.05 0.166 0.127 0.098 0.136 0.094 0.095 0.109], Final Value =
\$1525027.95, Sharpe Ratio = -17.76

Simulation Run = 8527
Weights = [0.022 0.096 0.244 0.044 0.103 0.098 0.114 0.057 0.222], Final Value =
\$1330067.15, Sharpe Ratio = -18.88

Simulation Run = 8528
Weights = [0.053 0.214 0.153 0.043 0.227 0.089 0.135 0.061 0.024], Final Value =

\$1541382.09, Sharpe Ratio = -19.04

Simulation Run = 8529

Weights = [0.186 0.07 0.059 0.072 0.084 0.209 0.199 0.12 0.001], Final Value = \$1675648.45, Sharpe Ratio = -13.23

Simulation Run = 8530

Weights = [0.032 0.162 0.169 0.118 0.155 0.048 0.094 0.051 0.17], Final Value = \$1402153.91, Sharpe Ratio = -22.49

Simulation Run = 8531

Weights = [0.07 0.082 0.082 0.113 0.177 0.086 0.072 0.147 0.171], Final Value = \$1487296.37, Sharpe Ratio = -23.14

Simulation Run = 8532

Weights = [0.17 0.147 0.08 0.182 0.062 0.069 0.073 0.02 0.197], Final Value = \$1442611.35, Sharpe Ratio = -22.77

Simulation Run = 8533

Weights = [0.083 0.082 0.116 0.098 0.174 0.164 0.111 0.132 0.04], Final Value = \$1612401.95, Sharpe Ratio = -17.44

Simulation Run = 8534

Weights = [0.11 0.074 0.166 0.106 0.134 0.1 0.119 0.039 0.152], Final Value = \$1466667.14, Sharpe Ratio = -18.64

Simulation Run = 8535

Weights = [0.012 0.155 0.018 0.135 0.051 0.171 0.163 0.148 0.146], Final Value = \$1504900.87, Sharpe Ratio = -17.24

Simulation Run = 8536

Weights = [0.117 0.109 0.133 0.164 0.004 0.108 0.156 0.152 0.058], Final Value = \$1537931.55, Sharpe Ratio = -15.75

Simulation Run = 8537

Weights = [0.01 0.175 0.1 0.02 0.173 0.231 0.135 0.074 0.082], Final Value = \$1549855.78, Sharpe Ratio = -16.94

Simulation Run = 8538
Weights = [0.012 0.002 0.211 0.232 0.166 0.248 0.039 0.021 0.069], Final Value =
\$1617961.64, Sharpe Ratio = -16.47

Simulation Run = 8539
Weights = [0.151 0.114 0.045 0.076 0.159 0.089 0.102 0.107 0.156], Final Value =
\$1506953.63, Sharpe Ratio = -21.28

Simulation Run = 8540
Weights = [0.075 0.14 0.086 0.107 0.095 0.122 0.156 0.076 0.143], Final Value =
\$1480861.96, Sharpe Ratio = -17.92

Simulation Run = 8541
Weights = [0.176 0.235 0.138 0.015 0.065 0.039 0.246 0.003 0.084], Final Value =
\$1437304.01, Sharpe Ratio = -14.73

Simulation Run = 8542
Weights = [0.028 0.07 0.166 0.174 0.108 0.122 0.056 0.116 0.16], Final Value =
\$1468462.56, Sharpe Ratio = -20.74

Simulation Run = 8543
Weights = [0.057 0.2 0.064 0.174 0.092 0.066 0.134 0.169 0.045], Final Value =
\$1551760.38, Sharpe Ratio = -19.53

Simulation Run = 8544
Weights = [0.106 0.209 0.169 0.055 0.189 0.034 0.07 0.021 0.148], Final Value =
\$1412251.26, Sharpe Ratio = -24.15

Simulation Run = 8545
Weights = [0.131 0.094 0.119 0.109 0.12 0.083 0.114 0.11 0.121], Final Value =
\$1503859.52, Sharpe Ratio = -19.26

Simulation Run = 8546
Weights = [0.26 0.216 0.006 0.068 0.106 0.091 0.144 0.018 0.091], Final Value =
\$1552320.88, Sharpe Ratio = -18.42

Simulation Run = 8547
Weights = [0.047 0.005 0.095 0.111 0.086 0.117 0.152 0.096 0.293], Final Value =
\$1374249.61, Sharpe Ratio = -18.34

Simulation Run = 8548
Weights = [0.123 0.114 0.107 0.025 0.145 0.087 0.116 0.156 0.126], Final Value =
\$1488358.18, Sharpe Ratio = -19.63

Simulation Run = 8549
Weights = [0.153 0.005 0.06 0.085 0.028 0.166 0.261 0.05 0.192], Final Value =
\$1486404.56, Sharpe Ratio = -12.86

Simulation Run = 8550
Weights = [0.233 0.06 0.163 0.084 0.02 0.164 0.168 0.07 0.037], Final Value =
\$1581841.56, Sharpe Ratio = -13.74

Simulation Run = 8551
Weights = [0.038 0.163 0.082 0.17 0.147 0.075 0.14 0.075 0.11], Final Value =
\$1509010.66, Sharpe Ratio = -19.97

Simulation Run = 8552
Weights = [0.165 0.163 0.115 0.057 0.026 0.151 0.041 0.166 0.116], Final Value =
\$1492958.93, Sharpe Ratio = -19.98

Simulation Run = 8553
Weights = [0.138 0.123 0.129 0.138 0.02 0.159 0.114 0.076 0.104], Final Value =
\$1517620.59, Sharpe Ratio = -17.02

Simulation Run = 8554
Weights = [0.117 0.008 0.112 0.141 0.048 0.151 0.145 0.145 0.133], Final Value =
\$1530776.88, Sharpe Ratio = -15.87

Simulation Run = 8555
Weights = [0.169 0.155 0.041 0.01 0.074 0.154 0.075 0.158 0.165], Final Value =
\$1484082.48, Sharpe Ratio = -20.20

Simulation Run = 8556
Weights = [0.008 0.175 0.083 0.074 0.165 0.155 0.141 0.194 0.005], Final Value =
\$1607948.93, Sharpe Ratio = -17.49

Simulation Run = 8557

Weights = [0.018 0.002 0.199 0.035 0.149 0.187 0.182 0.081 0.146], Final Value = \$1479873.36, Sharpe Ratio = -14.69

Simulation Run = 8558

Weights = [0.144 0.024 0.146 0.112 0.135 0.084 0.141 0.14 0.073], Final Value = \$1560016.84, Sharpe Ratio = -16.69

Simulation Run = 8559

Weights = [0.183 0.207 0.135 0.107 0.063 0.013 0.162 0.086 0.044], Final Value = \$1498565.79, Sharpe Ratio = -17.51

Simulation Run = 8560

Weights = [0.087 0.021 0.248 0.026 0.094 0.086 0.015 0.253 0.171], Final Value = \$1404635.10, Sharpe Ratio = -20.28

Simulation Run = 8561

Weights = [0.025 0.174 0.084 0.152 0.133 0.153 0.123 0.147 0.01], Final Value = \$1614556.28, Sharpe Ratio = -17.98

Simulation Run = 8562

Weights = [0.086 0.269 0.156 0.188 0.008 0.07 0.03 0.092 0.102], Final Value = \$1438165.67, Sharpe Ratio = -23.27

Simulation Run = 8563

Weights = [0.091 0.129 0.007 0.183 0.018 0.093 0.083 0.171 0.225], Final Value = \$1439913.69, Sharpe Ratio = -22.53

Simulation Run = 8564

Weights = [0.029 0.002 0.205 0.07 0.183 0.241 0.164 0.047 0.059], Final Value = \$1591724.34, Sharpe Ratio = -13.94

Simulation Run = 8565

Weights = [0.086 0.197 0.136 0.026 0.105 0.175 0.032 0.118 0.126], Final Value = \$1474149.79, Sharpe Ratio = -21.46

Simulation Run = 8566

Weights = [0.223 0.066 0.08 0.112 0.063 0.068 0.109 0.069 0.209], Final Value = \$1446325.23, Sharpe Ratio = -19.65

Simulation Run = 8567
Weights = [0.237 0.094 0.048 0.054 0.146 0.193 0.008 0.043 0.176], Final Value =
\$1543205.91, Sharpe Ratio = -21.03

Simulation Run = 8568
Weights = [0.067 0.057 0.085 0.166 0.163 0.13 0.15 0.088 0.095], Final Value =
\$1578266.96, Sharpe Ratio = -17.32

Simulation Run = 8569
Weights = [0.13 0.009 0.144 0.145 0.024 0.137 0.154 0.145 0.111], Final Value =
\$1527568.70, Sharpe Ratio = -15.16

Simulation Run = 8570
Weights = [0.161 0.14 0.198 0.073 0.14 0.103 0.006 0.084 0.096], Final Value =
\$1496219.39, Sharpe Ratio = -21.79

Simulation Run = 8571
Weights = [0.165 0.166 0.028 0.099 0.118 0.084 0.121 0.206 0.013], Final Value =
\$1621842.80, Sharpe Ratio = -18.75

Simulation Run = 8572
Weights = [0.032 0.163 0.038 0.166 0.157 0.157 0.067 0.061 0.161], Final Value =
\$1516872.47, Sharpe Ratio = -23.00

Simulation Run = 8573
Weights = [0.193 0.135 0.16 0.041 0.085 0.097 0.056 0.186 0.048], Final Value =
\$1537208.67, Sharpe Ratio = -19.27

Simulation Run = 8574
Weights = [0.21 0.13 0.171 0.047 0.083 0.114 0.027 0.039 0.18], Final Value =
\$1427570.91, Sharpe Ratio = -21.50

Simulation Run = 8575
Weights = [0.192 0.193 0.044 0.113 0.037 0.174 0.024 0.218 0.005], Final Value =
\$1641461.32, Sharpe Ratio = -19.20

Simulation Run = 8576
Weights = [0.201 0.077 0.151 0.101 0.12 0.066 0.085 0.116 0.084], Final Value =

\$1533767.67, Sharpe Ratio = -19.10

Simulation Run = 8577

Weights = [0.071 0.135 0.087 0.184 0.077 0.139 0.01 0.12 0.176], Final Value = \$1479661.31, Sharpe Ratio = -23.84

Simulation Run = 8578

Weights = [0.127 0.124 0.147 0.023 0.081 0.064 0.156 0.152 0.126], Final Value = \$1441934.49, Sharpe Ratio = -17.50

Simulation Run = 8579

Weights = [0.16 0.111 0.169 0.162 0.025 0.064 0.106 0.078 0.124], Final Value = \$1461988.86, Sharpe Ratio = -18.41

Simulation Run = 8580

Weights = [0.122 0.153 0.03 0.069 0.21 0.062 0.038 0.234 0.081], Final Value = \$1570976.13, Sharpe Ratio = -25.24

Simulation Run = 8581

Weights = [0.119 0.019 0.04 0.315 0.323 0.011 0.025 0.027 0.122], Final Value = \$1626240.57, Sharpe Ratio = -24.63

Simulation Run = 8582

Weights = [0.176 0.127 0.063 0.079 0.085 0.128 0.044 0.171 0.127], Final Value = \$1527344.96, Sharpe Ratio = -21.37

Simulation Run = 8583

Weights = [0.051 0.15 0.041 0.139 0.041 0.146 0.158 0.072 0.202], Final Value = \$1442524.61, Sharpe Ratio = -18.04

Simulation Run = 8584

Weights = [0.213 0.209 0.062 0.012 0.194 0.037 0.224 0.006 0.043], Final Value = \$1550132.93, Sharpe Ratio = -15.93

Simulation Run = 8585

Weights = [0.053 0.007 0.18 0.008 0.185 0.014 0.029 0.256 0.267], Final Value = \$1337800.28, Sharpe Ratio = -25.04

Simulation Run = 8586
Weights = [0.056 0.105 0.181 0.13 0.169 0.133 0.128 0.076 0.021], Final Value =
\$1584154.65, Sharpe Ratio = -16.88

Simulation Run = 8587
Weights = [0.032 0.044 0.044 0.002 0.044 0.218 0.258 0.324 0.033], Final Value =
\$1612671.42, Sharpe Ratio = -12.03

Simulation Run = 8588
Weights = [0.041 0.056 0.13 0.177 0.201 0.2 0.048 0.106 0.04], Final Value =
\$1647121.04, Sharpe Ratio = -18.52

Simulation Run = 8589
Weights = [0. 0.067 0.21 0.14 0.157 0.008 0.05 0.202 0.165], Final Value =
\$1406135.59, Sharpe Ratio = -22.67

Simulation Run = 8590
Weights = [0.003 0.199 0.123 0.095 0.101 0.192 0.182 0.089 0.016], Final Value =
\$1571526.51, Sharpe Ratio = -15.22

Simulation Run = 8591
Weights = [0.07 0.204 0.193 0.043 0.167 0.115 0.125 0.08 0.003], Final Value =
\$1543817.65, Sharpe Ratio = -17.75

Simulation Run = 8592
Weights = [0.159 0.051 0.136 0.026 0.09 0.167 0.135 0.167 0.068], Final Value =
\$1565480.48, Sharpe Ratio = -15.52

Simulation Run = 8593
Weights = [0.02 0.194 0.074 0.232 0.198 0.135 0.021 0.075 0.05], Final Value =
\$1607692.10, Sharpe Ratio = -23.75

Simulation Run = 8594
Weights = [0.22 0.126 0.216 0.13 0.066 0.057 0.032 0.028 0.124], Final Value =
\$1452111.59, Sharpe Ratio = -20.57

Simulation Run = 8595
Weights = [0.149 0.096 0.029 0.078 0.132 0.127 0.107 0.091 0.191], Final Value =
\$1495528.42, Sharpe Ratio = -20.24

Simulation Run = 8596
Weights = [0.127 0.142 0.025 0.126 0.156 0.164 0.06 0.196 0.004], Final Value =
\$1679395.28, Sharpe Ratio = -19.57

Simulation Run = 8597
Weights = [0.096 0.162 0.02 0.136 0.151 0.154 0.196 0.035 0.049], Final Value =
\$1616932.27, Sharpe Ratio = -15.89

Simulation Run = 8598
Weights = [0.072 0.118 0.099 0.152 0.095 0.065 0.044 0.182 0.174], Final Value =
\$1450530.56, Sharpe Ratio = -24.36

Simulation Run = 8599
Weights = [0.144 0.197 0.197 0.09 0.061 0.055 0.17 0.009 0.077], Final Value =
\$1450035.60, Sharpe Ratio = -16.63

Simulation Run = 8600
Weights = [0.084 0.047 0.212 0.189 0.063 0.089 0.044 0.17 0.102], Final Value =
\$1498050.12, Sharpe Ratio = -19.01

Simulation Run = 8601
Weights = [0.032 0.214 0.212 0.131 0.059 0.161 0.071 0.111 0.01], Final Value =
\$1534678.70, Sharpe Ratio = -17.89

Simulation Run = 8602
Weights = [0.087 0.115 0.12 0.026 0.192 0.205 0.138 0.024 0.093], Final Value =
\$1556837.78, Sharpe Ratio = -16.68

Simulation Run = 8603
Weights = [0.153 0.042 0.265 0.181 0.106 0.095 0.007 0.028 0.122], Final Value =
\$1482133.91, Sharpe Ratio = -19.28

Simulation Run = 8604
Weights = [0.022 0.129 0.188 0.048 0.101 0.118 0.169 0.134 0.091], Final Value =
\$1465522.99, Sharpe Ratio = -16.24

Simulation Run = 8605

Weights = [0.211 0.092 0.177 0.176 0.12 0.058 0.057 0.066 0.043], Final Value = \$1571249.49, Sharpe Ratio = -19.28

Simulation Run = 8606

Weights = [0.099 0.154 0.228 0.161 0.005 0.067 0.132 0.143 0.01], Final Value = \$1510810.39, Sharpe Ratio = -16.02

Simulation Run = 8607

Weights = [0.178 0.127 0.174 0.022 0.157 0.044 0.035 0.143 0.12], Final Value = \$1462424.28, Sharpe Ratio = -22.70

Simulation Run = 8608

Weights = [0.21 0.107 0.166 0.016 0.142 0.139 0.191 0.016 0.013], Final Value = \$1589917.12, Sharpe Ratio = -14.23

Simulation Run = 8609

Weights = [0.151 0.17 0.143 0.025 0.016 0.088 0.155 0.13 0.122], Final Value = \$1431793.67, Sharpe Ratio = -16.95

Simulation Run = 8610

Weights = [0.146 0.105 0.1 0.141 0.119 0.132 0.135 0.092 0.03], Final Value = \$1614702.56, Sharpe Ratio = -16.76

Simulation Run = 8611

Weights = [0.125 0.007 0.081 0.094 0.06 0.142 0.143 0.193 0.154], Final Value = \$1516946.55, Sharpe Ratio = -16.44

Simulation Run = 8612

Weights = [0.177 0.171 0.168 0.01 0.081 0.099 0.015 0.116 0.163], Final Value = \$1415197.79, Sharpe Ratio = -22.82

Simulation Run = 8613

Weights = [0.065 0.057 0.178 0.05 0.191 0.117 0.029 0.179 0.133], Final Value = \$1491291.66, Sharpe Ratio = -21.64

Simulation Run = 8614

Weights = [0.006 0.053 0.151 0.077 0.143 0.209 0.138 0.02 0.203], Final Value = \$1450745.71, Sharpe Ratio = -16.93

Simulation Run = 8615
Weights = [0.07 0.215 0.092 0.119 0.173 0.145 0.026 0.081 0.078], Final Value =
\$1551966.04, Sharpe Ratio = -23.68

Simulation Run = 8616
Weights = [0.059 0.18 0.056 0.168 0.091 0.053 0.18 0.017 0.196], Final Value =
\$1416515.21, Sharpe Ratio = -19.13

Simulation Run = 8617
Weights = [0.142 0.085 0.1 0.23 0.033 0.045 0.03 0.096 0.24], Final Value =
\$1407372.58, Sharpe Ratio = -24.33

Simulation Run = 8618
Weights = [0.157 0.039 0.206 0.041 0.152 0.057 0.043 0.118 0.187], Final Value =
\$1417320.57, Sharpe Ratio = -21.49

Simulation Run = 8619
Weights = [0.107 0.008 0.268 0.024 0.21 0.012 0.077 0.209 0.086], Final Value =
\$1474376.34, Sharpe Ratio = -18.70

Simulation Run = 8620
Weights = [0.071 0.189 0.002 0.016 0.03 0.289 0.219 0.043 0.142], Final Value =
\$1524152.00, Sharpe Ratio = -13.34

Simulation Run = 8621
Weights = [0.022 0.147 0.091 0.126 0.014 0.179 0.202 0.064 0.155], Final Value =
\$1459171.98, Sharpe Ratio = -15.13

Simulation Run = 8622
Weights = [0. 0.215 0.209 0.075 0.076 0.128 0.117 0.145 0.034], Final Value =
\$1485665.72, Sharpe Ratio = -17.65

Simulation Run = 8623
Weights = [0.183 0.059 0.158 0.006 0.129 0.185 0.098 0.08 0.102], Final Value =
\$1541191.04, Sharpe Ratio = -16.66

Simulation Run = 8624
Weights = [0.097 0.138 0.078 0.199 0.068 0.208 0.046 0.068 0.098], Final Value =

\$1579013.30, Sharpe Ratio = -19.28

Simulation Run = 8625

Weights = [0.154 0.189 0.124 0.131 0.148 0.028 0.076 0.006 0.144], Final Value = \$1451455.07, Sharpe Ratio = -23.72

Simulation Run = 8626

Weights = [0.09 0.183 0.055 0.166 0.072 0.001 0.163 0.102 0.169], Final Value = \$1424008.79, Sharpe Ratio = -20.12

Simulation Run = 8627

Weights = [0.218 0.039 0.218 0.112 0.044 0.039 0.029 0.212 0.09], Final Value = \$1492930.46, Sharpe Ratio = -18.94

Simulation Run = 8628

Weights = [0.023 0.113 0.014 0.141 0.079 0.12 0.219 0.193 0.097], Final Value = \$1550276.47, Sharpe Ratio = -15.41

Simulation Run = 8629

Weights = [0.033 0.117 0.219 0.136 0.219 0.075 0.076 0.006 0.118], Final Value = \$1469144.72, Sharpe Ratio = -20.92

Simulation Run = 8630

Weights = [0.033 0.207 0.06 0.154 0.138 0.139 0.028 0.186 0.056], Final Value = \$1579242.42, Sharpe Ratio = -23.44

Simulation Run = 8631

Weights = [0.216 0.195 0.011 0.092 0.003 0.106 0.218 0.121 0.038], Final Value = \$1578624.63, Sharpe Ratio = -14.48

Simulation Run = 8632

Weights = [0.04 0.048 0.058 0.234 0.226 0.156 0.11 0.033 0.095], Final Value = \$1627942.63, Sharpe Ratio = -18.96

Simulation Run = 8633

Weights = [0.175 0.134 0.11 0.095 0.095 0.189 0.152 0.044 0.006], Final Value = \$1631670.73, Sharpe Ratio = -15.03

Simulation Run = 8634
Weights = [0.146 0.157 0.067 0.07 0.101 0.106 0.152 0.041 0.16], Final Value =
\$1468396.06, Sharpe Ratio = -18.45

Simulation Run = 8635
Weights = [0.025 0.043 0.203 0.124 0.173 0.165 0.146 0.009 0.11], Final Value =
\$1517367.02, Sharpe Ratio = -16.18

Simulation Run = 8636
Weights = [0.082 0.216 0.063 0.083 0.009 0.05 0.168 0.162 0.167], Final Value =
\$1397356.37, Sharpe Ratio = -18.77

Simulation Run = 8637
Weights = [0.261 0.019 0.214 0.173 0.063 0.127 0.099 0.037 0.007], Final Value =
\$1623537.35, Sharpe Ratio = -14.99

Simulation Run = 8638
Weights = [0.123 0.2 0.023 0.114 0.094 0.183 0.075 0.126 0.062], Final Value =
\$1599615.96, Sharpe Ratio = -19.59

Simulation Run = 8639
Weights = [0.164 0.143 0.076 0.051 0.105 0.051 0.217 0.012 0.182], Final Value =
\$1423610.89, Sharpe Ratio = -16.46

Simulation Run = 8640
Weights = [0.121 0.129 0.125 0.124 0.036 0.109 0.154 0.104 0.097], Final Value =
\$1500552.88, Sharpe Ratio = -16.70

Simulation Run = 8641
Weights = [0.202 0.037 0.06 0.176 0.133 0.013 0.139 0.099 0.14], Final Value =
\$1529454.32, Sharpe Ratio = -19.00

Simulation Run = 8642
Weights = [0.007 0.139 0.188 0.159 0.161 0.179 0.081 0.04 0.046], Final Value =
\$1565018.09, Sharpe Ratio = -18.22

Simulation Run = 8643
Weights = [0.123 0.085 0.171 0.117 0.127 0.113 0.023 0.066 0.175], Final Value =
\$1455069.79, Sharpe Ratio = -22.24

Simulation Run = 8644
Weights = [0.181 0.179 0.022 0.008 0.083 0.082 0.128 0.204 0.113], Final Value =
\$1506050.79, Sharpe Ratio = -19.26

Simulation Run = 8645
Weights = [0.106 0.149 0.147 0.106 0.054 0.122 0.053 0.142 0.121], Final Value =
\$1475278.38, Sharpe Ratio = -20.64

Simulation Run = 8646
Weights = [0.035 0.161 0.13 0.145 0.162 0.044 0.149 0.09 0.084], Final Value =
\$1498401.49, Sharpe Ratio = -19.25

Simulation Run = 8647
Weights = [0.001 0.194 0.213 0.034 0.115 0.068 0.18 0.103 0.093], Final Value =
\$1412720.08, Sharpe Ratio = -16.88

Simulation Run = 8648
Weights = [0.091 0.196 0.077 0.159 0.015 0.037 0.129 0.169 0.127], Final Value =
\$1448884.01, Sharpe Ratio = -20.17

Simulation Run = 8649
Weights = [0.093 0.053 0.037 0.167 0.094 0.117 0.107 0.139 0.195], Final Value =
\$1497466.84, Sharpe Ratio = -20.12

Simulation Run = 8650
Weights = [0.172 0.139 0.156 0.13 0.201 0.026 0.028 0.041 0.107], Final Value =
\$1502571.05, Sharpe Ratio = -24.13

Simulation Run = 8651
Weights = [0.029 0.063 0.006 0.205 0.093 0.064 0.217 0.116 0.207], Final Value =
\$1466552.40, Sharpe Ratio = -16.84

Simulation Run = 8652
Weights = [0.069 0.113 0.097 0.013 0.241 0.027 0.105 0.25 0.084], Final Value =
\$1521020.02, Sharpe Ratio = -21.75

Simulation Run = 8653

Weights = [0.275 0.014 0.046 0.228 0.103 0.085 0.109 0.13 0.011], Final Value = \$1700462.02, Sharpe Ratio = -16.65

Simulation Run = 8654

Weights = [0.098 0.11 0.17 0.203 0.111 0.114 0.108 0.032 0.054], Final Value = \$1559733.16, Sharpe Ratio = -17.76

Simulation Run = 8655

Weights = [0.152 0.062 0.075 0.068 0.162 0.159 0.061 0.105 0.156], Final Value = \$1537149.59, Sharpe Ratio = -20.36

Simulation Run = 8656

Weights = [0.101 0.044 0.079 0.051 0.017 0.135 0.294 0.121 0.158], Final Value = \$1466730.69, Sharpe Ratio = -12.33

Simulation Run = 8657

Weights = [0.136 0.141 0.173 0.077 0.116 0.08 0.134 0.006 0.137], Final Value = \$1443755.52, Sharpe Ratio = -18.51

Simulation Run = 8658

Weights = [0.02 0.151 0.09 0.174 0.088 0.093 0.167 0.189 0.028], Final Value = \$1570888.91, Sharpe Ratio = -16.93

Simulation Run = 8659

Weights = [0.148 0.137 0.144 0.072 0.046 0.151 0.15 0.127 0.026], Final Value = \$1564969.24, Sharpe Ratio = -15.39

Simulation Run = 8660

Weights = [0.157 0.176 0.103 0.003 0.154 0.2 0.026 0.125 0.057], Final Value = \$1583268.38, Sharpe Ratio = -19.88

Simulation Run = 8661

Weights = [0.084 0.15 0.064 0.029 0.194 0.019 0.124 0.153 0.182], Final Value = \$1426698.40, Sharpe Ratio = -22.71

Simulation Run = 8662

Weights = [0.138 0.148 0.031 0.147 0.086 0.199 0.086 0.047 0.118], Final Value = \$1572149.18, Sharpe Ratio = -18.87

Simulation Run = 8663
Weights = [0.034 0.186 0.036 0.125 0.048 0.111 0.141 0.069 0.251], Final Value =
\$1375352.68, Sharpe Ratio = -20.50

Simulation Run = 8664
Weights = [0.207 0.12 0.095 0.042 0.002 0.173 0.183 0.019 0.159], Final Value =
\$1470192.65, Sharpe Ratio = -14.76

Simulation Run = 8665
Weights = [0.111 0.097 0.005 0.017 0.174 0.205 0.004 0.247 0.141], Final Value =
\$1577825.04, Sharpe Ratio = -21.65

Simulation Run = 8666
Weights = [0.01 0.146 0.151 0.005 0.141 0.158 0.127 0.158 0.104], Final Value =
\$1481181.19, Sharpe Ratio = -17.98

Simulation Run = 8667
Weights = [0.063 0.194 0.14 0.043 0.114 0.132 0.111 0.099 0.105], Final Value =
\$1472461.30, Sharpe Ratio = -19.36

Simulation Run = 8668
Weights = [0.069 0.047 0.051 0.169 0.074 0.225 0.16 0.151 0.054], Final Value =
\$1645643.57, Sharpe Ratio = -14.64

Simulation Run = 8669
Weights = [0.093 0.07 0.219 0.007 0.071 0.035 0.196 0.085 0.225], Final Value =
\$1313442.28, Sharpe Ratio = -16.13

Simulation Run = 8670
Weights = [0.224 0.019 0.161 0.22 0.066 0.1 0.169 0.003 0.04], Final Value =
\$1606183.67, Sharpe Ratio = -14.49

Simulation Run = 8671
Weights = [0.144 0.041 0.092 0.122 0.058 0.091 0.164 0.161 0.127], Final Value =
\$1514987.58, Sharpe Ratio = -16.38

Simulation Run = 8672
Weights = [0.006 0.133 0.092 0.126 0.148 0.018 0.097 0.185 0.195], Final Value =

\$1406353.18, Sharpe Ratio = -24.27

Simulation Run = 8673

Weights = [0.073 0.117 0.13 0.12 0.066 0.134 0.112 0.114 0.136], Final Value = \$1478108.77, Sharpe Ratio = -18.55

Simulation Run = 8674

Weights = [0.06 0.202 0.115 0.099 0.204 0.022 0.005 0.12 0.174], Final Value = \$1420013.59, Sharpe Ratio = -29.87

Simulation Run = 8675

Weights = [0.02 0.101 0.223 0.126 0.116 0.042 0.156 0.06 0.155], Final Value = \$1393522.62, Sharpe Ratio = -17.73

Simulation Run = 8676

Weights = [0.112 0.187 0.095 0.049 0.134 0.161 0.18 0.028 0.054], Final Value = \$1558114.66, Sharpe Ratio = -15.93

Simulation Run = 8677

Weights = [0.208 0.106 0.217 0.049 0.008 0.021 0.136 0.046 0.208], Final Value = \$1330976.93, Sharpe Ratio = -17.65

Simulation Run = 8678

Weights = [0.029 0.108 0.004 0.152 0.094 0.18 0.18 0.087 0.165], Final Value = \$1525432.67, Sharpe Ratio = -16.59

Simulation Run = 8679

Weights = [0.032 0.054 0.098 0.15 0.096 0.066 0.18 0.124 0.2], Final Value = \$1430210.90, Sharpe Ratio = -17.64

Simulation Run = 8680

Weights = [0.104 0.067 0.156 0.229 0.127 0.005 0.124 0.01 0.179], Final Value = \$1436450.64, Sharpe Ratio = -19.96

Simulation Run = 8681

Weights = [0.051 0.217 0.028 0.199 0.001 0.139 0.077 0.042 0.246], Final Value = \$1396159.61, Sharpe Ratio = -22.94

Simulation Run = 8682
Weights = [0.123 0.167 0.151 0.157 0.102 0.153 0.075 0.03 0.042], Final Value =
\$1570981.23, Sharpe Ratio = -18.70

Simulation Run = 8683
Weights = [0.086 0.157 0.09 0.086 0.078 0.129 0.098 0.077 0.199], Final Value =
\$1424030.36, Sharpe Ratio = -20.91

Simulation Run = 8684
Weights = [0.158 0.083 0.091 0.068 0.096 0.143 0.153 0.145 0.063], Final Value =
\$1579722.68, Sharpe Ratio = -15.93

Simulation Run = 8685
Weights = [0.144 0.023 0.001 0.043 0.199 0.082 0.18 0.089 0.24], Final Value =
\$1470422.69, Sharpe Ratio = -18.05

Simulation Run = 8686
Weights = [0.205 0.003 0.02 0.007 0.138 0.145 0.134 0.152 0.195], Final Value =
\$1522965.82, Sharpe Ratio = -17.23

Simulation Run = 8687
Weights = [0.266 0.118 0.13 0.104 0.094 0.03 0.143 0.103 0.011], Final Value =
\$1583539.86, Sharpe Ratio = -16.65

Simulation Run = 8688
Weights = [0.141 0.016 0.131 0.063 0.129 0.204 0.204 0.081 0.033], Final Value =
\$1630730.12, Sharpe Ratio = -13.18

Simulation Run = 8689
Weights = [0.09 0.082 0.044 0.113 0.106 0.123 0.095 0.207 0.14], Final Value =
\$1529496.89, Sharpe Ratio = -20.14

Simulation Run = 8690
Weights = [0.151 0.113 0.081 0.156 0.031 0.169 0.123 0.012 0.165], Final Value =
\$1497053.79, Sharpe Ratio = -17.49

Simulation Run = 8691
Weights = [0.158 0.152 0.018 0.074 0.098 0.15 0.012 0.178 0.161], Final Value =
\$1519253.25, Sharpe Ratio = -23.45

Simulation Run = 8692
Weights = [0.056 0.205 0.06 0.128 0.061 0.24 0.11 0.068 0.071], Final Value =
\$1576067.36, Sharpe Ratio = -17.09

Simulation Run = 8693
Weights = [0.018 0.014 0.203 0.182 0.09 0.091 0.194 0.056 0.152], Final Value =
\$1449562.14, Sharpe Ratio = -15.23

Simulation Run = 8694
Weights = [0.077 0.116 0.105 0.05 0.15 0.16 0.194 0.073 0.075], Final Value =
\$1552861.76, Sharpe Ratio = -15.35

Simulation Run = 8695
Weights = [0.114 0.159 0.017 0.063 0.145 0.2 0.134 0.165 0.003], Final Value =
\$1669253.50, Sharpe Ratio = -16.48

Simulation Run = 8696
Weights = [0.173 0.009 0.177 0.106 0.175 0.08 0.098 0.029 0.151], Final Value =
\$1495251.72, Sharpe Ratio = -18.83

Simulation Run = 8697
Weights = [0.097 0.136 0.138 0.146 0.15 0.086 0.071 0.074 0.102], Final Value =
\$1513844.39, Sharpe Ratio = -21.55

Simulation Run = 8698
Weights = [0.055 0.106 0.118 0.125 0.042 0.094 0.231 0.08 0.149], Final Value =
\$1443737.72, Sharpe Ratio = -14.87

Simulation Run = 8699
Weights = [0.005 0.11 0.091 0.144 0.087 0.167 0.131 0.155 0.11], Final Value =
\$1529365.33, Sharpe Ratio = -17.65

Simulation Run = 8700
Weights = [0.068 0.147 0.123 0.044 0.178 0.131 0.142 0.126 0.04], Final Value =
\$1565121.17, Sharpe Ratio = -17.53

Simulation Run = 8701

Weights = [0.165 0.157 0.136 0.199 0.156 0.073 0.029 0.005 0.079], Final Value = \$1550807.76, Sharpe Ratio = -22.83

Simulation Run = 8702

Weights = [0.163 0.18 0.081 0.053 0.164 0.065 0.199 0.048 0.049], Final Value = \$1550813.61, Sharpe Ratio = -16.50

Simulation Run = 8703

Weights = [0.049 0.172 0.014 0.023 0.062 0.214 0.132 0.162 0.171], Final Value = \$1483052.15, Sharpe Ratio = -17.58

Simulation Run = 8704

Weights = [0.071 0.015 0.206 0.026 0.213 0.074 0.253 0.065 0.077], Final Value = \$1510176.22, Sharpe Ratio = -13.60

Simulation Run = 8705

Weights = [0.07 0.062 0.085 0.079 0.235 0.077 0.015 0.098 0.28], Final Value = \$1402396.43, Sharpe Ratio = -28.21

Simulation Run = 8706

Weights = [0.085 0.059 0.017 0.137 0.149 0.184 0.085 0.14 0.145], Final Value = \$1580241.62, Sharpe Ratio = -19.49

Simulation Run = 8707

Weights = [0.128 0.311 0.11 0.034 0.11 0.096 0.033 0.129 0.05], Final Value = \$1501226.76, Sharpe Ratio = -24.10

Simulation Run = 8708

Weights = [0.035 0.215 0.111 0.152 0.091 0.15 0.039 0.186 0.022], Final Value = \$1577616.55, Sharpe Ratio = -20.97

Simulation Run = 8709

Weights = [0.227 0.007 0.099 0.042 0.169 0.184 0.219 0.038 0.015], Final Value = \$1673505.76, Sharpe Ratio = -12.86

Simulation Run = 8710

Weights = [0.029 0.028 0.036 0.056 0.083 0.069 0.109 0.217 0.373], Final Value = \$1293580.19, Sharpe Ratio = -22.78

Simulation Run = 8711
Weights = [0.172 0.005 0.172 0.149 0.118 0.082 0.121 0.149 0.03], Final Value =
\$1601905.72, Sharpe Ratio = -16.18

Simulation Run = 8712
Weights = [0.111 0.139 0.196 0.02 0.088 0.064 0.024 0.177 0.182], Final Value =
\$1374934.01, Sharpe Ratio = -23.25

Simulation Run = 8713
Weights = [0.037 0.167 0.078 0.014 0.075 0.11 0.195 0.201 0.123], Final Value =
\$1458237.38, Sharpe Ratio = -16.47

Simulation Run = 8714
Weights = [0.001 0.159 0.154 0.135 0.119 0.152 0.122 0.021 0.137], Final Value =
\$1464102.26, Sharpe Ratio = -18.77

Simulation Run = 8715
Weights = [0.139 0.239 0.014 0.214 0.123 0.059 0.09 0.014 0.109], Final Value =
\$1533948.99, Sharpe Ratio = -23.73

Simulation Run = 8716
Weights = [0.111 0.086 0.149 0.019 0.152 0.115 0.127 0.119 0.121], Final Value =
\$1489814.12, Sharpe Ratio = -18.04

Simulation Run = 8717
Weights = [0.093 0.058 0.056 0.121 0.078 0.192 0.216 0.113 0.073], Final Value =
\$1601727.69, Sharpe Ratio = -13.74

Simulation Run = 8718
Weights = [0.125 0.023 0.117 0.17 0.003 0.105 0.112 0.176 0.169], Final Value =
\$1474821.97, Sharpe Ratio = -17.65

Simulation Run = 8719
Weights = [0.087 0.007 0.025 0.261 0.166 0.115 0.098 0.128 0.113], Final Value =
\$1623885.89, Sharpe Ratio = -19.50

Simulation Run = 8720
Weights = [0.108 0.089 0.054 0.232 0.081 0.074 0.018 0.141 0.203], Final Value =

\$1475775.36, Sharpe Ratio = -25.35

Simulation Run = 8721

Weights = [0.065 0.2 0.17 0.072 0.303 0.085 0.019 0.085 0.001], Final Value = \$1591330.74, Sharpe Ratio = -23.20

Simulation Run = 8722

Weights = [0.091 0.045 0.06 0.155 0.116 0.145 0.055 0.179 0.153], Final Value = \$1543897.20, Sharpe Ratio = -20.87

Simulation Run = 8723

Weights = [0.024 0.048 0.092 0.014 0.033 0.273 0.119 0.228 0.17], Final Value = \$1496159.09, Sharpe Ratio = -15.35

Simulation Run = 8724

Weights = [0.109 0.122 0.226 0.171 0.013 0.032 0.101 0.185 0.041], Final Value = \$1488404.06, Sharpe Ratio = -17.37

Simulation Run = 8725

Weights = [0.028 0.162 0.135 0.003 0.163 0.148 0.153 0.072 0.136], Final Value = \$1456800.92, Sharpe Ratio = -17.88

Simulation Run = 8726

Weights = [0.131 0.132 0.034 0.132 0.026 0.074 0.107 0.172 0.192], Final Value = \$1445991.68, Sharpe Ratio = -20.93

Simulation Run = 8727

Weights = [0.11 0.071 0.218 0.146 0.096 0.088 0.046 0.035 0.191], Final Value = \$1411073.51, Sharpe Ratio = -20.86

Simulation Run = 8728

Weights = [0.15 0.206 0.151 0.082 0.025 0.176 0.114 0.006 0.09], Final Value = \$1493816.04, Sharpe Ratio = -17.09

Simulation Run = 8729

Weights = [0.152 0.022 0.079 0.076 0.181 0.047 0.091 0.132 0.219], Final Value = \$1454388.90, Sharpe Ratio = -22.14

Simulation Run = 8730
Weights = [0.143 0.156 0.003 0.152 0.027 0.114 0.136 0.136 0.133], Final Value =
\$1523148.50, Sharpe Ratio = -18.49

Simulation Run = 8731
Weights = [0.007 0.147 0.088 0.117 0.025 0.181 0.197 0.156 0.083], Final Value =
\$1524251.30, Sharpe Ratio = -14.82

Simulation Run = 8732
Weights = [0.183 0.074 0.144 0.078 0.15 0.102 0.061 0.149 0.058], Final Value =
\$1575489.26, Sharpe Ratio = -19.32

Simulation Run = 8733
Weights = [0.037 0.06 0.125 0.151 0.16 0.076 0.135 0.084 0.171], Final Value =
\$1465181.69, Sharpe Ratio = -19.46

Simulation Run = 8734
Weights = [0.092 0.028 0.042 0.104 0.071 0.199 0.198 0.082 0.185], Final Value =
\$1515450.68, Sharpe Ratio = -14.73

Simulation Run = 8735
Weights = [0.005 0.042 0.026 0.088 0.019 0.267 0.34 0.21 0.004], Final Value =
\$1665068.87, Sharpe Ratio = -10.12

Simulation Run = 8736
Weights = [0.023 0.008 0.026 0.211 0.171 0.233 0.215 0.046 0.067], Final Value =
\$1677945.91, Sharpe Ratio = -13.73

Simulation Run = 8737
Weights = [0.179 0.028 0.038 0.002 0.144 0.167 0.151 0.112 0.179], Final Value =
\$1524183.26, Sharpe Ratio = -16.52

Simulation Run = 8738
Weights = [0.106 0.157 0.06 0.08 0.084 0.202 0.025 0.221 0.066], Final Value =
\$1591957.11, Sharpe Ratio = -19.90

Simulation Run = 8739
Weights = [0.014 0.109 0.209 0.156 0.142 0.103 0.074 0.171 0.022], Final Value =
\$1556541.42, Sharpe Ratio = -18.60

Simulation Run = 8740
Weights = [0.103 0.202 0.046 0.021 0.104 0.208 0.039 0.116 0.162], Final Value =
\$1491344.80, Sharpe Ratio = -21.40

Simulation Run = 8741
Weights = [0.042 0.11 0.141 0.15 0.133 0.184 0.079 0.015 0.147], Final Value =
\$1502103.05, Sharpe Ratio = -19.45

Simulation Run = 8742
Weights = [0.195 0.091 0.008 0.006 0.198 0.024 0.2 0.104 0.174], Final Value =
\$1484866.55, Sharpe Ratio = -17.46

Simulation Run = 8743
Weights = [0.132 0.134 0.054 0.109 0.199 0.001 0.092 0.177 0.104], Final Value =
\$1526833.83, Sharpe Ratio = -23.42

Simulation Run = 8744
Weights = [0.076 0.021 0.236 0.12 0.005 0.145 0.098 0.094 0.205], Final Value =
\$1389720.38, Sharpe Ratio = -16.83

Simulation Run = 8745
Weights = [0.125 0.06 0.119 0.101 0.076 0.106 0.183 0.16 0.068], Final Value =
\$1551434.76, Sharpe Ratio = -15.23

Simulation Run = 8746
Weights = [0.081 0.15 0.157 0.049 0.123 0.044 0.147 0.126 0.124], Final Value =
\$1433248.80, Sharpe Ratio = -18.89

Simulation Run = 8747
Weights = [0.189 0.117 0.207 0.028 0.16 0.24 0.001 0.057 0.001], Final Value =
\$1633504.51, Sharpe Ratio = -17.04

Simulation Run = 8748
Weights = [0.117 0.014 0.018 0.03 0.241 0.11 0.205 0.086 0.178], Final Value =
\$1532283.63, Sharpe Ratio = -16.33

Simulation Run = 8749

Weights = [0.194 0.254 0.064 0.017 0.157 0.128 0.023 0.07 0.094], Final Value = \$1528637.44, Sharpe Ratio = -23.91

Simulation Run = 8750

Weights = [0.036 0.094 0.298 0.216 0.002 0.004 0.109 0.119 0.122], Final Value = \$1376749.24, Sharpe Ratio = -17.04

Simulation Run = 8751

Weights = [0.202 0.058 0.039 0.205 0.123 0.092 0.122 0.081 0.078], Final Value = \$1620351.30, Sharpe Ratio = -18.12

Simulation Run = 8752

Weights = [0.134 0.173 0.158 0.088 0.128 0.15 0.077 0.021 0.071], Final Value = \$1532957.15, Sharpe Ratio = -19.25

Simulation Run = 8753

Weights = [0.133 0.146 0.065 0.173 0.001 0.074 0.152 0.038 0.218], Final Value = \$1404105.47, Sharpe Ratio = -18.77

Simulation Run = 8754

Weights = [0.038 0.171 0.109 0.191 0.074 0.054 0.135 0.065 0.164], Final Value = \$1425993.42, Sharpe Ratio = -20.34

Simulation Run = 8755

Weights = [0.05 0.122 0.167 0.131 0.046 0.184 0.079 0.157 0.064], Final Value = \$1539315.07, Sharpe Ratio = -17.37

Simulation Run = 8756

Weights = [0.114 0.214 0.154 0.035 0.106 0.096 0.029 0.106 0.145], Final Value = \$1422856.02, Sharpe Ratio = -23.94

Simulation Run = 8757

Weights = [0.199 0.134 0.154 0.089 0.148 0.037 0.051 0.153 0.036], Final Value = \$1554953.61, Sharpe Ratio = -20.99

Simulation Run = 8758

Weights = [0.117 0.161 0.166 0.007 0.124 0.046 0.147 0.19 0.042], Final Value = \$1498603.19, Sharpe Ratio = -17.65

Simulation Run = 8759
Weights = [0.081 0.21 0.095 0.136 0.044 0.083 0.103 0.22 0.027], Final Value =
\$1545348.10, Sharpe Ratio = -19.47

Simulation Run = 8760
Weights = [0.105 0.016 0.093 0.12 0.089 0.109 0.155 0.156 0.157], Final Value =
\$1502455.63, Sharpe Ratio = -16.92

Simulation Run = 8761
Weights = [0.138 0.083 0.168 0.132 0.132 0.176 0.131 0.019 0.02], Final Value =
\$1616409.43, Sharpe Ratio = -15.57

Simulation Run = 8762
Weights = [0.205 0.065 0.096 0.11 0.129 0.032 0.119 0.037 0.208], Final Value =
\$1439948.34, Sharpe Ratio = -20.45

Simulation Run = 8763
Weights = [0.099 0.278 0.113 0.153 0.005 0.265 0.04 0.043 0.003], Final Value =
\$1605297.64, Sharpe Ratio = -17.32

Simulation Run = 8764
Weights = [0.06 0.095 0.073 0.26 0.033 0.061 0.143 0.265 0.011], Final Value =
\$1611002.26, Sharpe Ratio = -16.93

Simulation Run = 8765
Weights = [0.145 0.128 0.018 0.095 0.16 0.087 0.127 0.141 0.099], Final Value =
\$1566614.21, Sharpe Ratio = -19.75

Simulation Run = 8766
Weights = [0.136 0.054 0.084 0.166 0.138 0.08 0.171 0.145 0.028], Final Value =
\$1624864.80, Sharpe Ratio = -16.10

Simulation Run = 8767
Weights = [0.078 0.133 0.11 0.044 0.227 0.089 0.149 0.001 0.169], Final Value =
\$1455782.60, Sharpe Ratio = -19.73

Simulation Run = 8768
Weights = [0.24 0.008 0.03 0.031 0.071 0.146 0.091 0.225 0.156], Final Value =

\$1550068.74, Sharpe Ratio = -17.55

Simulation Run = 8769

Weights = [0.166 0.141 0.164 0.148 0.041 0.036 0.015 0.12 0.169], Final Value = \$1414192.08, Sharpe Ratio = -23.57

Simulation Run = 8770

Weights = [0.116 0.029 0.15 0.181 0.082 0.052 0.01 0.138 0.241], Final Value = \$1402862.66, Sharpe Ratio = -23.95

Simulation Run = 8771

Weights = [0.152 0.119 0.059 0.221 0.114 0.129 0.126 0.006 0.072], Final Value = \$1605498.95, Sharpe Ratio = -18.02

Simulation Run = 8772

Weights = [0.188 0.019 0.116 0.057 0.153 0.136 0.206 0.057 0.068], Final Value = \$1592554.28, Sharpe Ratio = -14.14

Simulation Run = 8773

Weights = [0.137 0.122 0.164 0.108 0.205 0.01 0.105 0. 0.149], Final Value = \$1446133.37, Sharpe Ratio = -21.58

Simulation Run = 8774

Weights = [0.081 0.055 0.165 0.1 0.083 0.178 0.17 0.019 0.149], Final Value = \$1481482.44, Sharpe Ratio = -15.27

Simulation Run = 8775

Weights = [0.004 0.234 0.037 0.054 0.025 0.114 0.215 0.231 0.087], Final Value = \$1479883.52, Sharpe Ratio = -15.86

Simulation Run = 8776

Weights = [0.04 0.155 0.169 0.163 0.041 0.103 0.09 0.105 0.133], Final Value = \$1441201.11, Sharpe Ratio = -19.71

Simulation Run = 8777

Weights = [0.19 0.127 0.145 0.006 0.116 0.04 0.157 0.133 0.086], Final Value = \$1483207.90, Sharpe Ratio = -17.29

Simulation Run = 8778

Weights = [0.019 0.158 0.1 0.159 0.011 0.228 0.257 0.002 0.065], Final Value = \$1551333.43, Sharpe Ratio = -12.57

Simulation Run = 8779

Weights = [0.096 0.145 0.005 0.086 0.173 0.08 0.111 0.193 0.111], Final Value = \$1548520.79, Sharpe Ratio = -21.61

Simulation Run = 8780

Weights = [0.112 0.053 0.194 0.135 0.151 0.008 0.117 0.142 0.088], Final Value = \$1495915.15, Sharpe Ratio = -18.61

Simulation Run = 8781

Weights = [0.054 0.035 0.207 0.071 0.097 0.184 0.127 0.102 0.124], Final Value = \$1490550.08, Sharpe Ratio = -15.86

Simulation Run = 8782

Weights = [0.194 0.229 0.052 0.112 0.001 0.026 0.015 0.147 0.223], Final Value = \$1372533.13, Sharpe Ratio = -27.42

Simulation Run = 8783

Weights = [0.172 0.173 0.04 0.068 0.129 0.092 0.086 0.14 0.1], Final Value = \$1539491.04, Sharpe Ratio = -21.47

Simulation Run = 8784

Weights = [0.105 0.145 0.062 0.011 0.205 0.098 0.061 0.171 0.144], Final Value = \$1499205.02, Sharpe Ratio = -23.82

Simulation Run = 8785

Weights = [0.141 0.131 0.119 0.177 0.028 0.144 0.061 0.063 0.136], Final Value = \$1498946.98, Sharpe Ratio = -19.73

Simulation Run = 8786

Weights = [0.201 0.052 0.062 0.075 0.1 0.073 0.156 0.186 0.093], Final Value = \$1558453.51, Sharpe Ratio = -16.80

Simulation Run = 8787

Weights = [0.078 0.225 0.009 0.187 0.188 0.133 0.036 0.043 0.102], Final Value = \$1576928.41, Sharpe Ratio = -25.40

Simulation Run = 8788
Weights = [0.027 0.032 0.01 0.216 0.129 0.159 0.097 0.141 0.19], Final Value =
\$1543015.30, Sharpe Ratio = -20.13

Simulation Run = 8789
Weights = [0.066 0.144 0.18 0.08 0.099 0.154 0.039 0.097 0.142], Final Value =
\$1454686.91, Sharpe Ratio = -20.87

Simulation Run = 8790
Weights = [0.185 0.121 0.038 0.092 0.177 0.161 0.047 0.156 0.023], Final Value =
\$1670068.69, Sharpe Ratio = -19.74

Simulation Run = 8791
Weights = [0.146 0.176 0.016 0.033 0.106 0.147 0.148 0.103 0.125], Final Value =
\$1524927.86, Sharpe Ratio = -17.85

Simulation Run = 8792
Weights = [0.117 0.101 0.006 0.211 0.044 0.04 0.065 0.167 0.249], Final Value =
\$1425147.77, Sharpe Ratio = -24.97

Simulation Run = 8793
Weights = [0.236 0.063 0.146 0.041 0.129 0.081 0.175 0.043 0.085], Final Value =
\$1533000.81, Sharpe Ratio = -15.58

Simulation Run = 8794
Weights = [0.03 0.125 0.148 0.013 0.166 0.014 0.159 0.154 0.191], Final Value =
\$1367472.26, Sharpe Ratio = -19.74

Simulation Run = 8795
Weights = [0.109 0.125 0.167 0.119 0.097 0.111 0.106 0.048 0.119], Final Value =
\$1479689.81, Sharpe Ratio = -18.79

Simulation Run = 8796
Weights = [0.182 0.154 0.179 0.112 0.094 0.043 0.036 0.069 0.131], Final Value =
\$1445912.71, Sharpe Ratio = -22.58

Simulation Run = 8797

Weights = [0.071 0.035 0.047 0.105 0.161 0.164 0.134 0.139 0.145], Final Value = \$1557505.62, Sharpe Ratio = -17.82

Simulation Run = 8798

Weights = [0.041 0.105 0.267 0.138 0.174 0.039 0.052 0.116 0.067], Final Value = \$1478686.19, Sharpe Ratio = -19.92

Simulation Run = 8799

Weights = [0.15 0.017 0.107 0.137 0.157 0.159 0.157 0.007 0.108], Final Value = \$1583936.25, Sharpe Ratio = -15.92

Simulation Run = 8800

Weights = [0.192 0.05 0.076 0.184 0.174 0.025 0.088 0.12 0.09], Final Value = \$1580727.06, Sharpe Ratio = -20.74

Simulation Run = 8801

Weights = [0.165 0.047 0.086 0.186 0.015 0.238 0.018 0.118 0.127], Final Value = \$1584841.17, Sharpe Ratio = -17.58

Simulation Run = 8802

Weights = [0.162 0.121 0.095 0.076 0.182 0.049 0.07 0.156 0.088], Final Value = \$1539647.90, Sharpe Ratio = -22.27

Simulation Run = 8803

Weights = [0.152 0.18 0.003 0.05 0.141 0.157 0.114 0.061 0.142], Final Value = \$1532857.25, Sharpe Ratio = -19.66

Simulation Run = 8804

Weights = [0.086 0.252 0.241 0.023 0.15 0.015 0.015 0.135 0.081], Final Value = \$1407620.58, Sharpe Ratio = -23.96

Simulation Run = 8805

Weights = [0.113 0.041 0.113 0.008 0.157 0.16 0.172 0.205 0.032], Final Value = \$1610246.75, Sharpe Ratio = -14.89

Simulation Run = 8806

Weights = [0.093 0.002 0.297 0.021 0.004 0.002 0.278 0.109 0.192], Final Value = \$1298865.08, Sharpe Ratio = -12.51

Simulation Run = 8807
Weights = [0.101 0.234 0.041 0.125 0.114 0.114 0.036 0.218 0.016], Final Value =
\$1605410.01, Sharpe Ratio = -22.91

Simulation Run = 8808
Weights = [0.162 0.115 0.085 0.116 0.148 0.174 0.054 0.008 0.14], Final Value =
\$1545126.46, Sharpe Ratio = -20.57

Simulation Run = 8809
Weights = [0.089 0.061 0.151 0.021 0.123 0.232 0.01 0.112 0.2], Final Value =
\$1466132.59, Sharpe Ratio = -19.69

Simulation Run = 8810
Weights = [0.058 0.237 0.096 0.144 0.113 0.22 0.112 0.015 0.004], Final Value =
\$1619566.16, Sharpe Ratio = -17.21

Simulation Run = 8811
Weights = [0.164 0.166 0.097 0.081 0.1 0.007 0.188 0.145 0.054], Final Value =
\$1515065.12, Sharpe Ratio = -16.97

Simulation Run = 8812
Weights = [0.178 0.112 0.204 0.14 0.141 0.02 0.117 0.064 0.025], Final Value =
\$1543832.21, Sharpe Ratio = -17.80

Simulation Run = 8813
Weights = [0.149 0.127 0.136 0.094 0.163 0.049 0.168 0.084 0.028], Final Value =
\$1563811.17, Sharpe Ratio = -16.91

Simulation Run = 8814
Weights = [0.072 0.181 0.032 0.179 0.071 0.173 0.059 0.087 0.146], Final Value =
\$1523437.44, Sharpe Ratio = -21.64

Simulation Run = 8815
Weights = [0.094 0.16 0.189 0.188 0.004 0.068 0.158 0.018 0.122], Final Value =
\$1427665.86, Sharpe Ratio = -16.82

Simulation Run = 8816
Weights = [0.18 0.016 0.192 0.182 0.05 0.035 0.156 0.151 0.037], Final Value =

\$1556650.42, Sharpe Ratio = -15.17

Simulation Run = 8817

Weights = [0.022 0.064 0.099 0.109 0.092 0.169 0.169 0.131 0.145], Final Value = \$1502814.25, Sharpe Ratio = -16.12

Simulation Run = 8818

Weights = [0.106 0.12 0.048 0.077 0.152 0.175 0.065 0.146 0.112], Final Value = \$1569224.91, Sharpe Ratio = -20.40

Simulation Run = 8819

Weights = [0.051 0.052 0.011 0.077 0.097 0.273 0.186 0.07 0.182], Final Value = \$1545545.93, Sharpe Ratio = -14.44

Simulation Run = 8820

Weights = [0.094 0.097 0.156 0.136 0.06 0.198 0.074 0.168 0.018], Final Value = \$1609481.94, Sharpe Ratio = -16.50

Simulation Run = 8821

Weights = [0.186 0.008 0.213 0.037 0.03 0.181 0.036 0.136 0.173], Final Value = \$1456606.54, Sharpe Ratio = -17.26

Simulation Run = 8822

Weights = [0.197 0.232 0.017 0.12 0.092 0.154 0.103 0.048 0.037], Final Value = \$1614466.68, Sharpe Ratio = -18.79

Simulation Run = 8823

Weights = [0.065 0.102 0.151 0.135 0.047 0.073 0.153 0.12 0.154], Final Value = \$1429991.21, Sharpe Ratio = -17.61

Simulation Run = 8824

Weights = [0.203 0.028 0.065 0.08 0.17 0.067 0.17 0.159 0.058], Final Value = \$1609776.49, Sharpe Ratio = -16.29

Simulation Run = 8825

Weights = [0.133 0.068 0. 0.22 0.171 0.115 0.073 0.176 0.046], Final Value = \$1678241.55, Sharpe Ratio = -20.25

Simulation Run = 8826
Weights = [0.034 0.13 0.148 0.054 0.082 0.082 0.094 0.191 0.184], Final Value =
\$1390493.74, Sharpe Ratio = -21.13

Simulation Run = 8827
Weights = [0.227 0.063 0.012 0.226 0.064 0.067 0.262 0.071 0.008], Final Value =
\$1668682.46, Sharpe Ratio = -13.06

Simulation Run = 8828
Weights = [0.143 0.087 0.12 0.058 0.086 0.126 0.154 0.178 0.047], Final Value =
\$1568159.12, Sharpe Ratio = -15.82

Simulation Run = 8829
Weights = [0.013 0.018 0.143 0.101 0.157 0.126 0.214 0.007 0.219], Final Value =
\$1423375.86, Sharpe Ratio = -15.60

Simulation Run = 8830
Weights = [0.098 0.032 0.098 0.122 0.122 0.151 0.109 0.163 0.106], Final Value =
\$1566690.91, Sharpe Ratio = -17.72

Simulation Run = 8831
Weights = [0.222 0.011 0.178 0.127 0.19 0.119 0.026 0.033 0.096], Final Value =
\$1578344.26, Sharpe Ratio = -19.45

Simulation Run = 8832
Weights = [0.159 0.127 0.001 0.2 0.098 0.028 0.142 0.042 0.203], Final Value =
\$1467398.26, Sharpe Ratio = -20.92

Simulation Run = 8833
Weights = [0.066 0.182 0.157 0.041 0.045 0.013 0.172 0.175 0.15], Final Value =
\$1366412.03, Sharpe Ratio = -18.09

Simulation Run = 8834
Weights = [0.114 0.231 0.104 0.007 0.036 0.236 0.042 0.204 0.026], Final Value =
\$1572998.14, Sharpe Ratio = -17.81

Simulation Run = 8835
Weights = [0.029 0.208 0.079 0.013 0.087 0.035 0.208 0.25 0.091], Final Value =
\$1448626.74, Sharpe Ratio = -16.98

Simulation Run = 8836
Weights = [0.079 0.001 0.029 0.216 0.16 0.206 0.071 0.054 0.185], Final Value =
\$1581536.75, Sharpe Ratio = -19.38

Simulation Run = 8837
Weights = [0.082 0.122 0.107 0.139 0.111 0.12 0.158 0.145 0.016], Final Value =
\$1601281.58, Sharpe Ratio = -16.35

Simulation Run = 8838
Weights = [0.2 0.029 0.142 0.115 0.029 0.194 0.047 0.185 0.059], Final Value =
\$1604499.60, Sharpe Ratio = -16.36

Simulation Run = 8839
Weights = [0.148 0.025 0.163 0.163 0.049 0.108 0.167 0.005 0.172], Final Value =
\$1460607.73, Sharpe Ratio = -15.81

Simulation Run = 8840
Weights = [0.162 0.009 0.216 0.068 0.097 0.155 0.045 0.074 0.174], Final Value =
\$1461676.54, Sharpe Ratio = -18.34

Simulation Run = 8841
Weights = [0.1 0.203 0.293 0.013 0.105 0.007 0.233 0.036 0.011], Final Value =
\$1432452.93, Sharpe Ratio = -14.01

Simulation Run = 8842
Weights = [0.031 0.065 0.17 0.175 0.057 0.07 0.025 0.222 0.185], Final Value =
\$1418584.49, Sharpe Ratio = -22.46

Simulation Run = 8843
Weights = [0.134 0.162 0.157 0.063 0.161 0.166 0.031 0.062 0.065], Final Value =
\$1554764.04, Sharpe Ratio = -20.41

Simulation Run = 8844
Weights = [0.165 0.033 0.051 0.182 0.163 0.139 0.082 0.166 0.019], Final Value =
\$1694108.08, Sharpe Ratio = -18.00

Simulation Run = 8845

Weights = [0.132 0.094 0.075 0.142 0.139 0.036 0.142 0.073 0.167], Final Value = \$1473932.04, Sharpe Ratio = -19.94

Simulation Run = 8846

Weights = [0.039 0.02 0.004 0.096 0.172 0.222 0.202 0.047 0.197], Final Value = \$1543991.78, Sharpe Ratio = -15.14

Simulation Run = 8847

Weights = [0.075 0.187 0.19 0.153 0.038 0.136 0.036 0.001 0.183], Final Value = \$1396783.98, Sharpe Ratio = -21.63

Simulation Run = 8848

Weights = [0.134 0.087 0.101 0.195 0.03 0.085 0.142 0.03 0.196], Final Value = \$1441044.32, Sharpe Ratio = -18.22

Simulation Run = 8849

Weights = [0.025 0.14 0.181 0.073 0.165 0.003 0.034 0.187 0.193], Final Value = \$1364411.38, Sharpe Ratio = -26.04

Simulation Run = 8850

Weights = [0.105 0.033 0.119 0.199 0.164 0.178 0.004 0.116 0.081], Final Value = \$1624088.34, Sharpe Ratio = -19.91

Simulation Run = 8851

Weights = [0.164 0.049 0.113 0.103 0.105 0.129 0.112 0.081 0.145], Final Value = \$1515112.97, Sharpe Ratio = -18.03

Simulation Run = 8852

Weights = [0.021 0.179 0.051 0.095 0.176 0.167 0.087 0.155 0.069], Final Value = \$1580438.41, Sharpe Ratio = -20.57

Simulation Run = 8853

Weights = [0.053 0.147 0.131 0.023 0.09 0.133 0.228 0.05 0.143], Final Value = \$1435990.24, Sharpe Ratio = -14.85

Simulation Run = 8854

Weights = [0.03 0.186 0.03 0.023 0.237 0.226 0.161 0.057 0.049], Final Value = \$1621197.27, Sharpe Ratio = -16.52

Simulation Run = 8855
Weights = [0.091 0.162 0.18 0.015 0.163 0.156 0.092 0.058 0.083], Final Value =
\$1503919.52, Sharpe Ratio = -18.80

Simulation Run = 8856
Weights = [0.016 0.011 0.233 0.109 0.176 0.246 0.035 0.162 0.012], Final Value =
\$1635599.61, Sharpe Ratio = -15.96

Simulation Run = 8857
Weights = [0.058 0.1 0.127 0.106 0.06 0.024 0.212 0.147 0.168], Final Value =
\$1402576.99, Sharpe Ratio = -16.33

Simulation Run = 8858
Weights = [0.096 0.11 0.148 0.231 0.017 0.147 0.093 0.023 0.136], Final Value =
\$1492072.07, Sharpe Ratio = -18.11

Simulation Run = 8859
Weights = [0.055 0.046 0.197 0.041 0.129 0.129 0.187 0.129 0.086], Final Value =
\$1503009.99, Sharpe Ratio = -14.90

Simulation Run = 8860
Weights = [0.139 0.126 0.003 0.165 0.093 0.142 0.17 0.02 0.142], Final Value =
\$1548542.23, Sharpe Ratio = -17.12

Simulation Run = 8861
Weights = [0.064 0.171 0.02 0.068 0.205 0.151 0.003 0.18 0.139], Final Value =
\$1542280.66, Sharpe Ratio = -25.84

Simulation Run = 8862
Weights = [0.152 0.044 0.141 0.161 0.162 0.107 0.001 0.094 0.138], Final Value =
\$1533881.87, Sharpe Ratio = -22.33

Simulation Run = 8863
Weights = [0.173 0.155 0.087 0.182 0.04 0.088 0.036 0.21 0.03], Final Value =
\$1592751.14, Sharpe Ratio = -20.58

Simulation Run = 8864
Weights = [0.065 0.098 0.222 0.097 0.041 0.172 0.172 0.012 0.122], Final Value =

\$1453680.84, Sharpe Ratio = -14.77

Simulation Run = 8865

Weights = [0.194 0.128 0.073 0.161 0.027 0.123 0.09 0.152 0.053], Final Value = \$1588946.11, Sharpe Ratio = -18.06

Simulation Run = 8866

Weights = [0.142 0.07 0.152 0.112 0.093 0.108 0.151 0.07 0.103], Final Value = \$1514771.44, Sharpe Ratio = -16.50

Simulation Run = 8867

Weights = [0.113 0.016 0.104 0.184 0.139 0.123 0.155 0.16 0.007], Final Value = \$1663074.94, Sharpe Ratio = -15.46

Simulation Run = 8868

Weights = [0.161 0.046 0.187 0.156 0.06 0.045 0.135 0.078 0.132], Final Value = \$1463487.86, Sharpe Ratio = -17.19

Simulation Run = 8869

Weights = [0.126 0.183 0.091 0.195 0.169 0.077 0.031 0.029 0.099], Final Value = \$1540940.44, Sharpe Ratio = -24.83

Simulation Run = 8870

Weights = [0.195 0.017 0.108 0.079 0.105 0.038 0.174 0.223 0.061], Final Value = \$1565464.68, Sharpe Ratio = -15.75

Simulation Run = 8871

Weights = [0.184 0.016 0.211 0.012 0.019 0.004 0.207 0.125 0.222], Final Value = \$1326605.61, Sharpe Ratio = -15.02

Simulation Run = 8872

Weights = [0.006 0.233 0.256 0.267 0.109 0.025 0.007 0.067 0.031], Final Value = \$1482209.67, Sharpe Ratio = -21.20

Simulation Run = 8873

Weights = [0.103 0.16 0.132 0.061 0.151 0.145 0.17 0.031 0.047], Final Value = \$1555825.53, Sharpe Ratio = -16.19

Simulation Run = 8874
Weights = [0.122 0.088 0.137 0.104 0.085 0.1 0.073 0.156 0.134], Final Value =
\$1485621.90, Sharpe Ratio = -20.12

Simulation Run = 8875
Weights = [0.114 0.019 0.148 0.133 0.038 0.128 0.139 0.13 0.15], Final Value =
\$1484973.08, Sharpe Ratio = -16.31

Simulation Run = 8876
Weights = [0.201 0.017 0.106 0.045 0.249 0.105 0.005 0.134 0.139], Final Value =
\$1560857.26, Sharpe Ratio = -22.56

Simulation Run = 8877
Weights = [0.162 0.017 0.177 0.118 0.12 0.086 0.096 0.042 0.184], Final Value =
\$1454024.25, Sharpe Ratio = -18.95

Simulation Run = 8878
Weights = [0.076 0.1 0.09 0.147 0.15 0.081 0.099 0.105 0.152], Final Value =
\$1492845.01, Sharpe Ratio = -21.50

Simulation Run = 8879
Weights = [0.184 0.095 0.158 0.12 0.036 0.143 0.117 0.047 0.099], Final Value =
\$1519225.00, Sharpe Ratio = -16.52

Simulation Run = 8880
Weights = [0.227 0.198 0.079 0.089 0.078 0.015 0.256 0.056 0.003], Final Value =
\$1562687.56, Sharpe Ratio = -14.09

Simulation Run = 8881
Weights = [0.068 0.208 0.146 0.168 0.218 0.046 0.115 0.021 0.009], Final Value =
\$1570386.86, Sharpe Ratio = -20.24

Simulation Run = 8882
Weights = [0.1 0.078 0.1 0.078 0.171 0.169 0.04 0.143 0.121], Final Value =
\$1554343.60, Sharpe Ratio = -20.81

Simulation Run = 8883
Weights = [0.149 0.046 0.092 0.162 0.17 0.031 0.106 0.064 0.181], Final Value =
\$1483026.45, Sharpe Ratio = -21.36

Simulation Run = 8884
Weights = [0.106 0.053 0.144 0.166 0.134 0.028 0.191 0.023 0.155], Final Value =
\$1459584.02, Sharpe Ratio = -16.81

Simulation Run = 8885
Weights = [0.126 0.042 0.141 0.152 0.086 0.173 0.121 0.033 0.125], Final Value =
\$1536963.27, Sharpe Ratio = -16.54

Simulation Run = 8886
Weights = [0.006 0.191 0.06 0.138 0.192 0.098 0.152 0.043 0.118], Final Value =
\$1508716.21, Sharpe Ratio = -20.03

Simulation Run = 8887
Weights = [0.035 0.328 0.052 0.211 0.149 0.019 0.15 0.035 0.022], Final Value =
\$1539761.57, Sharpe Ratio = -20.98

Simulation Run = 8888
Weights = [0.01 0.029 0.073 0.085 0.22 0.204 0.061 0.222 0.095], Final Value =
\$1613132.67, Sharpe Ratio = -19.24

Simulation Run = 8889
Weights = [0.113 0.04 0.12 0.012 0.206 0.027 0.181 0.159 0.141], Final Value =
\$1474097.71, Sharpe Ratio = -17.45

Simulation Run = 8890
Weights = [0.066 0.103 0.073 0.08 0.135 0.148 0.152 0.129 0.115], Final Value =
\$1534599.62, Sharpe Ratio = -17.39

Simulation Run = 8891
Weights = [0.009 0.09 0.118 0.005 0.147 0.182 0.112 0.187 0.151], Final Value =
\$1480578.27, Sharpe Ratio = -18.36

Simulation Run = 8892
Weights = [0.108 0.108 0.115 0.112 0.118 0.107 0.111 0.117 0.105], Final Value =
\$1521757.43, Sharpe Ratio = -19.06

Simulation Run = 8893

Weights = [0.124 0.153 0.086 0.148 0.068 0.138 0.121 0.042 0.12], Final Value = \$1515106.87, Sharpe Ratio = -18.51

Simulation Run = 8894

Weights = [0.184 0.175 0.022 0.108 0.149 0.142 0.079 0.026 0.116], Final Value = \$1565098.91, Sharpe Ratio = -21.12

Simulation Run = 8895

Weights = [0.147 0.046 0.02 0.245 0.063 0.25 0.027 0.071 0.131], Final Value = \$1634260.97, Sharpe Ratio = -18.08

Simulation Run = 8896

Weights = [0.081 0.146 0.124 0.142 0.06 0.116 0.082 0.122 0.127], Final Value = \$1479998.00, Sharpe Ratio = -20.27

Simulation Run = 8897

Weights = [0.108 0.042 0.036 0.063 0.051 0.169 0.223 0.159 0.149], Final Value = \$1523711.71, Sharpe Ratio = -14.01

Simulation Run = 8898

Weights = [0.162 0.081 0.153 0.057 0.152 0.08 0.074 0.083 0.158], Final Value = \$1464021.85, Sharpe Ratio = -20.93

Simulation Run = 8899

Weights = [0.116 0.085 0.177 0.013 0.187 0.078 0.126 0.126 0.092], Final Value = \$1499017.44, Sharpe Ratio = -18.23

Simulation Run = 8900

Weights = [0.119 0.032 0.062 0.144 0.159 0.068 0.21 0.142 0.065], Final Value = \$1597824.56, Sharpe Ratio = -15.43

Simulation Run = 8901

Weights = [0.177 0.135 0.124 0.063 0.132 0.135 0.072 0.055 0.107], Final Value = \$1525011.93, Sharpe Ratio = -19.88

Simulation Run = 8902

Weights = [0.152 0.062 0.112 0.18 0.111 0.029 0.177 0.009 0.167], Final Value = \$1465765.45, Sharpe Ratio = -17.49

Simulation Run = 8903
Weights = [0.106 0.162 0.211 0.018 0.046 0.105 0.166 0.07 0.116], Final Value =
\$1413619.57, Sharpe Ratio = -16.08

Simulation Run = 8904
Weights = [0.069 0.145 0.053 0.234 0.11 0.108 0.136 0.001 0.144], Final Value =
\$1516235.17, Sharpe Ratio = -19.60

Simulation Run = 8905
Weights = [0.199 0.156 0.007 0.217 0.103 0.161 0.062 0.092 0.004], Final Value =
\$1699215.03, Sharpe Ratio = -18.94

Simulation Run = 8906
Weights = [0.316 0.015 0.032 0.054 0.209 0.089 0.153 0.016 0.117], Final Value =
\$1605237.96, Sharpe Ratio = -16.71

Simulation Run = 8907
Weights = [0.066 0.155 0.149 0.156 0.044 0.004 0.076 0.179 0.171], Final Value =
\$1385630.94, Sharpe Ratio = -22.83

Simulation Run = 8908
Weights = [0.062 0.058 0.118 0.232 0.055 0.152 0.022 0.074 0.227], Final Value =
\$1449414.30, Sharpe Ratio = -21.85

Simulation Run = 8909
Weights = [0.076 0.124 0.121 0.078 0.086 0.059 0.245 0.107 0.104], Final Value =
\$1467974.70, Sharpe Ratio = -14.69

Simulation Run = 8910
Weights = [0.078 0.173 0.125 0.013 0.192 0.11 0.147 0.158 0.004], Final Value =
\$1580103.24, Sharpe Ratio = -17.50

Simulation Run = 8911
Weights = [0.145 0.021 0.019 0.176 0.12 0.175 0.174 0.022 0.148], Final Value =
\$1587574.21, Sharpe Ratio = -15.73

Simulation Run = 8912
Weights = [0.169 0.021 0.126 0.018 0.121 0.154 0.117 0.154 0.121], Final Value =

\$1535422.01, Sharpe Ratio = -16.74

Simulation Run = 8913

Weights = [0.168 0.224 0.142 0.028 0.153 0.012 0.029 0.184 0.059], Final Value = \$1490432.99, Sharpe Ratio = -24.54

Simulation Run = 8914

Weights = [0.18 0.066 0.05 0.131 0.156 0.068 0.008 0.149 0.192], Final Value = \$1501611.70, Sharpe Ratio = -25.68

Simulation Run = 8915

Weights = [0.036 0.08 0.062 0.103 0.217 0.2 0.164 0.02 0.118], Final Value = \$1579291.97, Sharpe Ratio = -16.65

Simulation Run = 8916

Weights = [0.111 0.149 0.139 0.155 0.045 0.003 0.187 0.192 0.018], Final Value = \$1526705.19, Sharpe Ratio = -16.05

Simulation Run = 8917

Weights = [0.127 0.152 0.001 0.053 0.141 0.091 0.121 0.147 0.166], Final Value = \$1492556.48, Sharpe Ratio = -21.04

Simulation Run = 8918

Weights = [0.142 0.113 0.092 0.047 0.045 0.124 0.158 0.225 0.054], Final Value = \$1553015.72, Sharpe Ratio = -15.86

Simulation Run = 8919

Weights = [0.097 0.16 0.081 0.025 0.082 0.048 0.115 0.212 0.179], Final Value = \$1405597.65, Sharpe Ratio = -21.42

Simulation Run = 8920

Weights = [0.202 0.096 0.197 0.016 0.129 0.19 0.059 0.108 0.003], Final Value = \$1612667.97, Sharpe Ratio = -16.42

Simulation Run = 8921

Weights = [0.126 0.057 0.109 0.119 0.052 0.066 0.1 0.114 0.257], Final Value = \$1377438.42, Sharpe Ratio = -20.88

Simulation Run = 8922
Weights = [0.016 0.079 0.066 0.18 0.16 0.011 0.204 0.062 0.222], Final Value =
\$1413314.07, Sharpe Ratio = -18.33

Simulation Run = 8923
Weights = [0.129 0.091 0.011 0.061 0.016 0.18 0.18 0.157 0.176], Final Value =
\$1497481.51, Sharpe Ratio = -15.40

Simulation Run = 8924
Weights = [0.113 0.119 0.062 0.118 0.127 0.206 0.065 0.178 0.011], Final Value =
\$1667369.89, Sharpe Ratio = -17.89

Simulation Run = 8925
Weights = [0.167 0.314 0.092 0.01 0.048 0.133 0.02 0.182 0.034], Final Value =
\$1524060.76, Sharpe Ratio = -22.11

Simulation Run = 8926
Weights = [0.004 0.171 0.177 0.1 0.176 0.177 0.024 0.079 0.092], Final Value =
\$1514375.33, Sharpe Ratio = -21.37

Simulation Run = 8927
Weights = [0.076 0.168 0.146 0. 0.062 0.16 0.106 0.124 0.158], Final Value =
\$1422278.84, Sharpe Ratio = -18.57

Simulation Run = 8928
Weights = [0.038 0.119 0.031 0.068 0.112 0.168 0.189 0.148 0.127], Final Value =
\$1529365.32, Sharpe Ratio = -16.11

Simulation Run = 8929
Weights = [0.017 0.154 0.065 0.198 0.038 0.172 0.177 0.001 0.177], Final Value =
\$1466312.20, Sharpe Ratio = -16.68

Simulation Run = 8930
Weights = [0.175 0.062 0.168 0.197 0.102 0.031 0.102 0.118 0.045], Final Value =
\$1563132.85, Sharpe Ratio = -17.99

Simulation Run = 8931
Weights = [0.158 0.066 0.138 0.079 0.071 0.159 0.183 0.145 0.001], Final Value =
\$1620555.11, Sharpe Ratio = -13.86

Simulation Run = 8932
Weights = [0.071 0.107 0.094 0.119 0.191 0.101 0.066 0.198 0.053], Final Value =
\$1591139.60, Sharpe Ratio = -21.28

Simulation Run = 8933
Weights = [0.121 0.103 0.193 0.166 0.073 0.079 0.168 0.068 0.029], Final Value =
\$1545580.11, Sharpe Ratio = -15.44

Simulation Run = 8934
Weights = [0.005 0.071 0.112 0.087 0.098 0.063 0.183 0.223 0.157], Final Value =
\$1440118.13, Sharpe Ratio = -17.25

Simulation Run = 8935
Weights = [0.214 0.028 0.225 0.11 0.108 0.182 0.103 0.025 0.003], Final Value =
\$1629699.74, Sharpe Ratio = -14.67

Simulation Run = 8936
Weights = [0.068 0.032 0.151 0.044 0.192 0.093 0.156 0.193 0.072], Final Value =
\$1546863.14, Sharpe Ratio = -16.74

Simulation Run = 8937
Weights = [0.002 0.141 0.017 0.099 0.167 0.193 0.039 0.199 0.145], Final Value =
\$1546849.28, Sharpe Ratio = -22.67

Simulation Run = 8938
Weights = [0.077 0.163 0.075 0.068 0.131 0.091 0.048 0.192 0.156], Final Value =
\$1465749.41, Sharpe Ratio = -24.72

Simulation Run = 8939
Weights = [0.144 0.04 0.133 0.054 0.025 0.163 0.162 0.155 0.124], Final Value =
\$1504653.14, Sharpe Ratio = -14.91

Simulation Run = 8940
Weights = [0.091 0.099 0.091 0.173 0.18 0.072 0.169 0.11 0.016], Final Value =
\$1621000.73, Sharpe Ratio = -16.90

Simulation Run = 8941

Weights = [0.115 0.133 0.123 0.055 0.137 0.134 0.132 0.107 0.064], Final Value = \$1549646.55, Sharpe Ratio = -17.53

Simulation Run = 8942

Weights = [0.145 0.101 0.071 0.164 0.111 0.181 0.043 0.175 0.009], Final Value = \$1674291.15, Sharpe Ratio = -18.45

Simulation Run = 8943

Weights = [0.173 0.283 0.009 0.234 0.027 0.159 0.026 0.007 0.081], Final Value = \$1575010.26, Sharpe Ratio = -22.43

Simulation Run = 8944

Weights = [0.077 0.168 0.048 0.053 0.066 0.166 0.155 0.177 0.09], Final Value = \$1535120.07, Sharpe Ratio = -16.77

Simulation Run = 8945

Weights = [0.2 0.173 0.148 0.157 0.145 0.063 0.035 0.063 0.015], Final Value = \$1587955.95, Sharpe Ratio = -21.28

Simulation Run = 8946

Weights = [0.042 0.158 0.161 0.119 0.208 0.168 0.049 0.075 0.021], Final Value = \$1600755.74, Sharpe Ratio = -19.90

Simulation Run = 8947

Weights = [0.244 0.148 0.056 0.139 0.097 0.009 0.112 0.149 0.044], Final Value = \$1577088.55, Sharpe Ratio = -19.59

Simulation Run = 8948

Weights = [0.054 0.119 0.172 0.187 0.012 0.042 0.17 0.186 0.057], Final Value = \$1491000.07, Sharpe Ratio = -16.04

Simulation Run = 8949

Weights = [0.176 0.13 0.051 0.077 0.091 0.144 0.125 0.087 0.118], Final Value = \$1540123.66, Sharpe Ratio = -18.00

Simulation Run = 8950

Weights = [0.053 0.051 0.285 0.016 0.11 0.058 0.268 0.095 0.065], Final Value = \$1441626.82, Sharpe Ratio = -12.60

Simulation Run = 8951
Weights = [0.058 0.036 0.134 0.234 0.117 0.256 0.018 0.081 0.068], Final Value =
\$1643326.94, Sharpe Ratio = -17.30

Simulation Run = 8952
Weights = [0.042 0.029 0.116 0.115 0.178 0.282 0.029 0.114 0.095], Final Value =
\$1625201.05, Sharpe Ratio = -17.45

Simulation Run = 8953
Weights = [0.096 0.009 0.005 0.139 0.253 0.227 0.119 0.076 0.074], Final Value =
\$1701408.54, Sharpe Ratio = -16.75

Simulation Run = 8954
Weights = [0.087 0.129 0.25 0.086 0.264 0.057 0.046 0.005 0.077], Final Value =
\$1494339.24, Sharpe Ratio = -21.29

Simulation Run = 8955
Weights = [0.069 0.171 0.159 0.162 0.059 0.172 0.04 0.04 0.13], Final Value =
\$1480251.79, Sharpe Ratio = -20.39

Simulation Run = 8956
Weights = [0.037 0.141 0.061 0.008 0.21 0.067 0.249 0.123 0.105], Final Value =
\$1499853.76, Sharpe Ratio = -15.50

Simulation Run = 8957
Weights = [0.045 0.267 0.053 0.262 0.179 0.09 0.051 0.045 0.009], Final Value =
\$1620390.44, Sharpe Ratio = -23.93

Simulation Run = 8958
Weights = [0.059 0.089 0.155 0.023 0.088 0.021 0.175 0.173 0.218], Final Value =
\$1340641.72, Sharpe Ratio = -18.04

Simulation Run = 8959
Weights = [0.164 0.118 0.085 0.082 0.163 0.135 0.124 0.024 0.105], Final Value =
\$1553085.27, Sharpe Ratio = -18.42

Simulation Run = 8960
Weights = [0.057 0.115 0.198 0.175 0.127 0.166 0.12 0.025 0.018], Final Value =

\$1588010.98, Sharpe Ratio = -16.25

Simulation Run = 8961

Weights = [0.205 0.122 0.16 0.044 0.109 0.096 0.11 0.041 0.113], Final Value = \$1486288.18, Sharpe Ratio = -18.34

Simulation Run = 8962

Weights = [0.174 0.23 0.065 0.002 0.12 0.039 0.037 0.136 0.197], Final Value = \$1395666.23, Sharpe Ratio = -27.12

Simulation Run = 8963

Weights = [0.194 0.014 0.124 0.246 0.019 0.105 0.099 0.046 0.152], Final Value = \$1519889.14, Sharpe Ratio = -17.53

Simulation Run = 8964

Weights = [0.134 0.065 0.139 0.089 0.198 0.14 0.091 0.075 0.068], Final Value = \$1588133.57, Sharpe Ratio = -18.43

Simulation Run = 8965

Weights = [0.121 0.152 0.096 0.053 0.074 0.143 0.083 0.136 0.141], Final Value = \$1479249.98, Sharpe Ratio = -19.97

Simulation Run = 8966

Weights = [0.052 0.056 0.146 0.034 0.151 0.175 0.106 0.175 0.106], Final Value = \$1530631.05, Sharpe Ratio = -17.52

Simulation Run = 8967

Weights = [0.171 0.004 0.133 0.09 0.109 0.216 0.169 0.061 0.047], Final Value = \$1633626.94, Sharpe Ratio = -13.68

Simulation Run = 8968

Weights = [0.057 0.004 0.119 0.091 0.295 0.097 0.076 0.039 0.221], Final Value = \$1472862.95, Sharpe Ratio = -22.70

Simulation Run = 8969

Weights = [0.116 0.171 0.158 0.083 0.069 0.161 0.098 0.038 0.107], Final Value = \$1486362.67, Sharpe Ratio = -18.26

Simulation Run = 8970
Weights = [0.085 0.162 0.136 0.177 0.057 0.133 0.066 0.182 0.001], Final Value =
\$1597907.59, Sharpe Ratio = -18.54

Simulation Run = 8971
Weights = [0.146 0.012 0.146 0.149 0.093 0.137 0.014 0.153 0.149], Final Value =
\$1521919.18, Sharpe Ratio = -20.20

Simulation Run = 8972
Weights = [0.004 0.217 0.024 0.196 0.117 0.098 0.2 0.049 0.095], Final Value =
\$1527262.63, Sharpe Ratio = -17.47

Simulation Run = 8973
Weights = [0.019 0.115 0.13 0.13 0.076 0.15 0.176 0.193 0.011], Final Value =
\$1587750.05, Sharpe Ratio = -15.10

Simulation Run = 8974
Weights = [0.124 0.052 0.093 0.202 0.092 0.118 0.034 0.221 0.064], Final Value =
\$1607943.03, Sharpe Ratio = -19.97

Simulation Run = 8975
Weights = [0.08 0.104 0.121 0.013 0.218 0.106 0.184 0.026 0.149], Final Value =
\$1472867.77, Sharpe Ratio = -17.20

Simulation Run = 8976
Weights = [0.159 0.156 0.053 0.076 0.134 0.045 0.013 0.177 0.187], Final Value =
\$1451055.36, Sharpe Ratio = -27.72

Simulation Run = 8977
Weights = [0.13 0.117 0.123 0.103 0.153 0.093 0.124 0.106 0.052], Final Value =
\$1566472.21, Sharpe Ratio = -18.30

Simulation Run = 8978
Weights = [0.059 0.094 0.129 0.141 0.136 0.041 0.185 0.165 0.05], Final Value =
\$1542093.12, Sharpe Ratio = -16.52

Simulation Run = 8979
Weights = [0.206 0.188 0.001 0.188 0.12 0.192 0.032 0.016 0.056], Final Value =
\$1657740.30, Sharpe Ratio = -20.42

Simulation Run = 8980
Weights = [0.206 0.001 0.102 0.085 0.127 0.077 0.06 0.134 0.208], Final Value =
\$1470619.01, Sharpe Ratio = -21.16

Simulation Run = 8981
Weights = [0.137 0.102 0.12 0.041 0.19 0.098 0.164 0.037 0.11], Final Value =
\$1516139.02, Sharpe Ratio = -17.38

Simulation Run = 8982
Weights = [0.123 0.176 0.174 0.034 0.185 0.065 0.213 0.024 0.007], Final Value =
\$1543332.11, Sharpe Ratio = -15.26

Simulation Run = 8983
Weights = [0.008 0.107 0.158 0.105 0.158 0.17 0.039 0.18 0.075], Final Value =
\$1550343.38, Sharpe Ratio = -20.10

Simulation Run = 8984
Weights = [0.103 0.036 0.103 0.21 0.157 0.067 0.217 0.059 0.046], Final Value =
\$1605127.57, Sharpe Ratio = -14.89

Simulation Run = 8985
Weights = [0.051 0.055 0.21 0.041 0.152 0.198 0.241 0.006 0.046], Final Value =
\$1555150.43, Sharpe Ratio = -12.66

Simulation Run = 8986
Weights = [0.103 0.109 0.143 0.176 0.01 0.157 0.146 0.043 0.114], Final Value =
\$1502709.63, Sharpe Ratio = -16.00

Simulation Run = 8987
Weights = [0. 0.053 0.196 0.132 0.025 0.202 0.129 0.064 0.199], Final Value =
\$1415815.33, Sharpe Ratio = -16.09

Simulation Run = 8988
Weights = [0.043 0.211 0.054 0.161 0.019 0.234 0.138 0.009 0.131], Final Value =
\$1512980.26, Sharpe Ratio = -16.73

Simulation Run = 8989

Weights = [0.116 0.016 0.087 0.169 0.031 0.074 0.21 0.214 0.085], Final Value = \$1551348.99, Sharpe Ratio = -14.53

Simulation Run = 8990

Weights = [0.025 0.106 0.066 0.108 0.15 0.111 0.17 0.19 0.075], Final Value = \$1560635.37, Sharpe Ratio = -17.27

Simulation Run = 8991

Weights = [0.072 0.119 0.02 0.147 0.102 0.108 0.163 0.188 0.08], Final Value = \$1575778.61, Sharpe Ratio = -17.49

Simulation Run = 8992

Weights = [0.216 0.006 0.198 0.048 0.172 0.158 0.085 0.019 0.097], Final Value = \$1558796.93, Sharpe Ratio = -16.80

Simulation Run = 8993

Weights = [0.162 0.183 0.078 0.137 0.037 0.201 0.174 0.024 0.003], Final Value = \$1629421.76, Sharpe Ratio = -14.49

Simulation Run = 8994

Weights = [0.048 0.188 0.088 0.073 0.131 0.09 0.162 0.194 0.027], Final Value = \$1555914.83, Sharpe Ratio = -17.69

Simulation Run = 8995

Weights = [0.232 0.178 0.059 0.116 0.099 0.136 0.093 0.076 0.01], Final Value = \$1637253.30, Sharpe Ratio = -18.19

Simulation Run = 8996

Weights = [0.082 0.081 0.066 0.086 0.085 0.199 0.147 0.082 0.173], Final Value = \$1502460.14, Sharpe Ratio = -16.66

Simulation Run = 8997

Weights = [0.065 0.069 0.165 0.097 0.111 0.124 0.153 0.029 0.188], Final Value = \$1428137.94, Sharpe Ratio = -17.34

Simulation Run = 8998

Weights = [0.103 0.154 0.147 0.034 0.149 0.125 0.039 0.093 0.156], Final Value = \$1450797.10, Sharpe Ratio = -22.80

Simulation Run = 8999
Weights = [0.096 0.106 0.117 0.193 0.158 0.109 0.017 0.167 0.037], Final Value =
\$1613325.13, Sharpe Ratio = -21.54

Simulation Run = 9000
Weights = [0.157 0.083 0.189 0.157 0.003 0.063 0.168 0.091 0.09], Final Value =
\$1480179.53, Sharpe Ratio = -15.43

Simulation Run = 9001
Weights = [0.163 0.166 0.113 0.176 0.056 0.066 0.041 0.055 0.165], Final Value =
\$1449835.94, Sharpe Ratio = -23.57

Simulation Run = 9002
Weights = [0.088 0.169 0.11 0.112 0.143 0.069 0.082 0.156 0.07], Final Value =
\$1529052.49, Sharpe Ratio = -21.69

Simulation Run = 9003
Weights = [0.103 0.249 0.132 0.026 0.168 0.022 0.134 0.084 0.081], Final Value =
\$1456129.42, Sharpe Ratio = -20.76

Simulation Run = 9004
Weights = [0.151 0.009 0.062 0.092 0.214 0.086 0.094 0.151 0.141], Final Value =
\$1559452.92, Sharpe Ratio = -20.42

Simulation Run = 9005
Weights = [0.229 0.158 0.047 0.166 0.11 0.107 0.096 0.084 0.002], Final Value =
\$1657011.81, Sharpe Ratio = -18.55

Simulation Run = 9006
Weights = [0.065 0.163 0.169 0.171 0.133 0.173 0.006 0.058 0.062], Final Value =
\$1560365.31, Sharpe Ratio = -20.76

Simulation Run = 9007
Weights = [0.139 0.043 0.091 0.111 0.156 0.119 0.189 0.104 0.049], Final Value =
\$1612427.80, Sharpe Ratio = -15.21

Simulation Run = 9008
Weights = [0.105 0.155 0.04 0.098 0.092 0.166 0.154 0.038 0.15], Final Value =

\$1507522.32, Sharpe Ratio = -17.51

Simulation Run = 9009

Weights = [0.195 0.066 0.179 0.068 0.03 0.189 0.185 0.006 0.082], Final Value = \$1534334.29, Sharpe Ratio = -13.52

Simulation Run = 9010

Weights = [0.133 0.03 0.111 0.177 0.074 0.036 0.065 0.166 0.208], Final Value = \$1438104.51, Sharpe Ratio = -22.14

Simulation Run = 9011

Weights = [0.228 0.022 0.097 0.023 0.145 0.019 0.156 0.182 0.128], Final Value = \$1506220.18, Sharpe Ratio = -17.39

Simulation Run = 9012

Weights = [0.184 0.197 0.032 0.029 0.029 0.224 0.078 0.056 0.172], Final Value = \$1489404.04, Sharpe Ratio = -18.37

Simulation Run = 9013

Weights = [0.171 0.071 0.077 0.039 0.157 0.154 0.023 0.136 0.17], Final Value = \$1517779.53, Sharpe Ratio = -21.83

Simulation Run = 9014

Weights = [0.279 0.011 0.206 0.02 0.064 0.179 0.069 0.01 0.16], Final Value = \$1485165.45, Sharpe Ratio = -16.28

Simulation Run = 9015

Weights = [0.193 0.18 0.155 0.049 0.093 0.04 0.045 0.185 0.06], Final Value = \$1500352.23, Sharpe Ratio = -21.62

Simulation Run = 9016

Weights = [0.101 0.073 0.142 0.141 0.056 0.166 0.166 0.071 0.084], Final Value = \$1545087.37, Sharpe Ratio = -15.08

Simulation Run = 9017

Weights = [0.025 0.108 0.128 0.212 0.08 0.063 0.153 0.092 0.137], Final Value = \$1465498.51, Sharpe Ratio = -18.26

Simulation Run = 9018
Weights = [0.053 0.097 0.103 0.3 0.01 0.176 0.126 0.08 0.055], Final Value =
\$1601026.50, Sharpe Ratio = -15.97

Simulation Run = 9019
Weights = [0.011 0.297 0.011 0.051 0.154 0.275 0.017 0.02 0.164], Final Value =
\$1505887.78, Sharpe Ratio = -21.96

Simulation Run = 9020
Weights = [0.002 0.159 0.156 0.04 0.184 0.141 0. 0.2 0.116], Final Value =
\$1483738.97, Sharpe Ratio = -23.83

Simulation Run = 9021
Weights = [0.104 0.17 0.113 0.07 0.157 0.034 0.093 0.088 0.17], Final Value =
\$1420786.56, Sharpe Ratio = -23.43

Simulation Run = 9022
Weights = [0.086 0.105 0.077 0.086 0.098 0.203 0.214 0.109 0.022], Final Value =
\$1625510.50, Sharpe Ratio = -13.62

Simulation Run = 9023
Weights = [0.189 0.13 0.181 0.092 0.003 0.133 0.152 0.116 0.005], Final Value =
\$1564384.65, Sharpe Ratio = -14.62

Simulation Run = 9024
Weights = [0.09 0.161 0.031 0.155 0.002 0.221 0.052 0.204 0.084], Final Value =
\$1585048.47, Sharpe Ratio = -18.42

Simulation Run = 9025
Weights = [0.076 0.015 0.207 0.122 0.222 0.045 0.176 0.133 0.003], Final Value =
\$1594006.41, Sharpe Ratio = -15.41

Simulation Run = 9026
Weights = [0.025 0.092 0.101 0.255 0.228 0.164 0.007 0.113 0.015], Final Value =
\$1681798.53, Sharpe Ratio = -20.75

Simulation Run = 9027
Weights = [0.031 0.074 0.15 0.144 0.177 0.021 0.119 0.174 0.111], Final Value =
\$1487269.96, Sharpe Ratio = -20.12

Simulation Run = 9028
Weights = [0.005 0.284 0.05 0.011 0.242 0.012 0.134 0.216 0.045], Final Value =
\$1509202.79, Sharpe Ratio = -22.65

Simulation Run = 9029
Weights = [0.089 0.165 0.174 0.12 0.133 0.101 0.047 0.09 0.081], Final Value =
\$1505722.47, Sharpe Ratio = -21.49

Simulation Run = 9030
Weights = [0.059 0.161 0.157 0.078 0.109 0.125 0.167 0.077 0.068], Final Value =
\$1506985.82, Sharpe Ratio = -16.49

Simulation Run = 9031
Weights = [0.141 0.081 0.162 0.037 0.058 0.18 0.074 0.148 0.119], Final Value =
\$1501781.72, Sharpe Ratio = -17.51

Simulation Run = 9032
Weights = [0.271 0.014 0.105 0.045 0.052 0.064 0.076 0.245 0.127], Final Value =
\$1517354.21, Sharpe Ratio = -18.36

Simulation Run = 9033
Weights = [0.127 0.193 0.101 0.044 0.189 0.079 0.143 0.094 0.031], Final Value =
\$1562306.14, Sharpe Ratio = -18.65

Simulation Run = 9034
Weights = [0.038 0.126 0.112 0.091 0.164 0.104 0.065 0.134 0.166], Final Value =
\$1460564.25, Sharpe Ratio = -23.22

Simulation Run = 9035
Weights = [0.047 0.093 0.02 0.255 0.081 0.012 0.126 0.175 0.191], Final Value =
\$1464440.40, Sharpe Ratio = -21.74

Simulation Run = 9036
Weights = [0.038 0.142 0.101 0.115 0.083 0.135 0.165 0.096 0.126], Final Value =
\$1485596.61, Sharpe Ratio = -17.17

Simulation Run = 9037

Weights = [0.102 0.163 0.169 0.061 0.185 0.041 0.102 0.04 0.136], Final Value = \$1435349.58, Sharpe Ratio = -21.59

Simulation Run = 9038

Weights = [0.062 0.077 0.064 0.151 0.128 0.062 0.135 0.183 0.137], Final Value = \$1509068.74, Sharpe Ratio = -19.65

Simulation Run = 9039

Weights = [0.106 0.035 0.056 0.141 0.26 0.102 0.072 0.072 0.155], Final Value = \$1562157.46, Sharpe Ratio = -22.44

Simulation Run = 9040

Weights = [0.137 0.008 0.046 0.112 0.167 0.201 0.054 0.108 0.166], Final Value = \$1578495.96, Sharpe Ratio = -19.40

Simulation Run = 9041

Weights = [0.138 0.031 0.079 0.025 0.135 0.186 0.202 0.102 0.1], Final Value = \$1575494.35, Sharpe Ratio = -14.16

Simulation Run = 9042

Weights = [0.052 0.181 0.026 0.083 0.177 0.005 0.153 0.144 0.179], Final Value = \$1431750.49, Sharpe Ratio = -22.00

Simulation Run = 9043

Weights = [0.07 0.105 0.131 0.176 0.07 0.048 0.018 0.117 0.265], Final Value = \$1353994.74, Sharpe Ratio = -26.28

Simulation Run = 9044

Weights = [0.138 0.13 0.085 0.117 0.094 0.019 0.184 0.131 0.102], Final Value = \$1493804.25, Sharpe Ratio = -17.39

Simulation Run = 9045

Weights = [0.026 0.113 0.148 0.157 0.065 0.135 0.184 0.068 0.104], Final Value = \$1493606.92, Sharpe Ratio = -15.65

Simulation Run = 9046

Weights = [0.206 0.023 0.102 0.102 0.185 0.078 0.101 0.107 0.097], Final Value = \$1577772.03, Sharpe Ratio = -18.88

Simulation Run = 9047
Weights = [0.18 0.176 0.136 0.166 0.08 0.13 0.01 0.047 0.074], Final Value =
\$1549768.43, Sharpe Ratio = -21.37

Simulation Run = 9048
Weights = [0.181 0.093 0.003 0.2 0.069 0.094 0.147 0.148 0.064], Final Value =
\$1620713.00, Sharpe Ratio = -17.21

Simulation Run = 9049
Weights = [0.11 0.105 0.113 0.073 0.024 0.11 0.131 0.168 0.167], Final Value =
\$1437829.27, Sharpe Ratio = -17.97

Simulation Run = 9050
Weights = [0.11 0.148 0.094 0.125 0.117 0.147 0.011 0.102 0.145], Final Value =
\$1507130.35, Sharpe Ratio = -23.41

Simulation Run = 9051
Weights = [0.11 0.061 0.061 0.218 0.034 0.148 0.161 0.146 0.062], Final Value =
\$1609194.40, Sharpe Ratio = -15.44

Simulation Run = 9052
Weights = [0.087 0.045 0.201 0.175 0.136 0.144 0.078 0.041 0.091], Final Value =
\$1544049.25, Sharpe Ratio = -17.87

Simulation Run = 9053
Weights = [0.082 0.12 0.101 0.137 0.186 0.178 0.089 0.039 0.068], Final Value =
\$1600299.48, Sharpe Ratio = -18.95

Simulation Run = 9054
Weights = [0.086 0.103 0.169 0.042 0.18 0.091 0.115 0.034 0.179], Final Value =
\$1423885.98, Sharpe Ratio = -19.98

Simulation Run = 9055
Weights = [0.135 0.01 0.11 0.178 0.148 0.101 0.058 0.172 0.087], Final Value =
\$1594403.84, Sharpe Ratio = -19.72

Simulation Run = 9056
Weights = [0.192 0.104 0.062 0.185 0.113 0.106 0.022 0.009 0.206], Final Value =

\$1487276.94, Sharpe Ratio = -24.26

Simulation Run = 9057

Weights = [0.088 0.097 0.181 0.119 0.161 0.174 0.04 0.042 0.098], Final Value = \$1539378.18, Sharpe Ratio = -19.62

Simulation Run = 9058

Weights = [0.099 0.165 0.144 0.061 0.015 0.162 0.038 0.179 0.138], Final Value = \$1451715.15, Sharpe Ratio = -20.16

Simulation Run = 9059

Weights = [0.08 0.079 0.162 0.091 0.074 0.134 0.186 0.148 0.045], Final Value = \$1549084.52, Sharpe Ratio = -14.64

Simulation Run = 9060

Weights = [0.051 0.032 0.033 0.102 0.313 0.121 0.187 0.092 0.069], Final Value = \$1644858.94, Sharpe Ratio = -16.71

Simulation Run = 9061

Weights = [0.117 0.02 0.186 0.095 0.097 0.101 0.113 0.204 0.067], Final Value = \$1541454.97, Sharpe Ratio = -16.69

Simulation Run = 9062

Weights = [0.112 0.104 0.087 0.143 0.089 0.184 0.126 0.089 0.065], Final Value = \$1596684.66, Sharpe Ratio = -16.59

Simulation Run = 9063

Weights = [0.111 0.004 0.229 0.057 0.253 0.082 0.039 0.21 0.014], Final Value = \$1601604.90, Sharpe Ratio = -18.70

Simulation Run = 9064

Weights = [0.077 0.016 0.121 0.127 0.146 0.109 0.104 0.151 0.15], Final Value = \$1510786.51, Sharpe Ratio = -19.15

Simulation Run = 9065

Weights = [0.185 0.116 0.026 0.05 0.126 0.129 0.152 0.187 0.028], Final Value = \$1633049.02, Sharpe Ratio = -16.44

Simulation Run = 9066
Weights = [0.02 0.17 0.17 0.032 0.098 0.131 0.096 0.129 0.155], Final Value =
\$1409904.31, Sharpe Ratio = -20.00

Simulation Run = 9067
Weights = [0.037 0.143 0.021 0.164 0.075 0.152 0.15 0.128 0.132], Final Value =
\$1529323.55, Sharpe Ratio = -18.01

Simulation Run = 9068
Weights = [0.002 0.205 0.101 0.082 0.141 0.089 0.078 0.11 0.191], Final Value =
\$1400834.51, Sharpe Ratio = -24.65

Simulation Run = 9069
Weights = [0.161 0.116 0.155 0.069 0.055 0.035 0.155 0.096 0.158], Final Value =
\$1410282.11, Sharpe Ratio = -17.75

Simulation Run = 9070
Weights = [0.167 0.061 0.092 0.116 0.036 0.051 0.127 0.172 0.177], Final Value =
\$1449833.22, Sharpe Ratio = -18.73

Simulation Run = 9071
Weights = [0.028 0.065 0.225 0.081 0.017 0.155 0.066 0.218 0.144], Final Value =
\$1429905.66, Sharpe Ratio = -17.71

Simulation Run = 9072
Weights = [0.056 0.223 0.006 0.156 0.057 0.207 0.257 0.012 0.027], Final Value =
\$1615374.00, Sharpe Ratio = -13.26

Simulation Run = 9073
Weights = [0.132 0.138 0.104 0.092 0.059 0.106 0.192 0.013 0.164], Final Value =
\$1443952.09, Sharpe Ratio = -16.30

Simulation Run = 9074
Weights = [0.129 0.011 0.158 0.16 0.178 0.096 0.071 0.006 0.19], Final Value =
\$1480085.69, Sharpe Ratio = -20.67

Simulation Run = 9075
Weights = [0.147 0.194 0.004 0.033 0.089 0.058 0.166 0.171 0.138], Final Value =
\$1476144.74, Sharpe Ratio = -18.79

Simulation Run = 9076
Weights = [0.072 0.228 0.098 0.238 0.023 0.097 0.098 0.098 0.048], Final Value =
\$1539375.39, Sharpe Ratio = -19.64

Simulation Run = 9077
Weights = [0.296 0.033 0.06 0.044 0.204 0.131 0.105 0.088 0.039], Final Value =
\$1670227.41, Sharpe Ratio = -16.91

Simulation Run = 9078
Weights = [0.208 0.098 0.068 0.16 0.124 0.019 0.002 0.191 0.131], Final Value =
\$1525319.62, Sharpe Ratio = -25.24

Simulation Run = 9079
Weights = [0.017 0.224 0.23 0.072 0.075 0.089 0.224 0.013 0.057], Final Value =
\$1433875.06, Sharpe Ratio = -14.69

Simulation Run = 9080
Weights = [0.036 0.092 0.172 0.097 0.152 0.11 0.189 0.004 0.148], Final Value =
\$1451072.69, Sharpe Ratio = -16.35

Simulation Run = 9081
Weights = [0.109 0.076 0.05 0.078 0.076 0.2 0.016 0.184 0.21], Final Value =
\$1488763.08, Sharpe Ratio = -21.20

Simulation Run = 9082
Weights = [0.137 0.172 0.132 0.104 0.159 0.051 0.023 0.097 0.124], Final Value =
\$1477178.99, Sharpe Ratio = -25.27

Simulation Run = 9083
Weights = [0.11 0.037 0.301 0.024 0.095 0.013 0.215 0.038 0.168], Final Value =
\$1340867.59, Sharpe Ratio = -14.46

Simulation Run = 9084
Weights = [0.053 0.175 0.209 0.072 0.007 0.177 0.144 0.149 0.015], Final Value =
\$1521677.71, Sharpe Ratio = -14.93

Simulation Run = 9085

Weights = [0.14 0.177 0.012 0.124 0.084 0.193 0.054 0.096 0.119], Final Value = \$1567024.28, Sharpe Ratio = -20.45

Simulation Run = 9086

Weights = [0.099 0.053 0.074 0.085 0.112 0.134 0.155 0.165 0.124], Final Value = \$1536690.30, Sharpe Ratio = -16.84

Simulation Run = 9087

Weights = [0.056 0.171 0.135 0.015 0.164 0.027 0.176 0.138 0.118], Final Value = \$1432085.59, Sharpe Ratio = -18.49

Simulation Run = 9088

Weights = [0.002 0.077 0.162 0.178 0.119 0.198 0.041 0.106 0.116], Final Value = \$1534314.63, Sharpe Ratio = -19.18

Simulation Run = 9089

Weights = [0.255 0.063 0.071 0.043 0.147 0.008 0.19 0.166 0.056], Final Value = \$1572021.84, Sharpe Ratio = -15.96

Simulation Run = 9090

Weights = [0.016 0.195 0.126 0.023 0.122 0.028 0.189 0.112 0.188], Final Value = \$1351192.33, Sharpe Ratio = -18.65

Simulation Run = 9091

Weights = [0.259 0.071 0.008 0.013 0.101 0.041 0.243 0.026 0.239], Final Value = \$1423832.84, Sharpe Ratio = -15.13

Simulation Run = 9092

Weights = [0.154 0.124 0.158 0.054 0.081 0.069 0.126 0.192 0.043], Final Value = \$1526393.32, Sharpe Ratio = -17.41

Simulation Run = 9093

Weights = [0.086 0.182 0.179 0.154 0.057 0.002 0.128 0.187 0.025], Final Value = \$1496334.50, Sharpe Ratio = -18.31

Simulation Run = 9094

Weights = [0.077 0.172 0.221 0.106 0.145 0.038 0.041 0.192 0.007], Final Value = \$1526488.00, Sharpe Ratio = -20.80

Simulation Run = 9095
Weights = [0.155 0.077 0.166 0.078 0.026 0.196 0.025 0.158 0.119], Final Value =
\$1513123.72, Sharpe Ratio = -18.02

Simulation Run = 9096
Weights = [0.089 0.16 0.083 0.154 0.139 0.139 0.143 0.053 0.041], Final Value =
\$1596582.47, Sharpe Ratio = -17.57

Simulation Run = 9097
Weights = [0.012 0.022 0.143 0.084 0.14 0.171 0.186 0.171 0.071], Final Value =
\$1566574.22, Sharpe Ratio = -14.67

Simulation Run = 9098
Weights = [0.1 0.17 0.011 0.023 0.193 0.077 0.163 0.157 0.106], Final Value =
\$1531133.42, Sharpe Ratio = -19.11

Simulation Run = 9099
Weights = [0.079 0.014 0.169 0.026 0.125 0.148 0.14 0.118 0.181], Final Value =
\$1449969.60, Sharpe Ratio = -16.75

Simulation Run = 9100
Weights = [0.173 0.076 0.174 0.035 0.143 0.063 0.152 0.167 0.018], Final Value =
\$1564921.69, Sharpe Ratio = -16.10

Simulation Run = 9101
Weights = [0.118 0.034 0.123 0.178 0.198 0.208 0.003 0.001 0.138], Final Value =
\$1586811.11, Sharpe Ratio = -20.32

Simulation Run = 9102
Weights = [0.039 0.135 0.155 0.16 0.15 0.005 0.124 0.089 0.142], Final Value =
\$1431997.96, Sharpe Ratio = -20.91

Simulation Run = 9103
Weights = [0.194 0.068 0.001 0.135 0.137 0.215 0.1 0.056 0.094], Final Value =
\$1653094.06, Sharpe Ratio = -17.11

Simulation Run = 9104
Weights = [0.186 0.069 0.169 0.114 0.085 0.006 0.056 0.103 0.212], Final Value =

\$1387099.37, Sharpe Ratio = -22.38

Simulation Run = 9105

Weights = [0.057 0.165 0.012 0.133 0.155 0.018 0.148 0.192 0.118], Final Value = \$1507555.88, Sharpe Ratio = -21.13

Simulation Run = 9106

Weights = [0.147 0.108 0.103 0.015 0.131 0.08 0.158 0.165 0.093], Final Value = \$1513783.58, Sharpe Ratio = -17.32

Simulation Run = 9107

Weights = [0.203 0.014 0.012 0.215 0.042 0.144 0.13 0.097 0.144], Final Value = \$1587963.45, Sharpe Ratio = -16.74

Simulation Run = 9108

Weights = [0.19 0.002 0.073 0.036 0.101 0.193 0.158 0.047 0.201], Final Value = \$1505070.62, Sharpe Ratio = -15.48

Simulation Run = 9109

Weights = [0.136 0.183 0.163 0.114 0.004 0.136 0.139 0.048 0.077], Final Value = \$1490263.74, Sharpe Ratio = -16.42

Simulation Run = 9110

Weights = [0.139 0.115 0.078 0.014 0.147 0.111 0.14 0.154 0.102], Final Value = \$1529125.41, Sharpe Ratio = -18.03

Simulation Run = 9111

Weights = [0.164 0.081 0.079 0.156 0.165 0.009 0.06 0.153 0.133], Final Value = \$1517011.14, Sharpe Ratio = -23.65

Simulation Run = 9112

Weights = [0.172 0.132 0.101 0.06 0.044 0.165 0.163 0.072 0.093], Final Value = \$1530332.62, Sharpe Ratio = -15.50

Simulation Run = 9113

Weights = [0.162 0.185 0.111 0.067 0.026 0.02 0.176 0.037 0.216], Final Value = \$1343768.97, Sharpe Ratio = -18.29

Simulation Run = 9114
Weights = [0.11 0.15 0.132 0.007 0.212 0.079 0.115 0.144 0.052], Final Value =
\$1540201.45, Sharpe Ratio = -19.56

Simulation Run = 9115
Weights = [0.048 0.149 0.018 0.012 0.193 0.131 0.217 0.055 0.177], Final Value =
\$1474863.68, Sharpe Ratio = -16.52

Simulation Run = 9116
Weights = [0.094 0.097 0.045 0.155 0.171 0.193 0.107 0.118 0.02], Final Value =
\$1679695.00, Sharpe Ratio = -17.38

Simulation Run = 9117
Weights = [0.166 0.105 0.105 0.079 0.142 0.093 0.13 0.016 0.163], Final Value =
\$1475819.73, Sharpe Ratio = -19.15

Simulation Run = 9118
Weights = [0.084 0.091 0.153 0.111 0.177 0.289 0.007 0.039 0.05], Final Value =
\$1641356.11, Sharpe Ratio = -17.35

Simulation Run = 9119
Weights = [0.133 0.14 0.122 0.111 0.071 0.068 0.072 0.213 0.071], Final Value =
\$1521284.36, Sharpe Ratio = -20.50

Simulation Run = 9120
Weights = [0.13 0.172 0.145 0.106 0.092 0.093 0.073 0.086 0.103], Final Value =
\$1485737.41, Sharpe Ratio = -20.87

Simulation Run = 9121
Weights = [0.022 0.018 0.226 0.116 0.11 0.229 0.206 0.003 0.07], Final Value =
\$1552264.44, Sharpe Ratio = -12.89

Simulation Run = 9122
Weights = [0.163 0.046 0.041 0.092 0.155 0.078 0.173 0.103 0.15], Final Value =
\$1528914.26, Sharpe Ratio = -17.39

Simulation Run = 9123
Weights = [0.164 0.161 0.036 0.118 0.141 0.198 0.16 0.012 0.009], Final Value =
\$1669704.20, Sharpe Ratio = -15.58

Simulation Run = 9124
Weights = [0.176 0. 0.217 0.228 0.019 0.008 0.109 0.184 0.058], Final Value =
\$1527359.63, Sharpe Ratio = -16.19

Simulation Run = 9125
Weights = [0.039 0.172 0.179 0.018 0.072 0.184 0.149 0.136 0.052], Final Value =
\$1506136.27, Sharpe Ratio = -15.69

Simulation Run = 9126
Weights = [0.17 0.026 0.159 0.143 0.057 0.072 0.171 0.109 0.091], Final Value =
\$1523575.65, Sharpe Ratio = -15.36

Simulation Run = 9127
Weights = [0.014 0.073 0.034 0.067 0.077 0.072 0.303 0.052 0.308], Final Value =
\$1324074.26, Sharpe Ratio = -14.00

Simulation Run = 9128
Weights = [0.058 0.172 0.02 0.093 0.293 0.054 0.053 0.076 0.182], Final Value =
\$1488685.64, Sharpe Ratio = -28.49

Simulation Run = 9129
Weights = [0.143 0.121 0.046 0.038 0.113 0.109 0.133 0.117 0.179], Final Value =
\$1469114.59, Sharpe Ratio = -19.22

Simulation Run = 9130
Weights = [0.057 0.236 0.201 0.072 0.011 0.03 0.058 0.179 0.155], Final Value =
\$1338746.74, Sharpe Ratio = -22.64

Simulation Run = 9131
Weights = [0.176 0.13 0.157 0.03 0.108 0.068 0.166 0.082 0.083], Final Value =
\$1490212.31, Sharpe Ratio = -16.61

Simulation Run = 9132
Weights = [0.069 0.073 0.139 0.116 0.14 0.137 0.014 0.166 0.146], Final Value =
\$1502608.51, Sharpe Ratio = -22.21

Simulation Run = 9133

Weights = [0.193 0.117 0.003 0.195 0.137 0.138 0.038 0.146 0.033], Final Value = \$1682183.94, Sharpe Ratio = -20.58

Simulation Run = 9134

Weights = [0.189 0.004 0.258 0.238 0.039 0.061 0.205 0.006 0.001], Final Value = \$1579381.33, Sharpe Ratio = -12.86

Simulation Run = 9135

Weights = [0.152 0.102 0.051 0.139 0.111 0.108 0.144 0.122 0.07], Final Value = \$1590129.18, Sharpe Ratio = -17.50

Simulation Run = 9136

Weights = [0.083 0.162 0.214 0.168 0.146 0.116 0.033 0.042 0.036], Final Value = \$1547340.80, Sharpe Ratio = -20.14

Simulation Run = 9137

Weights = [0.196 0.082 0.007 0.158 0.079 0.029 0.113 0.169 0.166], Final Value = \$1506538.64, Sharpe Ratio = -20.74

Simulation Run = 9138

Weights = [0.171 0.172 0.078 0.204 0.059 0.017 0.133 0.149 0.017], Final Value = \$1578719.32, Sharpe Ratio = -18.49

Simulation Run = 9139

Weights = [0.007 0.212 0.211 0.07 0.088 0.128 0.104 0.048 0.132], Final Value = \$1401845.94, Sharpe Ratio = -19.34

Simulation Run = 9140

Weights = [0.042 0.025 0.226 0.196 0.015 0.091 0.038 0.17 0.196], Final Value = \$1399082.24, Sharpe Ratio = -19.56

Simulation Run = 9141

Weights = [0.023 0.014 0.151 0.145 0.075 0.017 0.195 0.196 0.183], Final Value = \$1408047.65, Sharpe Ratio = -16.50

Simulation Run = 9142

Weights = [0.02 0.128 0.156 0.162 0.003 0.15 0.104 0.131 0.145], Final Value = \$1447006.77, Sharpe Ratio = -18.06

Simulation Run = 9143
Weights = [0.169 0.087 0.125 0.127 0.028 0.177 0.166 0.039 0.081], Final Value =
\$1556571.56, Sharpe Ratio = -14.67

Simulation Run = 9144
Weights = [0.047 0.091 0.044 0.199 0.177 0.091 0.163 0.135 0.053], Final Value =
\$1615181.58, Sharpe Ratio = -17.70

Simulation Run = 9145
Weights = [0.1 0.099 0.099 0.058 0.139 0.165 0.178 0.159 0.003], Final Value =
\$1630477.99, Sharpe Ratio = -14.91

Simulation Run = 9146
Weights = [0.101 0.216 0.043 0.041 0.102 0.096 0.115 0.214 0.073], Final Value =
\$1526773.02, Sharpe Ratio = -20.25

Simulation Run = 9147
Weights = [0.03 0.093 0.135 0.182 0.079 0.032 0.191 0.122 0.134], Final Value =
\$1451281.33, Sharpe Ratio = -16.84

Simulation Run = 9148
Weights = [0.195 0.115 0.18 0.161 0.13 0.102 0.09 0.017 0.009], Final Value =
\$1602908.90, Sharpe Ratio = -17.61

Simulation Run = 9149
Weights = [0.117 0.094 0.129 0.251 0.122 0.101 0.057 0.015 0.114], Final Value =
\$1542871.43, Sharpe Ratio = -20.91

Simulation Run = 9150
Weights = [0.153 0.155 0.083 0.023 0.151 0.245 0.062 0.079 0.05], Final Value =
\$1619904.21, Sharpe Ratio = -17.63

Simulation Run = 9151
Weights = [0.027 0.133 0.14 0.138 0.152 0.154 0.035 0.168 0.052], Final Value =
\$1573460.11, Sharpe Ratio = -20.70

Simulation Run = 9152
Weights = [0.159 0.184 0. 0.101 0.004 0.173 0.161 0.034 0.184], Final Value =

\$1476162.83, Sharpe Ratio = -16.80

Simulation Run = 9153

Weights = [0.03 0.035 0.185 0.153 0.008 0.122 0.209 0.132 0.126], Final Value = \$1461837.32, Sharpe Ratio = -14.07

Simulation Run = 9154

Weights = [0.164 0.05 0.117 0.168 0.053 0.189 0.198 0.033 0.029], Final Value = \$1632447.08, Sharpe Ratio = -13.33

Simulation Run = 9155

Weights = [0.046 0.028 0.039 0.009 0.298 0.13 0.302 0.084 0.063], Final Value = \$1618924.53, Sharpe Ratio = -12.80

Simulation Run = 9156

Weights = [0.16 0.172 0.018 0.064 0.07 0.158 0.135 0.121 0.102], Final Value = \$1550706.34, Sharpe Ratio = -17.60

Simulation Run = 9157

Weights = [0.188 0.136 0.089 0.096 0.088 0.098 0.136 0.112 0.059], Final Value = \$1562899.77, Sharpe Ratio = -17.46

Simulation Run = 9158

Weights = [0.162 0.054 0.075 0.193 0.1 0.069 0.12 0.081 0.146], Final Value = \$1523395.95, Sharpe Ratio = -19.18

Simulation Run = 9159

Weights = [0.006 0.002 0.108 0.168 0.213 0.183 0.067 0.108 0.145], Final Value = \$1566615.97, Sharpe Ratio = -19.64

Simulation Run = 9160

Weights = [0.186 0.026 0.109 0.101 0.151 0.141 0.212 0.045 0.028], Final Value = \$1638674.51, Sharpe Ratio = -13.75

Simulation Run = 9161

Weights = [0.164 0.017 0.105 0.107 0.154 0.067 0.208 0.09 0.087], Final Value = \$1562773.28, Sharpe Ratio = -15.13

Simulation Run = 9162
Weights = [0.05 0.059 0.138 0.046 0.223 0.124 0.051 0.212 0.097], Final Value =
\$1546135.11, Sharpe Ratio = -21.10

Simulation Run = 9163
Weights = [0.208 0.088 0.049 0.103 0.02 0.092 0.095 0.149 0.197], Final Value =
\$1460052.93, Sharpe Ratio = -19.75

Simulation Run = 9164
Weights = [0.064 0.166 0.157 0.164 0.056 0.121 0.161 0.085 0.027], Final Value =
\$1546426.01, Sharpe Ratio = -16.02

Simulation Run = 9165
Weights = [0.083 0.056 0.136 0.015 0.194 0.215 0.03 0.21 0.06], Final Value =
\$1607109.49, Sharpe Ratio = -18.51

Simulation Run = 9166
Weights = [0.034 0.21 0.235 0.105 0.055 0.041 0.162 0.155 0.003], Final Value =
\$1475826.45, Sharpe Ratio = -16.28

Simulation Run = 9167
Weights = [0.22 0.073 0.017 0.018 0.045 0.159 0.161 0.154 0.152], Final Value =
\$1528532.03, Sharpe Ratio = -15.63

Simulation Run = 9168
Weights = [0.146 0.017 0.15 0.035 0.173 0.177 0.072 0.077 0.154], Final Value =
\$1520071.95, Sharpe Ratio = -18.41

Simulation Run = 9169
Weights = [0.107 0.102 0.153 0.064 0.149 0.105 0.136 0.173 0.012], Final Value =
\$1585819.51, Sharpe Ratio = -16.82

Simulation Run = 9170
Weights = [0.033 0.162 0.026 0.202 0.073 0.193 0.027 0.134 0.15], Final Value =
\$1536427.44, Sharpe Ratio = -22.26

Simulation Run = 9171
Weights = [0.199 0.131 0.125 0.073 0.035 0.143 0.107 0.147 0.041], Final Value =
\$1568351.81, Sharpe Ratio = -16.64

Simulation Run = 9172
Weights = [0.069 0.26 0.005 0.114 0.027 0.03 0.239 0.149 0.107], Final Value =
\$1458570.26, Sharpe Ratio = -16.22

Simulation Run = 9173
Weights = [0.187 0.201 0.055 0.114 0.076 0.189 0.105 0.07 0.002], Final Value =
\$1644912.87, Sharpe Ratio = -17.00

Simulation Run = 9174
Weights = [0.042 0.128 0.127 0.017 0.163 0.024 0.185 0.162 0.152], Final Value =
\$1414385.92, Sharpe Ratio = -18.17

Simulation Run = 9175
Weights = [0.136 0.045 0.162 0.11 0.099 0.075 0.152 0.076 0.146], Final Value =
\$1467532.55, Sharpe Ratio = -17.06

Simulation Run = 9176
Weights = [0.157 0.2 0.012 0.052 0.201 0.05 0.182 0.019 0.126], Final Value =
\$1508772.54, Sharpe Ratio = -18.85

Simulation Run = 9177
Weights = [0.151 0.135 0.119 0.18 0.135 0.046 0.171 0.026 0.037], Final Value =
\$1570408.27, Sharpe Ratio = -16.97

Simulation Run = 9178
Weights = [0.109 0.147 0.157 0.115 0.069 0.05 0.142 0.057 0.154], Final Value =
\$1414196.90, Sharpe Ratio = -18.76

Simulation Run = 9179
Weights = [0.106 0.162 0.057 0.046 0.07 0.197 0.172 0.154 0.036], Final Value =
\$1595530.73, Sharpe Ratio = -15.07

Simulation Run = 9180
Weights = [0.079 0.059 0.15 0.144 0.172 0.031 0.226 0.095 0.043], Final Value =
\$1554869.54, Sharpe Ratio = -14.92

Simulation Run = 9181

Weights = [0.148 0.011 0.074 0. 0.117 0.169 0.216 0.236 0.029], Final Value = \$1632848.51, Sharpe Ratio = -13.22

Simulation Run = 9182

Weights = [0.172 0.092 0.127 0.046 0.179 0.062 0.18 0.047 0.096], Final Value = \$1518245.66, Sharpe Ratio = -16.72

Simulation Run = 9183

Weights = [0.072 0.246 0.045 0.139 0.101 0.106 0.189 0.1 0.001], Final Value = \$1593427.40, Sharpe Ratio = -16.65

Simulation Run = 9184

Weights = [0.065 0.169 0.25 0.042 0.1 0.045 0.115 0.151 0.063], Final Value = \$1436098.36, Sharpe Ratio = -18.21

Simulation Run = 9185

Weights = [0.092 0.2 0.031 0.019 0.103 0.177 0.073 0.123 0.182], Final Value = \$1465257.92, Sharpe Ratio = -21.43

Simulation Run = 9186

Weights = [0.16 0.252 0.046 0.113 0.013 0.067 0.157 0.053 0.14], Final Value = \$1443915.47, Sharpe Ratio = -18.87

Simulation Run = 9187

Weights = [0.066 0.085 0.17 0.105 0.054 0.072 0.161 0.182 0.104], Final Value = \$1466191.69, Sharpe Ratio = -16.55

Simulation Run = 9188

Weights = [0.066 0.135 0.115 0.141 0.041 0.089 0.136 0.147 0.13], Final Value = \$1464020.42, Sharpe Ratio = -18.42

Simulation Run = 9189

Weights = [0.153 0.048 0.068 0.134 0.016 0.159 0.146 0.044 0.232], Final Value = \$1448763.14, Sharpe Ratio = -16.79

Simulation Run = 9190

Weights = [0.134 0.07 0.126 0.099 0.057 0.213 0.124 0.143 0.032], Final Value = \$1617110.42, Sharpe Ratio = -14.96

Simulation Run = 9191
Weights = [0.1 0.113 0.078 0.057 0.223 0.033 0.039 0.146 0.21], Final Value =
\$1433092.19, Sharpe Ratio = -27.62

Simulation Run = 9192
Weights = [0.036 0.206 0.068 0.173 0.042 0.13 0.116 0.024 0.206], Final Value =
\$1413439.66, Sharpe Ratio = -20.83

Simulation Run = 9193
Weights = [0.152 0.085 0.073 0.099 0.153 0.049 0.086 0.112 0.19], Final Value =
\$1462845.37, Sharpe Ratio = -22.77

Simulation Run = 9194
Weights = [0.053 0.189 0.194 0.134 0.191 0.136 0.009 0.084 0.009], Final Value =
\$1579649.14, Sharpe Ratio = -21.18

Simulation Run = 9195
Weights = [0.231 0.11 0.122 0.159 0.035 0.041 0.132 0.029 0.141], Final Value =
\$1469574.88, Sharpe Ratio = -18.17

Simulation Run = 9196
Weights = [0.134 0.131 0.028 0.025 0.114 0.064 0.183 0.147 0.173], Final Value =
\$1456134.97, Sharpe Ratio = -17.86

Simulation Run = 9197
Weights = [0.166 0.136 0.081 0.091 0.078 0.015 0.119 0.16 0.154], Final Value =
\$1446441.34, Sharpe Ratio = -20.76

Simulation Run = 9198
Weights = [0.152 0.058 0.081 0.003 0.182 0.116 0.144 0.085 0.179], Final Value =
\$1484075.81, Sharpe Ratio = -18.17

Simulation Run = 9199
Weights = [0.017 0.052 0.165 0.074 0.122 0.083 0.13 0.137 0.22], Final Value =
\$1382095.34, Sharpe Ratio = -19.27

Simulation Run = 9200
Weights = [0.015 0.042 0.001 0.206 0.158 0.11 0.059 0.293 0.116], Final Value =

\$1598739.29, Sharpe Ratio = -22.31

Simulation Run = 9201

Weights = [0.239 0.104 0.07 0.051 0.246 0.06 0.053 0.177 0.], Final Value = \$1661315.83, Sharpe Ratio = -20.81

Simulation Run = 9202

Weights = [0.143 0.191 0.022 0.038 0.156 0.034 0.187 0.176 0.051], Final Value = \$1553034.70, Sharpe Ratio = -17.72

Simulation Run = 9203

Weights = [0.234 0.022 0.141 0.117 0.067 0.095 0.139 0.046 0.14], Final Value = \$1505956.77, Sharpe Ratio = -16.43

Simulation Run = 9204

Weights = [0.063 0.02 0.08 0.018 0.213 0.119 0.139 0.212 0.135], Final Value = \$1533538.84, Sharpe Ratio = -18.21

Simulation Run = 9205

Weights = [0.077 0.031 0.163 0.136 0.118 0.136 0.173 0.048 0.118], Final Value = \$1516185.77, Sharpe Ratio = -15.56

Simulation Run = 9206

Weights = [0.099 0.004 0.202 0.171 0.148 0.153 0.145 0.03 0.049], Final Value = \$1594946.90, Sharpe Ratio = -15.10

Simulation Run = 9207

Weights = [0.129 0.084 0.096 0.198 0.006 0.036 0.096 0.16 0.195], Final Value = \$1426327.76, Sharpe Ratio = -20.67

Simulation Run = 9208

Weights = [0.138 0.166 0.066 0.082 0.113 0.084 0.036 0.14 0.176], Final Value = \$1457045.85, Sharpe Ratio = -25.27

Simulation Run = 9209

Weights = [0.136 0.026 0.153 0.182 0.16 0.226 0.032 0.082 0.003], Final Value = \$1696889.23, Sharpe Ratio = -16.64

Simulation Run = 9210
Weights = [0.016 0.046 0.146 0.241 0.143 0.129 0.185 0.032 0.061], Final Value =
\$1584004.45, Sharpe Ratio = -15.30

Simulation Run = 9211
Weights = [0.141 0.019 0.155 0.102 0.098 0.041 0.206 0.16 0.077], Final Value =
\$1523358.36, Sharpe Ratio = -14.81

Simulation Run = 9212
Weights = [0.3 0.022 0.128 0.146 0.036 0.01 0.21 0.114 0.034], Final Value =
\$1580024.60, Sharpe Ratio = -13.85

Simulation Run = 9213
Weights = [0.277 0.111 0.036 0.007 0.196 0.221 0.025 0.054 0.074], Final Value =
\$1652684.38, Sharpe Ratio = -18.58

Simulation Run = 9214
Weights = [0.155 0.043 0.114 0.127 0.109 0.113 0.104 0.198 0.037], Final Value =
\$1612454.36, Sharpe Ratio = -17.24

Simulation Run = 9215
Weights = [0.198 0.179 0.102 0.114 0.018 0.063 0.111 0.048 0.168], Final Value =
\$1425063.55, Sharpe Ratio = -19.96

Simulation Run = 9216
Weights = [0.062 0.021 0.134 0.092 0.142 0.137 0.081 0.181 0.15], Final Value =
\$1505522.11, Sharpe Ratio = -19.39

Simulation Run = 9217
Weights = [0.024 0.184 0.165 0.201 0.039 0.152 0.077 0.113 0.046], Final Value =
\$1535396.16, Sharpe Ratio = -18.42

Simulation Run = 9218
Weights = [0.117 0.072 0.081 0.006 0.005 0.241 0.2 0.24 0.037], Final Value =
\$1602277.91, Sharpe Ratio = -12.70

Simulation Run = 9219
Weights = [0.073 0.018 0.126 0.156 0.038 0.037 0.169 0.2 0.184], Final Value =
\$1427408.08, Sharpe Ratio = -17.09

Simulation Run = 9220
Weights = [0.166 0.115 0.064 0.187 0.111 0.109 0.01 0.094 0.144], Final Value =
\$1536777.66, Sharpe Ratio = -23.83

Simulation Run = 9221
Weights = [0.111 0.129 0.156 0.065 0.199 0.031 0.157 0.013 0.14], Final Value =
\$1445371.38, Sharpe Ratio = -18.99

Simulation Run = 9222
Weights = [0.093 0.141 0.16 0.053 0.141 0.028 0.164 0.081 0.141], Final Value =
\$1419219.01, Sharpe Ratio = -18.48

Simulation Run = 9223
Weights = [0.235 0.016 0.103 0.131 0.077 0.15 0.005 0.151 0.133], Final Value =
\$1565642.25, Sharpe Ratio = -19.57

Simulation Run = 9224
Weights = [0.208 0.007 0.2 0.147 0.038 0.188 0.029 0.143 0.04], Final Value =
\$1611826.90, Sharpe Ratio = -15.95

Simulation Run = 9225
Weights = [0.06 0.261 0.075 0.001 0.209 0.088 0.135 0.057 0.114], Final Value =
\$1469093.61, Sharpe Ratio = -21.25

Simulation Run = 9226
Weights = [0.137 0.061 0.112 0.194 0.073 0.026 0.159 0.099 0.139], Final Value =
\$1483460.36, Sharpe Ratio = -17.69

Simulation Run = 9227
Weights = [0.052 0.083 0.162 0.117 0.109 0.107 0.248 0.021 0.1], Final Value =
\$1492104.82, Sharpe Ratio = -13.90

Simulation Run = 9228
Weights = [0.066 0.181 0.141 0.132 0.052 0.158 0.196 0.047 0.026], Final Value =
\$1553365.78, Sharpe Ratio = -14.67

Simulation Run = 9229

Weights = [0.051 0.016 0.159 0.175 0.022 0.166 0.08 0.165 0.167], Final Value = \$1478294.60, Sharpe Ratio = -17.62

Simulation Run = 9230

Weights = [0.166 0.138 0.12 0.011 0.173 0.143 0.024 0.159 0.066], Final Value = \$1566571.02, Sharpe Ratio = -21.08

Simulation Run = 9231

Weights = [0.072 0.168 0.178 0.115 0.123 0.105 0.092 0.01 0.137], Final Value = \$1444131.74, Sharpe Ratio = -20.47

Simulation Run = 9232

Weights = [0.195 0.032 0.122 0.154 0.139 0.12 0.064 0.047 0.128], Final Value = \$1554136.69, Sharpe Ratio = -19.51

Simulation Run = 9233

Weights = [0.16 0.171 0.065 0.039 0.15 0.156 0.04 0.125 0.093], Final Value = \$1559715.59, Sharpe Ratio = -21.56

Simulation Run = 9234

Weights = [0.15 0.046 0.127 0.052 0.149 0.086 0.099 0.162 0.131], Final Value = \$1506480.02, Sharpe Ratio = -19.34

Simulation Run = 9235

Weights = [0.062 0.18 0.121 0.056 0.087 0.076 0.154 0.161 0.101], Final Value = \$1461324.30, Sharpe Ratio = -18.28

Simulation Run = 9236

Weights = [0.05 0.024 0.107 0.185 0.183 0.145 0.184 0.115 0.008], Final Value = \$1664589.66, Sharpe Ratio = -14.88

Simulation Run = 9237

Weights = [0.011 0.055 0.154 0.196 0.13 0.063 0.132 0.091 0.17], Final Value = \$1448646.76, Sharpe Ratio = -19.12

Simulation Run = 9238

Weights = [0.059 0.201 0.123 0.058 0.06 0.089 0.106 0.19 0.114], Final Value = \$1444457.00, Sharpe Ratio = -20.30

Simulation Run = 9239
Weights = [0.055 0.033 0.174 0.129 0.148 0.073 0.227 0.099 0.062], Final Value =
\$1537221.46, Sharpe Ratio = -14.31

Simulation Run = 9240
Weights = [0.07 0.137 0.142 0.136 0.024 0.121 0.084 0.142 0.144], Final Value =
\$1449893.98, Sharpe Ratio = -19.60

Simulation Run = 9241
Weights = [0.238 0.206 0.126 0.01 0.032 0.108 0.094 0.085 0.102], Final Value =
\$1472570.04, Sharpe Ratio = -18.69

Simulation Run = 9242
Weights = [0.069 0.023 0.072 0.125 0.09 0.245 0.124 0.209 0.043], Final Value =
\$1658021.67, Sharpe Ratio = -14.93

Simulation Run = 9243
Weights = [0.12 0.085 0.162 0.153 0.124 0.122 0.032 0.088 0.114], Final Value =
\$1522969.52, Sharpe Ratio = -20.83

Simulation Run = 9244
Weights = [0.233 0.05 0.01 0.104 0.02 0.141 0.212 0.117 0.113], Final Value =
\$1575966.77, Sharpe Ratio = -13.94

Simulation Run = 9245
Weights = [0.089 0.113 0.069 0.152 0.041 0.186 0.068 0.122 0.16], Final Value =
\$1508712.41, Sharpe Ratio = -19.50

Simulation Run = 9246
Weights = [0.15 0.073 0.16 0.145 0.17 0.038 0.076 0.033 0.156], Final Value =
\$1469699.63, Sharpe Ratio = -21.61

Simulation Run = 9247
Weights = [0.165 0.114 0.015 0.2 0.162 0.16 0.1 0.042 0.043], Final Value =
\$1673545.96, Sharpe Ratio = -18.53

Simulation Run = 9248
Weights = [0.123 0.168 0.026 0.089 0.044 0.079 0.185 0.129 0.157], Final Value =

\$1460864.17, Sharpe Ratio = -17.40

Simulation Run = 9249

Weights = [0.188 0.1 0.042 0.176 0.017 0.151 0.107 0.164 0.054], Final Value = \$1618704.02, Sharpe Ratio = -16.88

Simulation Run = 9250

Weights = [0.098 0.097 0.139 0.009 0.136 0.122 0.155 0.109 0.136], Final Value = \$1470801.78, Sharpe Ratio = -17.15

Simulation Run = 9251

Weights = [0.096 0.043 0.037 0.214 0.122 0.013 0.106 0.208 0.161], Final Value = \$1509952.43, Sharpe Ratio = -21.72

Simulation Run = 9252

Weights = [0.07 0.163 0.048 0.123 0.185 0.072 0.109 0.049 0.182], Final Value = \$1464045.18, Sharpe Ratio = -23.30

Simulation Run = 9253

Weights = [0.075 0.012 0.176 0.096 0.12 0.094 0.086 0.182 0.16], Final Value = \$1463197.40, Sharpe Ratio = -19.22

Simulation Run = 9254

Weights = [0.031 0.209 0.065 0.155 0.019 0.135 0.151 0.09 0.146], Final Value = \$1457444.54, Sharpe Ratio = -18.27

Simulation Run = 9255

Weights = [0.168 0.129 0.071 0.158 0.05 0.114 0.171 0.086 0.052], Final Value = \$1582787.07, Sharpe Ratio = -15.87

Simulation Run = 9256

Weights = [0.113 0.068 0.114 0.185 0.153 0.144 0.167 0.004 0.052], Final Value = \$1612846.26, Sharpe Ratio = -15.79

Simulation Run = 9257

Weights = [0.003 0.045 0.193 0.132 0.008 0.163 0.16 0.107 0.189], Final Value = \$1407997.82, Sharpe Ratio = -15.50

Simulation Run = 9258
Weights = [0.168 0.039 0.125 0.082 0.122 0.169 0.032 0.116 0.147], Final Value =
\$1531994.92, Sharpe Ratio = -19.71

Simulation Run = 9259
Weights = [0.014 0.157 0.088 0.154 0.239 0.021 0.208 0.002 0.117], Final Value =
\$1491456.63, Sharpe Ratio = -18.00

Simulation Run = 9260
Weights = [0.122 0.077 0.139 0.108 0.129 0.138 0.159 0.038 0.091], Final Value =
\$1542751.51, Sharpe Ratio = -16.20

Simulation Run = 9261
Weights = [0.139 0.11 0.151 0.172 0.106 0.036 0.107 0.124 0.055], Final Value =
\$1539423.75, Sharpe Ratio = -18.91

Simulation Run = 9262
Weights = [0.028 0.139 0.021 0.185 0.159 0.084 0.196 0.168 0.019], Final Value =
\$1626649.22, Sharpe Ratio = -16.63

Simulation Run = 9263
Weights = [0.175 0.036 0.163 0.167 0.107 0.059 0.131 0.024 0.138], Final Value =
\$1491887.68, Sharpe Ratio = -17.70

Simulation Run = 9264
Weights = [0.114 0.003 0.142 0.118 0.186 0.124 0.081 0.225 0.007], Final Value =
\$1655088.97, Sharpe Ratio = -17.42

Simulation Run = 9265
Weights = [0.048 0.113 0.078 0.048 0.2 0.18 0.068 0.064 0.201], Final Value =
\$1475201.96, Sharpe Ratio = -21.80

Simulation Run = 9266
Weights = [0.003 0.227 0.132 0.059 0.085 0.156 0.065 0.024 0.249], Final Value =
\$1336224.91, Sharpe Ratio = -23.15

Simulation Run = 9267
Weights = [0.031 0.006 0.098 0.148 0.204 0.164 0.116 0.162 0.071], Final Value =
\$1623955.71, Sharpe Ratio = -17.42

Simulation Run = 9268
Weights = [0.2 0.046 0.182 0.063 0.004 0.126 0.184 0.106 0.089], Final Value =
\$1504183.55, Sharpe Ratio = -13.92

Simulation Run = 9269
Weights = [0.045 0.059 0.041 0.135 0.112 0.011 0.145 0.276 0.178], Final Value =
\$1459296.87, Sharpe Ratio = -20.38

Simulation Run = 9270
Weights = [0.082 0.088 0.16 0.081 0.056 0.15 0.126 0.169 0.087], Final Value =
\$1512749.33, Sharpe Ratio = -16.51

Simulation Run = 9271
Weights = [0.107 0.175 0.076 0.196 0.029 0.208 0.018 0.03 0.162], Final Value =
\$1505774.05, Sharpe Ratio = -20.99

Simulation Run = 9272
Weights = [0.028 0.085 0.216 0.105 0.043 0.021 0.115 0.28 0.108], Final Value =
\$1420220.09, Sharpe Ratio = -18.22

Simulation Run = 9273
Weights = [0.048 0.213 0.082 0.199 0.199 0.11 0.018 0.089 0.042], Final Value =
\$1595849.83, Sharpe Ratio = -24.61

Simulation Run = 9274
Weights = [0.005 0.219 0.047 0.178 0.151 0.173 0.177 0.019 0.031], Final Value =
\$1607566.64, Sharpe Ratio = -16.72

Simulation Run = 9275
Weights = [0.159 0.071 0.152 0.067 0.144 0.139 0.182 0.053 0.033], Final Value =
\$1591290.75, Sharpe Ratio = -14.74

Simulation Run = 9276
Weights = [0.072 0.17 0.166 0.147 0.028 0.094 0.084 0.151 0.088], Final Value =
\$1474820.36, Sharpe Ratio = -19.44

Simulation Run = 9277

Weights = [0.192 0.189 0.037 0.05 0.187 0.049 0.121 0.122 0.053], Final Value = \$1573630.18, Sharpe Ratio = -20.39

Simulation Run = 9278

Weights = [0.155 0.149 0.013 0.239 0.101 0.032 0.196 0.011 0.103], Final Value = \$1550335.22, Sharpe Ratio = -17.39

Simulation Run = 9279

Weights = [0.055 0.132 0.004 0.233 0.09 0.062 0.192 0.111 0.121], Final Value = \$1534364.54, Sharpe Ratio = -17.62

Simulation Run = 9280

Weights = [0.059 0.123 0.086 0.1 0.216 0.184 0.066 0.103 0.064], Final Value = \$1608915.75, Sharpe Ratio = -20.03

Simulation Run = 9281

Weights = [0.15 0.119 0.111 0.157 0.112 0.123 0.148 0.042 0.038], Final Value = \$1596689.06, Sharpe Ratio = -16.59

Simulation Run = 9282

Weights = [0.197 0.013 0.097 0.147 0.197 0.125 0.026 0.093 0.106], Final Value = \$1607905.18, Sharpe Ratio = -20.75

Simulation Run = 9283

Weights = [0.266 0.008 0.248 0.148 0.074 0.052 0.028 0.041 0.134], Final Value = \$1475340.98, Sharpe Ratio = -18.57

Simulation Run = 9284

Weights = [0.072 0.149 0.141 0.019 0.225 0.128 0.017 0.188 0.06], Final Value = \$1553647.59, Sharpe Ratio = -22.66

Simulation Run = 9285

Weights = [0.042 0.165 0.147 0.009 0.147 0.149 0.142 0.038 0.162], Final Value = \$1427635.82, Sharpe Ratio = -18.33

Simulation Run = 9286

Weights = [0.174 0.014 0.124 0.166 0.106 0.126 0.187 0.009 0.095], Final Value = \$1572885.54, Sharpe Ratio = -14.82

Simulation Run = 9287
Weights = [0.081 0.088 0.165 0.163 0.204 0.041 0.009 0.163 0.086], Final Value =
\$1533012.10, Sharpe Ratio = -23.50

Simulation Run = 9288
Weights = [0.022 0.115 0.147 0.204 0.177 0.007 0.119 0.026 0.183], Final Value =
\$1418027.16, Sharpe Ratio = -21.74

Simulation Run = 9289
Weights = [0.043 0.06 0.126 0.099 0.114 0.099 0.187 0.124 0.148], Final Value =
\$1469891.96, Sharpe Ratio = -16.38

Simulation Run = 9290
Weights = [0.139 0.08 0.043 0.111 0.131 0.008 0.066 0.23 0.191], Final Value =
\$1459100.99, Sharpe Ratio = -24.82

Simulation Run = 9291
Weights = [0.01 0.213 0.048 0.011 0.17 0.044 0.279 0.14 0.085], Final Value =
\$1478327.00, Sharpe Ratio = -14.85

Simulation Run = 9292
Weights = [0.013 0.001 0.155 0.075 0.146 0.042 0.138 0.213 0.216], Final Value =
\$1394858.10, Sharpe Ratio = -19.23

Simulation Run = 9293
Weights = [0.096 0.133 0.08 0.046 0.032 0.189 0.167 0.097 0.16], Final Value =
\$1469308.01, Sharpe Ratio = -15.84

Simulation Run = 9294
Weights = [0.19 0.07 0.148 0.194 0.012 0.094 0.022 0.177 0.094], Final Value =
\$1535301.48, Sharpe Ratio = -19.51

Simulation Run = 9295
Weights = [0.208 0.102 0.14 0.122 0.085 0.033 0.124 0.106 0.081], Final Value =
\$1516707.47, Sharpe Ratio = -18.15

Simulation Run = 9296
Weights = [0.078 0.013 0.242 0.101 0.058 0.079 0.188 0.028 0.214], Final Value =

\$1360005.59, Sharpe Ratio = -15.33

Simulation Run = 9297

Weights = [0.098 0.231 0.272 0.169 0.129 0.036 0.013 0.04 0.012], Final Value = \$1495101.44, Sharpe Ratio = -20.82

Simulation Run = 9298

Weights = [0.148 0.069 0.132 0.109 0.151 0.119 0.096 0.042 0.135], Final Value = \$1516728.81, Sharpe Ratio = -19.25

Simulation Run = 9299

Weights = [0.112 0.145 0.075 0.103 0.157 0.157 0.069 0.031 0.15], Final Value = \$1515818.26, Sharpe Ratio = -21.50

Simulation Run = 9300

Weights = [0.179 0.109 0.081 0.164 0.167 0.142 0.028 0.094 0.036], Final Value = \$1648761.94, Sharpe Ratio = -20.56

Simulation Run = 9301

Weights = [0.194 0.063 0.004 0.146 0.181 0.186 0.083 0.022 0.12], Final Value = \$1633409.95, Sharpe Ratio = -18.91

Simulation Run = 9302

Weights = [0.027 0.195 0.079 0.053 0.065 0.18 0.024 0.182 0.194], Final Value = \$1428212.35, Sharpe Ratio = -23.17

Simulation Run = 9303

Weights = [0.128 0.17 0.17 0.143 0.135 0.056 0.154 0.032 0.014], Final Value = \$1553049.30, Sharpe Ratio = -17.17

Simulation Run = 9304

Weights = [0.186 0.144 0.082 0.054 0.135 0.034 0.052 0.223 0.089], Final Value = \$1523116.51, Sharpe Ratio = -23.08

Simulation Run = 9305

Weights = [0.128 0.137 0.001 0.108 0.172 0.141 0.074 0.109 0.132], Final Value = \$1567633.53, Sharpe Ratio = -21.91

Simulation Run = 9306

Weights = [0.156 0.143 0.097 0.029 0.04 0.133 0.1 0.14 0.161], Final Value = \$1451531.31, Sharpe Ratio = -18.98

Simulation Run = 9307

Weights = [0.048 0.17 0.107 0.127 0.072 0.022 0.142 0.158 0.154], Final Value = \$1413550.45, Sharpe Ratio = -20.25

Simulation Run = 9308

Weights = [0.011 0.134 0.092 0.147 0.184 0.173 0.038 0.111 0.11], Final Value = \$1555323.36, Sharpe Ratio = -22.17

Simulation Run = 9309

Weights = [0.083 0.212 0.232 0.059 0.102 0.03 0.018 0.016 0.248], Final Value = \$1273616.36, Sharpe Ratio = -25.69

Simulation Run = 9310

Weights = [0.146 0.041 0.207 0.108 0.04 0.141 0.024 0.121 0.173], Final Value = \$1446226.89, Sharpe Ratio = -19.18

Simulation Run = 9311

Weights = [0.017 0.101 0.082 0.153 0.059 0.147 0.133 0.149 0.157], Final Value = \$1483502.98, Sharpe Ratio = -18.15

Simulation Run = 9312

Weights = [0.138 0.077 0.091 0.09 0.149 0.15 0.056 0.13 0.119], Final Value = \$1555282.56, Sharpe Ratio = -20.32

Simulation Run = 9313

Weights = [0.059 0.106 0.178 0.039 0.087 0.178 0.075 0.145 0.133], Final Value = \$1467981.14, Sharpe Ratio = -18.43

Simulation Run = 9314

Weights = [0.1 0.155 0.122 0.082 0.063 0.131 0.197 0.114 0.036], Final Value = \$1548435.23, Sharpe Ratio = -14.91

Simulation Run = 9315

Weights = [0.116 0.053 0.043 0.198 0.069 0.186 0.039 0.161 0.135], Final Value = \$1581766.87, Sharpe Ratio = -19.64

Simulation Run = 9316
Weights = [0.127 0.222 0.147 0.116 0.216 0.045 0.098 0.003 0.026], Final Value =
\$1550166.33, Sharpe Ratio = -21.15

Simulation Run = 9317
Weights = [0.167 0.077 0.173 0.108 0.028 0.168 0.129 0.007 0.142], Final Value =
\$1479731.65, Sharpe Ratio = -15.98

Simulation Run = 9318
Weights = [0.204 0.123 0.141 0.22 0.018 0.126 0.018 0.07 0.082], Final Value =
\$1553757.90, Sharpe Ratio = -19.60

Simulation Run = 9319
Weights = [0.127 0.083 0.134 0.134 0.107 0.058 0.177 0.039 0.141], Final Value =
\$1469933.66, Sharpe Ratio = -16.99

Simulation Run = 9320
Weights = [0.087 0.221 0.217 0.071 0.057 0.096 0.005 0.209 0.038], Final Value =
\$1483747.42, Sharpe Ratio = -21.16

Simulation Run = 9321
Weights = [0.231 0.176 0.208 0.129 0.01 0.064 0.035 0.124 0.022], Final Value =
\$1524476.14, Sharpe Ratio = -18.87

Simulation Run = 9322
Weights = [0.166 0.104 0.025 0.206 0.03 0.095 0.051 0.19 0.132], Final Value =
\$1544923.32, Sharpe Ratio = -21.52

Simulation Run = 9323
Weights = [0.151 0.163 0.084 0.209 0.193 0.021 0.05 0.025 0.104], Final Value =
\$1536402.07, Sharpe Ratio = -24.98

Simulation Run = 9324
Weights = [0.12 0.126 0.068 0.026 0.189 0.042 0.192 0.143 0.094], Final Value =
\$1518560.11, Sharpe Ratio = -17.38

Simulation Run = 9325

Weights = [0.182 0.058 0.091 0.066 0.201 0.197 0.02 0.171 0.014], Final Value = \$1688416.92, Sharpe Ratio = -18.46

Simulation Run = 9326

Weights = [0.103 0.145 0.093 0.114 0.129 0.109 0.14 0.078 0.088], Final Value = \$1535485.90, Sharpe Ratio = -18.37

Simulation Run = 9327

Weights = [0.031 0.035 0.34 0.084 0.004 0.189 0.109 0.072 0.135], Final Value = \$1404081.59, Sharpe Ratio = -14.49

Simulation Run = 9328

Weights = [0.114 0.12 0.118 0.084 0.141 0.142 0.144 0.129 0.007], Final Value = \$1614240.73, Sharpe Ratio = -16.35

Simulation Run = 9329

Weights = [0.138 0.047 0.168 0.075 0.132 0.093 0.156 0.155 0.036], Final Value = \$1570669.17, Sharpe Ratio = -15.76

Simulation Run = 9330

Weights = [0.098 0.122 0.186 0.176 0.119 0.013 0.034 0.079 0.174], Final Value = \$1408622.18, Sharpe Ratio = -23.95

Simulation Run = 9331

Weights = [0.079 0.05 0.14 0.16 0.087 0.097 0.026 0.185 0.176], Final Value = \$1464965.15, Sharpe Ratio = -22.22

Simulation Run = 9332

Weights = [0.137 0.122 0.045 0.104 0.114 0.067 0.135 0.173 0.103], Final Value = \$1535701.83, Sharpe Ratio = -19.22

Simulation Run = 9333

Weights = [0.064 0.114 0.05 0.138 0.076 0.133 0.134 0.137 0.154], Final Value = \$1499827.91, Sharpe Ratio = -18.68

Simulation Run = 9334

Weights = [0.219 0.085 0.044 0.05 0.118 0.192 0.126 0.083 0.082], Final Value = \$1612882.10, Sharpe Ratio = -16.22

Simulation Run = 9335
Weights = [0.182 0.107 0.176 0.076 0.059 0.065 0.165 0.125 0.046], Final Value =
\$1519700.15, Sharpe Ratio = -15.65

Simulation Run = 9336
Weights = [0.024 0.022 0.062 0.18 0.045 0.21 0.175 0.178 0.104], Final Value =
\$1585063.11, Sharpe Ratio = -14.59

Simulation Run = 9337
Weights = [0.096 0.158 0.158 0.112 0.07 0.178 0.106 0.052 0.071], Final Value =
\$1531330.34, Sharpe Ratio = -17.25

Simulation Run = 9338
Weights = [0.155 0.012 0.174 0.028 0.093 0.189 0.037 0.136 0.176], Final Value =
\$1480295.62, Sharpe Ratio = -18.32

Simulation Run = 9339
Weights = [0.211 0.003 0.193 0.1 0.134 0.043 0.152 0.089 0.075], Final Value =
\$1536546.16, Sharpe Ratio = -15.92

Simulation Run = 9340
Weights = [0.321 0.029 0.045 0.08 0.272 0.022 0.222 0.001 0.008], Final Value =
\$1684797.96, Sharpe Ratio = -14.59

Simulation Run = 9341
Weights = [0.15 0.15 0.023 0.142 0.179 0.124 0.066 0.094 0.071], Final Value =
\$1615503.38, Sharpe Ratio = -21.70

Simulation Run = 9342
Weights = [0.058 0.06 0.181 0.182 0.075 0.149 0.035 0.083 0.177], Final Value =
\$1459150.71, Sharpe Ratio = -20.18

Simulation Run = 9343
Weights = [0.052 0.2 0.01 0.124 0.124 0.102 0.107 0.077 0.204], Final Value =
\$1444854.99, Sharpe Ratio = -23.22

Simulation Run = 9344
Weights = [0.216 0.143 0.06 0.091 0.052 0.009 0.133 0.265 0.03], Final Value =

\$1562986.16, Sharpe Ratio = -18.14

Simulation Run = 9345

Weights = [0.012 0.001 0.185 0.091 0.186 0.161 0.202 0.129 0.033], Final Value = \$1595423.21, Sharpe Ratio = -13.93

Simulation Run = 9346

Weights = [0.138 0.061 0.097 0.225 0.045 0.178 0.134 0.01 0.112], Final Value = \$1570239.83, Sharpe Ratio = -16.08

Simulation Run = 9347

Weights = [0.261 0.111 0.056 0.002 0.188 0.146 0.149 0.087 0.001], Final Value = \$1668018.01, Sharpe Ratio = -15.73

Simulation Run = 9348

Weights = [0.087 0.049 0.102 0.146 0.22 0.137 0.053 0.122 0.085], Final Value = \$1603789.86, Sharpe Ratio = -20.69

Simulation Run = 9349

Weights = [0.009 0.147 0.153 0.181 0.015 0.116 0.071 0.131 0.178], Final Value = \$1409454.77, Sharpe Ratio = -20.76

Simulation Run = 9350

Weights = [0.097 0.143 0.004 0.138 0.17 0.003 0.144 0.143 0.158], Final Value = \$1487936.81, Sharpe Ratio = -21.82

Simulation Run = 9351

Weights = [0.044 0.111 0.21 0.005 0.054 0.19 0.203 0.021 0.161], Final Value = \$1405400.36, Sharpe Ratio = -14.17

Simulation Run = 9352

Weights = [0.024 0.198 0.201 0.241 0.015 0.244 0.041 0.005 0.031], Final Value = \$1567153.51, Sharpe Ratio = -16.82

Simulation Run = 9353

Weights = [0.061 0.071 0.002 0.169 0.16 0.204 0.091 0.191 0.051], Final Value = \$1679060.38, Sharpe Ratio = -18.02

Simulation Run = 9354
Weights = [0.176 0.127 0.07 0.178 0.066 0.094 0.114 0.113 0.062], Final Value =
\$1580899.90, Sharpe Ratio = -18.34

Simulation Run = 9355
Weights = [0.149 0.102 0.13 0.126 0.064 0.108 0.085 0.024 0.212], Final Value =
\$1419573.22, Sharpe Ratio = -20.49

Simulation Run = 9356
Weights = [0.096 0.171 0.07 0.056 0.195 0.092 0.053 0.069 0.198], Final Value =
\$1442654.76, Sharpe Ratio = -25.94

Simulation Run = 9357
Weights = [0.116 0.046 0.184 0.172 0.139 0.007 0.013 0.12 0.203], Final Value =
\$1411833.25, Sharpe Ratio = -24.13

Simulation Run = 9358
Weights = [0.062 0.17 0.021 0.184 0.133 0.185 0.093 0.036 0.116], Final Value =
\$1572993.16, Sharpe Ratio = -20.15

Simulation Run = 9359
Weights = [0.014 0.029 0.24 0.059 0.057 0.111 0.149 0.087 0.254], Final Value =
\$1315545.48, Sharpe Ratio = -16.79

Simulation Run = 9360
Weights = [0.043 0.11 0.079 0.192 0.17 0.147 0.118 0.027 0.115], Final Value =
\$1558469.82, Sharpe Ratio = -19.26

Simulation Run = 9361
Weights = [0.231 0.019 0.19 0.085 0.202 0.036 0.176 0.054 0.006], Final Value =
\$1606427.84, Sharpe Ratio = -15.08

Simulation Run = 9362
Weights = [0.235 0.088 0.027 0.167 0.215 0.075 0.167 0.007 0.017], Final Value =
\$1680483.40, Sharpe Ratio = -16.77

Simulation Run = 9363
Weights = [0.054 0.152 0.203 0.018 0.191 0.132 0.047 0.071 0.133], Final Value =
\$1448804.47, Sharpe Ratio = -21.63

Simulation Run = 9364
Weights = [0.178 0.149 0.187 0.156 0.056 0.096 0.141 0.008 0.029], Final Value =
\$1545820.85, Sharpe Ratio = -16.16

Simulation Run = 9365
Weights = [0.007 0.021 0.19 0.188 0.12 0.025 0.117 0.148 0.185], Final Value =
\$1412946.46, Sharpe Ratio = -19.38

Simulation Run = 9366
Weights = [0.123 0.178 0.137 0.051 0.158 0.068 0.078 0.045 0.162], Final Value =
\$1428721.69, Sharpe Ratio = -23.01

Simulation Run = 9367
Weights = [0.112 0.103 0.032 0.03 0.148 0.16 0.207 0.19 0.018], Final Value =
\$1639092.80, Sharpe Ratio = -14.49

Simulation Run = 9368
Weights = [0.048 0.136 0.139 0.132 0.115 0.1 0.05 0.162 0.118], Final Value =
\$1487850.71, Sharpe Ratio = -22.23

Simulation Run = 9369
Weights = [0.148 0.066 0.055 0.105 0.103 0.102 0.214 0.096 0.111], Final Value =
\$1545754.23, Sharpe Ratio = -15.13

Simulation Run = 9370
Weights = [0.062 0.069 0.145 0.161 0.063 0.184 0.101 0.168 0.047], Final Value =
\$1589345.85, Sharpe Ratio = -16.36

Simulation Run = 9371
Weights = [0.146 0.091 0.019 0.097 0.197 0.142 0.192 0.091 0.025], Final Value =
\$1666458.72, Sharpe Ratio = -15.44

Simulation Run = 9372
Weights = [0.099 0.172 0.169 0.009 0.03 0.105 0.154 0.081 0.18], Final Value =
\$1365843.64, Sharpe Ratio = -17.39

Simulation Run = 9373

Weights = [0.208 0.01 0.141 0.096 0.163 0.097 0.184 0.044 0.057], Final Value = \$1595008.68, Sharpe Ratio = -14.91

Simulation Run = 9374

Weights = [0.157 0.063 0.199 0.054 0.215 0.166 0.049 0.039 0.06], Final Value = \$1582252.37, Sharpe Ratio = -18.39

Simulation Run = 9375

Weights = [0.038 0.151 0.153 0.115 0.193 0.077 0.143 0.056 0.075], Final Value = \$1512811.36, Sharpe Ratio = -18.82

Simulation Run = 9376

Weights = [0.168 0.008 0.001 0.095 0.162 0.191 0.128 0.086 0.161], Final Value = \$1594025.06, Sharpe Ratio = -17.06

Simulation Run = 9377

Weights = [0.221 0.024 0.011 0.091 0.042 0.089 0.214 0.238 0.07], Final Value = \$1603370.29, Sharpe Ratio = -14.11

Simulation Run = 9378

Weights = [0.057 0.119 0.177 0.032 0.108 0.052 0.134 0.168 0.154], Final Value = \$1400310.86, Sharpe Ratio = -19.07

Simulation Run = 9379

Weights = [0.089 0.104 0.221 0.01 0.09 0.058 0.081 0.147 0.201], Final Value = \$1346823.73, Sharpe Ratio = -20.56

Simulation Run = 9380

Weights = [0.053 0.029 0.148 0.097 0.211 0.071 0.123 0.176 0.093], Final Value = \$1536836.32, Sharpe Ratio = -18.72

Simulation Run = 9381

Weights = [0.102 0.258 0.121 0.017 0.039 0.198 0.035 0.049 0.18], Final Value = \$1407232.91, Sharpe Ratio = -21.34

Simulation Run = 9382

Weights = [0.109 0.006 0.111 0.205 0.105 0.151 0.12 0.015 0.177], Final Value = \$1517825.22, Sharpe Ratio = -17.62

Simulation Run = 9383
Weights = [0.097 0.141 0.183 0.072 0.109 0.038 0.152 0.074 0.134], Final Value =
\$1416825.10, Sharpe Ratio = -18.29

Simulation Run = 9384
Weights = [0.097 0.114 0.158 0.149 0.105 0.094 0.081 0.14 0.062], Final Value =
\$1540090.53, Sharpe Ratio = -19.32

Simulation Run = 9385
Weights = [0.197 0.086 0.154 0.081 0.046 0.091 0.174 0.054 0.117], Final Value =
\$1480493.76, Sharpe Ratio = -15.60

Simulation Run = 9386
Weights = [0.001 0.212 0.076 0.226 0.058 0.088 0.178 0.091 0.07], Final Value =
\$1519253.00, Sharpe Ratio = -17.45

Simulation Run = 9387
Weights = [0.122 0.178 0.181 0.085 0.131 0.121 0.009 0.049 0.125], Final Value =
\$1467671.94, Sharpe Ratio = -22.87

Simulation Run = 9388
Weights = [0.093 0.101 0.047 0.184 0.011 0.18 0.167 0.172 0.044], Final Value =
\$1616360.66, Sharpe Ratio = -14.93

Simulation Run = 9389
Weights = [0.135 0.161 0.022 0.126 0.034 0.178 0.141 0.101 0.102], Final Value =
\$1559222.20, Sharpe Ratio = -16.84

Simulation Run = 9390
Weights = [0.188 0.116 0.163 0.065 0.217 0.169 0.078 0.001 0.002], Final Value =
\$1640752.94, Sharpe Ratio = -17.59

Simulation Run = 9391
Weights = [0.014 0.131 0.125 0.144 0.108 0.124 0.109 0.143 0.102], Final Value =
\$1508070.58, Sharpe Ratio = -19.24

Simulation Run = 9392
Weights = [0.162 0.16 0.105 0.018 0.118 0.081 0.188 0.134 0.034], Final Value =

\$1548864.46, Sharpe Ratio = -15.92

Simulation Run = 9393

Weights = [0.118 0.146 0.07 0.095 0.036 0.101 0.15 0.143 0.141], Final Value = \$1471077.53, Sharpe Ratio = -17.94

Simulation Run = 9394

Weights = [0.187 0.151 0.053 0.068 0.049 0.148 0.143 0.143 0.057], Final Value = \$1578768.36, Sharpe Ratio = -16.38

Simulation Run = 9395

Weights = [0.021 0.035 0.282 0.175 0.127 0.032 0.206 0.034 0.089], Final Value = \$1452008.83, Sharpe Ratio = -14.49

Simulation Run = 9396

Weights = [0.116 0.097 0.037 0.157 0.053 0.079 0.12 0.206 0.135], Final Value = \$1515584.48, Sharpe Ratio = -19.46

Simulation Run = 9397

Weights = [0.07 0.137 0.215 0.258 0.018 0.001 0.047 0.239 0.014], Final Value = \$1519177.26, Sharpe Ratio = -19.06

Simulation Run = 9398

Weights = [0.152 0.185 0.133 0.072 0.032 0.166 0.097 0.039 0.124], Final Value = \$1475177.29, Sharpe Ratio = -18.16

Simulation Run = 9399

Weights = [0.136 0.15 0.122 0.078 0.087 0.233 0.046 0.142 0.007], Final Value = \$1634359.39, Sharpe Ratio = -17.15

Simulation Run = 9400

Weights = [0.273 0.005 0.063 0.103 0.239 0.01 0.171 0.133 0.002], Final Value = \$1678595.36, Sharpe Ratio = -16.07

Simulation Run = 9401

Weights = [0.133 0.121 0.13 0.118 0.049 0.12 0.092 0.134 0.102], Final Value = \$1508986.61, Sharpe Ratio = -18.68

Simulation Run = 9402
Weights = [0.131 0.16 0.078 0.108 0.153 0.097 0.039 0.081 0.153], Final Value =
\$1491807.39, Sharpe Ratio = -24.72

Simulation Run = 9403
Weights = [0.02 0.142 0.211 0.022 0.059 0.072 0.158 0.2 0.116], Final Value =
\$1399889.20, Sharpe Ratio = -16.95

Simulation Run = 9404
Weights = [0.073 0.006 0.219 0.026 0.132 0.028 0.239 0.082 0.196], Final Value =
\$1366945.47, Sharpe Ratio = -14.59

Simulation Run = 9405
Weights = [0.081 0.095 0.156 0.13 0.148 0.145 0.042 0.138 0.066], Final Value =
\$1567241.46, Sharpe Ratio = -19.93

Simulation Run = 9406
Weights = [0.018 0.151 0.057 0.069 0.203 0.2 0.232 0.029 0.041], Final Value =
\$1612099.30, Sharpe Ratio = -14.28

Simulation Run = 9407
Weights = [0.251 0.05 0.042 0.049 0.225 0.053 0.076 0.047 0.206], Final Value =
\$1496649.75, Sharpe Ratio = -22.58

Simulation Run = 9408
Weights = [0.005 0.129 0.119 0.171 0.152 0.07 0.131 0.153 0.07], Final Value =
\$1534386.22, Sharpe Ratio = -19.27

Simulation Run = 9409
Weights = [0.048 0.071 0.087 0.108 0.147 0.007 0.117 0.174 0.243], Final Value =
\$1381085.55, Sharpe Ratio = -22.81

Simulation Run = 9410
Weights = [0.175 0.182 0.065 0.191 0.079 0.174 0.062 0.029 0.043], Final Value =
\$1621203.55, Sharpe Ratio = -19.14

Simulation Run = 9411
Weights = [0.156 0.017 0.121 0.03 0.173 0.067 0.177 0.144 0.114], Final Value =
\$1521312.92, Sharpe Ratio = -16.33

Simulation Run = 9412
Weights = [0.061 0.233 0.051 0.007 0.029 0.079 0.157 0.237 0.144], Final Value =
\$1415061.38, Sharpe Ratio = -18.91

Simulation Run = 9413
Weights = [0.112 0.081 0.221 0.144 0.167 0.01 0.03 0.173 0.063], Final Value =
\$1511974.77, Sharpe Ratio = -21.09

Simulation Run = 9414
Weights = [0.158 0.149 0.129 0.15 0.148 0.116 0.015 0.011 0.124], Final Value =
\$1518406.30, Sharpe Ratio = -23.25

Simulation Run = 9415
Weights = [0.156 0.125 0.16 0.173 0.024 0.176 0.045 0.13 0.012], Final Value =
\$1607630.17, Sharpe Ratio = -17.18

Simulation Run = 9416
Weights = [0.108 0.121 0.167 0.133 0.112 0.167 0.053 0.085 0.054], Final Value =
\$1568866.08, Sharpe Ratio = -18.68

Simulation Run = 9417
Weights = [0.049 0.217 0.053 0.095 0.113 0.002 0.151 0.12 0.2], Final Value =
\$1376885.58, Sharpe Ratio = -22.05

Simulation Run = 9418
Weights = [0.148 0.09 0.013 0.154 0.079 0.21 0.115 0.136 0.055], Final Value =
\$1656847.66, Sharpe Ratio = -16.31

Simulation Run = 9419
Weights = [0.101 0.155 0.182 0.108 0.024 0.059 0.157 0.114 0.099], Final Value =
\$1439631.54, Sharpe Ratio = -16.90

Simulation Run = 9420
Weights = [0.061 0.127 0.163 0.11 0.145 0.043 0.088 0.155 0.108], Final Value =
\$1470255.23, Sharpe Ratio = -21.27

Simulation Run = 9421

Weights = [0.205 0.036 0.143 0.044 0.174 0.119 0.085 0.018 0.176], Final Value = \$1487433.53, Sharpe Ratio = -19.37

Simulation Run = 9422

Weights = [0.01 0.104 0.005 0.133 0.122 0.157 0.19 0.097 0.181], Final Value = \$1502923.20, Sharpe Ratio = -16.94

Simulation Run = 9423

Weights = [0.143 0.029 0.057 0.172 0.146 0.02 0.081 0.181 0.172], Final Value = \$1504924.92, Sharpe Ratio = -22.53

Simulation Run = 9424

Weights = [0.156 0.242 0.086 0.184 0.034 0.143 0.015 0.06 0.079], Final Value = \$1540013.96, Sharpe Ratio = -22.19

Simulation Run = 9425

Weights = [0.081 0.161 0.011 0.15 0.112 0.144 0.153 0.111 0.076], Final Value = \$1588108.50, Sharpe Ratio = -17.75

Simulation Run = 9426

Weights = [0.243 0.01 0.053 0.169 0.028 0.019 0.257 0.066 0.155], Final Value = \$1500988.86, Sharpe Ratio = -13.80

Simulation Run = 9427

Weights = [0.198 0.041 0.129 0.159 0.101 0.09 0.09 0.09 0.101], Final Value = \$1552785.52, Sharpe Ratio = -18.47

Simulation Run = 9428

Weights = [0.053 0.132 0.132 0.105 0.128 0.038 0.139 0.131 0.141], Final Value = \$1439869.40, Sharpe Ratio = -19.87

Simulation Run = 9429

Weights = [0.101 0.18 0.117 0.09 0.076 0.045 0.079 0.185 0.127], Final Value = \$1445527.82, Sharpe Ratio = -22.49

Simulation Run = 9430

Weights = [0.174 0.069 0.188 0.057 0.147 0.097 0.175 0.058 0.034], Final Value = \$1561853.87, Sharpe Ratio = -15.12

Simulation Run = 9431
Weights = [0.109 0.24 0.041 0.023 0.009 0.059 0.015 0.299 0.206], Final Value =
\$1372926.66, Sharpe Ratio = -27.31

Simulation Run = 9432
Weights = [0.161 0.195 0.111 0.04 0.036 0.073 0.123 0.059 0.201], Final Value =
\$1373207.00, Sharpe Ratio = -20.03

Simulation Run = 9433
Weights = [0.215 0.052 0.162 0.181 0.105 0.018 0.05 0.176 0.042], Final Value =
\$1574763.98, Sharpe Ratio = -19.47

Simulation Run = 9434
Weights = [0.05 0.11 0.112 0.181 0.129 0.124 0.066 0.112 0.116], Final Value =
\$1528430.10, Sharpe Ratio = -21.13

Simulation Run = 9435
Weights = [0.007 0.121 0.151 0.121 0.015 0.171 0.193 0.198 0.024], Final Value =
\$1553844.86, Sharpe Ratio = -14.03

Simulation Run = 9436
Weights = [0.23 0.227 0.175 0.084 0.005 0.018 0.143 0.054 0.065], Final Value =
\$1449560.66, Sharpe Ratio = -17.45

Simulation Run = 9437
Weights = [0.156 0.111 0.022 0.175 0.148 0.12 0.067 0.156 0.045], Final Value =
\$1649405.28, Sharpe Ratio = -20.42

Simulation Run = 9438
Weights = [0.073 0.005 0.192 0.097 0.133 0.184 0.112 0.006 0.2], Final Value =
\$1455111.65, Sharpe Ratio = -17.14

Simulation Run = 9439
Weights = [0.163 0.205 0.038 0.131 0.085 0.063 0.093 0.14 0.083], Final Value =
\$1536663.40, Sharpe Ratio = -21.65

Simulation Run = 9440
Weights = [0.147 0.026 0.225 0.027 0.07 0.12 0.056 0.107 0.222], Final Value =

\$1379769.85, Sharpe Ratio = -19.10

Simulation Run = 9441

Weights = [0.261 0.102 0.144 0.072 0.063 0.092 0.01 0.227 0.028], Final Value = \$1585634.95, Sharpe Ratio = -19.31

Simulation Run = 9442

Weights = [0.034 0.084 0.169 0.147 0.055 0.228 0.201 0.049 0.032], Final Value = \$1586657.12, Sharpe Ratio = -13.15

Simulation Run = 9443

Weights = [0.133 0.168 0.105 0.007 0.195 0.048 0.131 0.011 0.201], Final Value = \$1399674.86, Sharpe Ratio = -21.40

Simulation Run = 9444

Weights = [0.142 0.011 0.202 0.049 0.155 0.194 0.182 0.045 0.02], Final Value = \$1614756.79, Sharpe Ratio = -13.43

Simulation Run = 9445

Weights = [0.141 0.219 0.177 0.075 0.045 0.117 0.037 0.138 0.051], Final Value = \$1501333.83, Sharpe Ratio = -20.29

Simulation Run = 9446

Weights = [0.07 0.219 0.154 0.001 0.159 0.226 0.059 0.09 0.021], Final Value = \$1574351.00, Sharpe Ratio = -18.34

Simulation Run = 9447

Weights = [0.172 0.111 0. 0.122 0.152 0.046 0.039 0.247 0.111], Final Value = \$1568266.28, Sharpe Ratio = -24.65

Simulation Run = 9448

Weights = [0.167 0.106 0.104 0.144 0.12 0.087 0.101 0.03 0.141], Final Value = \$1503906.96, Sharpe Ratio = -20.12

Simulation Run = 9449

Weights = [0.151 0.093 0.242 0.095 0.094 0.104 0.164 0.043 0.014], Final Value = \$1544736.63, Sharpe Ratio = -14.70

Simulation Run = 9450
Weights = [0.216 0.162 0.071 0.089 0.069 0.092 0.22 0.005 0.076], Final Value =
\$1537219.27, Sharpe Ratio = -14.87

Simulation Run = 9451
Weights = [0.129 0.153 0.123 0.098 0.071 0.164 0.142 0.006 0.115], Final Value =
\$1503134.78, Sharpe Ratio = -16.89

Simulation Run = 9452
Weights = [0.12 0.021 0.166 0.219 0.013 0.222 0.003 0.153 0.083], Final Value =
\$1592191.39, Sharpe Ratio = -16.88

Simulation Run = 9453
Weights = [0.117 0.166 0.151 0.123 0.058 0.165 0.086 0.131 0.004], Final Value =
\$1592155.88, Sharpe Ratio = -17.22

Simulation Run = 9454
Weights = [0.144 0.104 0.069 0.047 0.086 0.026 0.157 0.202 0.165], Final Value =
\$1441725.87, Sharpe Ratio = -18.76

Simulation Run = 9455
Weights = [0.206 0.153 0.003 0.044 0.009 0.179 0.154 0.188 0.064], Final Value =
\$1591794.83, Sharpe Ratio = -15.32

Simulation Run = 9456
Weights = [0.106 0.002 0.124 0.164 0.063 0.061 0.227 0.124 0.13], Final Value =
\$1497496.24, Sharpe Ratio = -14.45

Simulation Run = 9457
Weights = [0.136 0.119 0.213 0.028 0.112 0.055 0.159 0.025 0.152], Final Value =
\$1397373.31, Sharpe Ratio = -17.25

Simulation Run = 9458
Weights = [0.177 0.164 0.151 0.002 0.179 0. 0.103 0.175 0.049], Final Value =
\$1505334.48, Sharpe Ratio = -20.35

Simulation Run = 9459
Weights = [0.021 0.126 0.026 0.117 0.177 0.054 0.246 0.052 0.182], Final Value =
\$1457080.04, Sharpe Ratio = -16.38

Simulation Run = 9460
Weights = [0.121 0.04 0.106 0.127 0.115 0.233 0.084 0.06 0.115], Final Value =
\$1587044.75, Sharpe Ratio = -16.84

Simulation Run = 9461
Weights = [0.064 0.064 0.123 0.212 0.105 0.024 0.022 0.207 0.181], Final Value =
\$1450427.36, Sharpe Ratio = -24.70

Simulation Run = 9462
Weights = [0.112 0.082 0.124 0.087 0.175 0.052 0.172 0.167 0.03], Final Value =
\$1577003.65, Sharpe Ratio = -16.67

Simulation Run = 9463
Weights = [0.18 0.127 0.114 0.171 0.12 0.04 0.033 0.115 0.1], Final Value =
\$1526515.64, Sharpe Ratio = -23.19

Simulation Run = 9464
Weights = [0.199 0.077 0.036 0.136 0.026 0.174 0.125 0.179 0.049], Final Value =
\$1635257.32, Sharpe Ratio = -15.71

Simulation Run = 9465
Weights = [0.113 0.085 0.134 0.143 0.115 0.018 0.044 0.188 0.16], Final Value =
\$1450911.19, Sharpe Ratio = -23.75

Simulation Run = 9466
Weights = [0.178 0.02 0.061 0.085 0.004 0.182 0.133 0.039 0.298], Final Value =
\$1401331.75, Sharpe Ratio = -16.82

Simulation Run = 9467
Weights = [0.002 0.137 0.114 0.05 0.061 0.171 0.21 0.092 0.162], Final Value =
\$1435338.54, Sharpe Ratio = -15.10

Simulation Run = 9468
Weights = [0.156 0.128 0.076 0.132 0.147 0.165 0.078 0.032 0.085], Final Value =
\$1591035.02, Sharpe Ratio = -19.44

Simulation Run = 9469

Weights = [0.208 0.09 0.063 0.151 0.192 0.056 0.07 0.019 0.152], Final Value = \$1532345.40, Sharpe Ratio = -22.92

Simulation Run = 9470

Weights = [0.032 0.058 0.03 0.117 0.218 0.19 0.081 0.18 0.095], Final Value = \$1625233.54, Sharpe Ratio = -19.55

Simulation Run = 9471

Weights = [0.219 0. 0.161 0.138 0.033 0.113 0.091 0.22 0.024], Final Value = \$1612517.30, Sharpe Ratio = -15.69

Simulation Run = 9472

Weights = [0.104 0.13 0.102 0.13 0.126 0.144 0.082 0.08 0.102], Final Value = \$1543507.75, Sharpe Ratio = -19.91

Simulation Run = 9473

Weights = [0.107 0.022 0.224 0.065 0.14 0.052 0.132 0.21 0.049], Final Value = \$1524291.85, Sharpe Ratio = -16.46

Simulation Run = 9474

Weights = [0.077 0.244 0.034 0.075 0.083 0.046 0.055 0.14 0.245], Final Value = \$1353563.45, Sharpe Ratio = -28.42

Simulation Run = 9475

Weights = [0.011 0.103 0.159 0.087 0.183 0.073 0.166 0.036 0.182], Final Value = \$1412814.19, Sharpe Ratio = -18.54

Simulation Run = 9476

Weights = [0.108 0.23 0.107 0.148 0.05 0.086 0.014 0.049 0.208], Final Value = \$1387674.16, Sharpe Ratio = -26.65

Simulation Run = 9477

Weights = [0.162 0.113 0.215 0.078 0.104 0.021 0.043 0.204 0.059], Final Value = \$1491485.93, Sharpe Ratio = -20.32

Simulation Run = 9478

Weights = [0.076 0.152 0.12 0.12 0.078 0.16 0.158 0.051 0.085], Final Value = \$1526589.56, Sharpe Ratio = -16.42

Simulation Run = 9479
Weights = [0.062 0.022 0.004 0.003 0.212 0.259 0.132 0.113 0.193], Final Value =
\$1559784.17, Sharpe Ratio = -16.54

Simulation Run = 9480
Weights = [0.15 0.152 0.154 0.041 0.122 0.146 0.048 0.074 0.113], Final Value =
\$1496545.93, Sharpe Ratio = -20.49

Simulation Run = 9481
Weights = [0.023 0.308 0.292 0.015 0.069 0.001 0.104 0.107 0.082], Final Value =
\$1326756.75, Sharpe Ratio = -19.66

Simulation Run = 9482
Weights = [0.182 0.072 0.047 0.118 0.092 0.202 0.115 0.086 0.086], Final Value =
\$1617953.99, Sharpe Ratio = -16.39

Simulation Run = 9483
Weights = [0.184 0.05 0.149 0.065 0.148 0.094 0.107 0.173 0.031], Final Value =
\$1595714.40, Sharpe Ratio = -17.25

Simulation Run = 9484
Weights = [0.03 0.202 0.109 0.06 0.124 0.07 0.287 0.086 0.033], Final Value =
\$1512336.28, Sharpe Ratio = -13.62

Simulation Run = 9485
Weights = [0.146 0.137 0.074 0.163 0.004 0.079 0.136 0.105 0.156], Final Value =
\$1462676.16, Sharpe Ratio = -18.54

Simulation Run = 9486
Weights = [0.085 0.003 0.165 0.049 0.154 0.158 0.113 0.152 0.122], Final Value =
\$1525584.70, Sharpe Ratio = -16.99

Simulation Run = 9487
Weights = [0.059 0.206 0.063 0.075 0.001 0.17 0.189 0.144 0.094], Final Value =
\$1499048.26, Sharpe Ratio = -15.46

Simulation Run = 9488
Weights = [0.062 0.089 0.022 0.119 0.215 0.073 0.173 0.205 0.043], Final Value =

\$1622846.26, Sharpe Ratio = -17.67

Simulation Run = 9489

Weights = [0.109 0.002 0.075 0.17 0.186 0.11 0.18 0.09 0.079], Final Value = \$1616157.22, Sharpe Ratio = -15.96

Simulation Run = 9490

Weights = [0.112 0.178 0.023 0.005 0.142 0.109 0.181 0.046 0.204], Final Value = \$1431760.15, Sharpe Ratio = -18.16

Simulation Run = 9491

Weights = [0.137 0.192 0.114 0.134 0.082 0.227 0.027 0.014 0.074], Final Value = \$1574426.55, Sharpe Ratio = -19.20

Simulation Run = 9492

Weights = [0.145 0.119 0.088 0.043 0.022 0.045 0.136 0.141 0.26], Final Value = \$1336485.50, Sharpe Ratio = -19.82

Simulation Run = 9493

Weights = [0.144 0.204 0.11 0.111 0.086 0.032 0.198 0.111 0.003], Final Value = \$1551568.28, Sharpe Ratio = -16.06

Simulation Run = 9494

Weights = [0.052 0.116 0.079 0.035 0.269 0.086 0.143 0.115 0.105], Final Value = \$1535786.97, Sharpe Ratio = -19.71

Simulation Run = 9495

Weights = [0.066 0.185 0.147 0.031 0.184 0.252 0.052 0.054 0.027], Final Value = \$1603293.31, Sharpe Ratio = -17.99

Simulation Run = 9496

Weights = [0.163 0.051 0.043 0.102 0.152 0.113 0.142 0.091 0.142], Final Value = \$1549753.94, Sharpe Ratio = -18.04

Simulation Run = 9497

Weights = [0.191 0.033 0.01 0.074 0.075 0.165 0.106 0.155 0.191], Final Value = \$1527951.59, Sharpe Ratio = -17.93

Simulation Run = 9498
Weights = [0.219 0.162 0.034 0.092 0.036 0.058 0.041 0.202 0.155], Final Value =
\$1478273.44, Sharpe Ratio = -23.43

Simulation Run = 9499
Weights = [0.142 0.195 0.155 0.136 0.071 0.125 0.11 0.022 0.044], Final Value =
\$1538808.72, Sharpe Ratio = -17.95

Simulation Run = 9500
Weights = [0.196 0.049 0.144 0.199 0.066 0.058 0.212 0.068 0.009], Final Value =
\$1605456.78, Sharpe Ratio = -13.92

Simulation Run = 9501
Weights = [0.146 0.184 0.184 0.123 0.083 0.124 0.003 0.152 0.001], Final Value =
\$1577874.52, Sharpe Ratio = -20.04

Simulation Run = 9502
Weights = [0.154 0.002 0.142 0.038 0.014 0.139 0.119 0.196 0.196], Final Value =
\$1438529.61, Sharpe Ratio = -16.57

Simulation Run = 9503
Weights = [0.137 0.128 0.073 0.056 0.071 0.122 0.16 0.136 0.117], Final Value =
\$1506477.24, Sharpe Ratio = -16.89

Simulation Run = 9504
Weights = [0.02 0.186 0.141 0.187 0.112 0.156 0.062 0.093 0.042], Final Value =
\$1564079.77, Sharpe Ratio = -19.87

Simulation Run = 9505
Weights = [0.104 0.011 0.05 0.098 0.2 0.227 0.101 0.031 0.178], Final Value =
\$1571073.26, Sharpe Ratio = -17.85

Simulation Run = 9506
Weights = [0.209 0.028 0.176 0.018 0.134 0.141 0.214 0.006 0.074], Final Value =
\$1550729.46, Sharpe Ratio = -13.51

Simulation Run = 9507
Weights = [0.116 0.075 0.019 0.152 0.105 0.11 0.173 0.176 0.073], Final Value =
\$1603170.54, Sharpe Ratio = -16.49

Simulation Run = 9508
Weights = [0.191 0.173 0.164 0.112 0.166 0.048 0.053 0.06 0.033], Final Value =
\$1552691.60, Sharpe Ratio = -21.33

Simulation Run = 9509
Weights = [0.254 0.191 0.027 0.031 0.105 0.252 0.083 0.053 0.004], Final Value =
\$1682835.20, Sharpe Ratio = -16.07

Simulation Run = 9510
Weights = [0.042 0.17 0.017 0.087 0.203 0.099 0.028 0.187 0.167], Final Value =
\$1498139.49, Sharpe Ratio = -27.73

Simulation Run = 9511
Weights = [0.074 0.069 0.056 0.124 0.089 0.122 0.183 0.178 0.105], Final Value =
\$1549081.53, Sharpe Ratio = -16.07

Simulation Run = 9512
Weights = [0.141 0.037 0.037 0.132 0.182 0.116 0.119 0.002 0.235], Final Value =
\$1484728.67, Sharpe Ratio = -20.35

Simulation Run = 9513
Weights = [0.197 0.168 0.031 0.116 0.11 0.068 0.064 0.228 0.017], Final Value =
\$1621260.35, Sharpe Ratio = -21.13

Simulation Run = 9514
Weights = [0.104 0.148 0.159 0.115 0.009 0.062 0.093 0.144 0.167], Final Value =
\$1395130.22, Sharpe Ratio = -20.18

Simulation Run = 9515
Weights = [0.083 0.115 0.105 0.149 0.108 0.038 0.159 0.098 0.145], Final Value =
\$1460822.81, Sharpe Ratio = -18.79

Simulation Run = 9516
Weights = [0.11 0.013 0.031 0.103 0.096 0.178 0.13 0.155 0.182], Final Value =
\$1532860.71, Sharpe Ratio = -17.22

Simulation Run = 9517

Weights = [0.186 0.118 0.144 0.142 0.096 0.056 0.141 0.115 0.002], Final Value = \$1591561.50, Sharpe Ratio = -16.69

Simulation Run = 9518

Weights = [0.016 0.181 0.111 0.078 0.036 0.22 0.1 0.127 0.13], Final Value = \$1480117.53, Sharpe Ratio = -17.80

Simulation Run = 9519

Weights = [0.186 0.146 0.01 0.084 0.002 0.207 0. 0.194 0.17], Final Value = \$1521194.55, Sharpe Ratio = -20.40

Simulation Run = 9520

Weights = [0.153 0.11 0.104 0.126 0.044 0.136 0.136 0.033 0.159], Final Value = \$1477559.67, Sharpe Ratio = -17.46

Simulation Run = 9521

Weights = [0.139 0.035 0.082 0.028 0.231 0.092 0.102 0.232 0.059], Final Value = \$1608124.88, Sharpe Ratio = -19.01

Simulation Run = 9522

Weights = [0.003 0.088 0.107 0.187 0.14 0.135 0.128 0.126 0.086], Final Value = \$1560194.61, Sharpe Ratio = -18.14

Simulation Run = 9523

Weights = [0.11 0.038 0.138 0.028 0.106 0.228 0.009 0.187 0.157], Final Value = \$1517276.64, Sharpe Ratio = -18.85

Simulation Run = 9524

Weights = [0.182 0.063 0.175 0.071 0.083 0.244 0.119 0.009 0.053], Final Value = \$1598050.54, Sharpe Ratio = -14.49

Simulation Run = 9525

Weights = [0.006 0.06 0.003 0.181 0.244 0.19 0.028 0.152 0.135], Final Value = \$1619036.75, Sharpe Ratio = -22.58

Simulation Run = 9526

Weights = [0.005 0.211 0.187 0.048 0.055 0.059 0.12 0.16 0.155], Final Value = \$1354537.90, Sharpe Ratio = -20.08

Simulation Run = 9527
Weights = [0.104 0.016 0.064 0.209 0.106 0. 0.232 0.193 0.076], Final Value =
\$1565355.73, Sharpe Ratio = -14.99

Simulation Run = 9528
Weights = [0.137 0.002 0.195 0.122 0.222 0.152 0.048 0.091 0.031], Final Value =
\$1635438.26, Sharpe Ratio = -17.76

Simulation Run = 9529
Weights = [0.148 0.067 0.129 0.173 0.079 0.158 0.03 0.053 0.163], Final Value =
\$1509293.57, Sharpe Ratio = -20.34

Simulation Run = 9530
Weights = [0.104 0.167 0.089 0.054 0.126 0.153 0.078 0.137 0.092], Final Value =
\$1535182.15, Sharpe Ratio = -20.17

Simulation Run = 9531
Weights = [0.198 0.177 0.096 0.125 0.082 0.065 0.012 0.114 0.131], Final Value =
\$1487238.12, Sharpe Ratio = -24.54

Simulation Run = 9532
Weights = [0.101 0.162 0.048 0.06 0.119 0.118 0.095 0.16 0.137], Final Value =
\$1499549.35, Sharpe Ratio = -21.19

Simulation Run = 9533
Weights = [0.052 0.174 0.078 0.187 0.227 0.047 0.19 0.017 0.027], Final Value =
\$1592314.09, Sharpe Ratio = -17.65

Simulation Run = 9534
Weights = [0.088 0.008 0.089 0.278 0.265 0.113 0.064 0.071 0.025], Final Value =
\$1703334.17, Sharpe Ratio = -19.38

Simulation Run = 9535
Weights = [0.054 0.191 0.142 0.164 0.019 0.125 0.063 0.187 0.054], Final Value =
\$1520893.35, Sharpe Ratio = -19.58

Simulation Run = 9536
Weights = [0.058 0.051 0.108 0.216 0.114 0.14 0.206 0.034 0.073], Final Value =

\$1585185.29, Sharpe Ratio = -14.71

Simulation Run = 9537

Weights = [0.09 0.041 0.085 0.131 0.072 0.107 0.151 0.189 0.135], Final Value = \$1514384.77, Sharpe Ratio = -17.10

Simulation Run = 9538

Weights = [0.082 0.112 0.136 0.072 0.205 0.106 0.135 0.081 0.071], Final Value = \$1546664.87, Sharpe Ratio = -18.32

Simulation Run = 9539

Weights = [0.024 0.116 0.077 0.126 0.125 0.124 0.326 0.023 0.059], Final Value = \$1556646.59, Sharpe Ratio = -12.14

Simulation Run = 9540

Weights = [0.014 0.055 0.069 0.221 0.139 0.054 0.227 0.11 0.11], Final Value = \$1536170.09, Sharpe Ratio = -15.71

Simulation Run = 9541

Weights = [0.148 0.01 0.075 0.05 0.127 0.107 0.176 0.191 0.116], Final Value = \$1547925.75, Sharpe Ratio = -15.87

Simulation Run = 9542

Weights = [0.113 0.028 0.23 0.09 0.081 0.075 0.157 0.171 0.054], Final Value = \$1514277.35, Sharpe Ratio = -15.18

Simulation Run = 9543

Weights = [0.044 0.166 0.106 0.121 0.12 0.167 0.104 0.146 0.025], Final Value = \$1593954.45, Sharpe Ratio = -18.13

Simulation Run = 9544

Weights = [0.011 0.005 0.044 0.128 0.254 0.203 0.222 0.076 0.057], Final Value = \$1669199.54, Sharpe Ratio = -14.09

Simulation Run = 9545

Weights = [0.169 0.066 0.213 0.012 0.032 0.144 0.036 0.209 0.119], Final Value = \$1467359.58, Sharpe Ratio = -18.02

Simulation Run = 9546
Weights = [0.179 0.051 0.155 0.135 0.053 0.016 0.155 0.126 0.13], Final Value =
\$1463418.65, Sharpe Ratio = -17.02

Simulation Run = 9547
Weights = [0.044 0.044 0.21 0.146 0.086 0.053 0.086 0.121 0.21], Final Value =
\$1377013.20, Sharpe Ratio = -20.18

Simulation Run = 9548
Weights = [0.045 0.128 0.225 0.056 0.261 0.151 0.023 0.012 0.099], Final Value =
\$1507401.82, Sharpe Ratio = -21.25

Simulation Run = 9549
Weights = [0.012 0.184 0.026 0.137 0.162 0.197 0.147 0.066 0.069], Final Value =
\$1599137.72, Sharpe Ratio = -17.66

Simulation Run = 9550
Weights = [0.152 0.128 0.105 0.106 0.102 0.169 0.181 0.002 0.054], Final Value =
\$1583820.06, Sharpe Ratio = -15.07

Simulation Run = 9551
Weights = [0.054 0.152 0.124 0.06 0.125 0.182 0.128 0.03 0.145], Final Value =
\$1476421.34, Sharpe Ratio = -18.03

Simulation Run = 9552
Weights = [0.041 0.061 0.059 0.161 0.152 0.125 0.157 0.122 0.123], Final Value =
\$1552707.11, Sharpe Ratio = -17.70

Simulation Run = 9553
Weights = [0.083 0.035 0.165 0.053 0.14 0.186 0.027 0.153 0.158], Final Value =
\$1497298.91, Sharpe Ratio = -19.71

Simulation Run = 9554
Weights = [0.225 0.192 0.002 0.027 0.04 0.007 0.216 0.198 0.093], Final Value =
\$1496252.19, Sharpe Ratio = -16.01

Simulation Run = 9555
Weights = [0.185 0.028 0.018 0.235 0.062 0.093 0.17 0.054 0.155], Final Value =
\$1554717.34, Sharpe Ratio = -16.63

Simulation Run = 9556
Weights = [0.184 0.085 0.085 0.072 0.107 0.209 0.006 0.12 0.132], Final Value =
\$1562142.77, Sharpe Ratio = -19.78

Simulation Run = 9557
Weights = [0.139 0.192 0.045 0.072 0.098 0.192 0.093 0.162 0.007], Final Value =
\$1638585.19, Sharpe Ratio = -17.70

Simulation Run = 9558
Weights = [0.141 0.148 0.183 0.012 0.133 0.126 0.069 0.101 0.087], Final Value =
\$1495544.92, Sharpe Ratio = -19.50

Simulation Run = 9559
Weights = [0.169 0.035 0.11 0.108 0.157 0.119 0.101 0.147 0.054], Final Value =
\$1613505.48, Sharpe Ratio = -17.73

Simulation Run = 9560
Weights = [0.102 0.139 0.121 0.105 0.121 0.182 0.153 0.013 0.064], Final Value =
\$1567978.01, Sharpe Ratio = -16.11

Simulation Run = 9561
Weights = [0.139 0.048 0.118 0.127 0.181 0.168 0.039 0.103 0.076], Final Value =
\$1613016.31, Sharpe Ratio = -19.44

Simulation Run = 9562
Weights = [0.128 0.115 0.158 0.056 0.018 0.078 0.185 0.114 0.148], Final Value =
\$1414761.13, Sharpe Ratio = -15.89

Simulation Run = 9563
Weights = [0.083 0.106 0.19 0.126 0.153 0.018 0.144 0.047 0.134], Final Value =
\$1436130.47, Sharpe Ratio = -18.82

Simulation Run = 9564
Weights = [0.238 0.206 0.05 0.142 0.003 0.027 0.027 0.089 0.218], Final Value =
\$1397245.59, Sharpe Ratio = -25.89

Simulation Run = 9565

Weights = [0.055 0.034 0.213 0.1 0.06 0.119 0.073 0.175 0.172], Final Value = \$1423864.61, Sharpe Ratio = -18.64

Simulation Run = 9566

Weights = [0.164 0.053 0.193 0.169 0.021 0.042 0.142 0.071 0.145], Final Value = \$1439955.08, Sharpe Ratio = -16.78

Simulation Run = 9567

Weights = [0.175 0.212 0.043 0.082 0.148 0.023 0.022 0.121 0.172], Final Value = \$1450508.46, Sharpe Ratio = -28.76

Simulation Run = 9568

Weights = [0.132 0.155 0.019 0.028 0.192 0.093 0.14 0.098 0.144], Final Value = \$1511239.48, Sharpe Ratio = -19.99

Simulation Run = 9569

Weights = [0.097 0.067 0.085 0.113 0.133 0.192 0.047 0.072 0.194], Final Value = \$1503180.77, Sharpe Ratio = -20.72

Simulation Run = 9570

Weights = [0.158 0.126 0.003 0.088 0.011 0.237 0.179 0.104 0.093], Final Value = \$1593743.34, Sharpe Ratio = -14.15

Simulation Run = 9571

Weights = [0.2 0.13 0.123 0.072 0.143 0.001 0.075 0.2 0.055], Final Value = \$1533145.97, Sharpe Ratio = -21.20

Simulation Run = 9572

Weights = [0.015 0.161 0.179 0.074 0.13 0.189 0.205 0.042 0.006], Final Value = \$1569655.77, Sharpe Ratio = -14.07

Simulation Run = 9573

Weights = [0.092 0.052 0.224 0.173 0.015 0.065 0.12 0.203 0.057], Final Value = \$1503645.50, Sharpe Ratio = -16.13

Simulation Run = 9574

Weights = [0.066 0.171 0.142 0.171 0.124 0.095 0.065 0.033 0.134], Final Value = \$1471056.83, Sharpe Ratio = -22.44

Simulation Run = 9575
Weights = [0.121 0.067 0.046 0.162 0.171 0.036 0.221 0.117 0.058], Final Value =
\$1595267.63, Sharpe Ratio = -15.69

Simulation Run = 9576
Weights = [0.155 0.242 0.092 0.001 0.091 0.148 0.128 0.098 0.045], Final Value =
\$1538794.91, Sharpe Ratio = -17.71

Simulation Run = 9577
Weights = [0.136 0.138 0.13 0.108 0.142 0.123 0.053 0.133 0.037], Final Value =
\$1586466.68, Sharpe Ratio = -20.10

Simulation Run = 9578
Weights = [0.164 0.1 0.037 0.122 0.07 0.133 0.17 0.147 0.056], Final Value =
\$1604926.74, Sharpe Ratio = -15.74

Simulation Run = 9579
Weights = [0.095 0.143 0.053 0.158 0.048 0.01 0.163 0.18 0.149], Final Value =
\$1451296.66, Sharpe Ratio = -19.12

Simulation Run = 9580
Weights = [0.155 0.057 0.027 0.139 0.142 0.139 0.154 0.129 0.059], Final Value =
\$1641761.26, Sharpe Ratio = -16.44

Simulation Run = 9581
Weights = [0.143 0.157 0.129 0.032 0.151 0.043 0.125 0.163 0.056], Final Value =
\$1518289.81, Sharpe Ratio = -19.20

Simulation Run = 9582
Weights = [0.125 0.303 0.102 0.003 0.035 0.037 0.087 0.168 0.14], Final Value =
\$1377318.53, Sharpe Ratio = -23.19

Simulation Run = 9583
Weights = [0.079 0.158 0.253 0.008 0.247 0.021 0.124 0.072 0.038], Final Value =
\$1480488.12, Sharpe Ratio = -18.57

Simulation Run = 9584
Weights = [0.084 0.011 0.079 0.071 0.18 0.15 0.205 0.037 0.182], Final Value =

\$1506038.77, Sharpe Ratio = -15.50

Simulation Run = 9585

Weights = [0.087 0.074 0.154 0.2 0.025 0.194 0.038 0.184 0.045], Final Value = \$1597616.94, Sharpe Ratio = -17.22

Simulation Run = 9586

Weights = [0.128 0.116 0.075 0.173 0.161 0.072 0.146 0.031 0.098], Final Value = \$1552282.20, Sharpe Ratio = -18.83

Simulation Run = 9587

Weights = [0.181 0.114 0.058 0.187 0.002 0.111 0.215 0.038 0.093], Final Value = \$1547458.74, Sharpe Ratio = -14.50

Simulation Run = 9588

Weights = [0.133 0.151 0.073 0.111 0.059 0.024 0.154 0.131 0.165], Final Value = \$1430284.99, Sharpe Ratio = -19.35

Simulation Run = 9589

Weights = [0.156 0.181 0.218 0.001 0.102 0.007 0.088 0.171 0.077], Final Value = \$1428863.09, Sharpe Ratio = -19.98

Simulation Run = 9590

Weights = [0.084 0.198 0.242 0.028 0.088 0.068 0.055 0.224 0.013], Final Value = \$1485952.39, Sharpe Ratio = -19.46

Simulation Run = 9591

Weights = [0.066 0.151 0.126 0.088 0.119 0.179 0.1 0.139 0.032], Final Value = \$1584504.19, Sharpe Ratio = -17.68

Simulation Run = 9592

Weights = [0.146 0.131 0.104 0.007 0.068 0.134 0.116 0.116 0.178], Final Value = \$1436551.23, Sharpe Ratio = -18.62

Simulation Run = 9593

Weights = [0.054 0.11 0.131 0.175 0.109 0.177 0.117 0.014 0.113], Final Value = \$1532392.76, Sharpe Ratio = -17.70

Simulation Run = 9594
Weights = [0.146 0.011 0.119 0.132 0.093 0.166 0.111 0.147 0.075], Final Value =
\$1599393.62, Sharpe Ratio = -16.24

Simulation Run = 9595
Weights = [0.114 0.154 0.103 0.099 0.091 0.144 0.011 0.127 0.156], Final Value =
\$1479772.00, Sharpe Ratio = -23.24

Simulation Run = 9596
Weights = [0.008 0.186 0.183 0.1 0.006 0.002 0.195 0.154 0.167], Final Value =
\$1326567.31, Sharpe Ratio = -17.05

Simulation Run = 9597
Weights = [0.24 0.134 0.189 0.007 0.172 0.06 0.048 0.089 0.061], Final Value =
\$1521498.08, Sharpe Ratio = -20.39

Simulation Run = 9598
Weights = [0.117 0.242 0.013 0.134 0.142 0.103 0.166 0.041 0.042], Final Value =
\$1587680.05, Sharpe Ratio = -18.28

Simulation Run = 9599
Weights = [0.014 0.212 0.142 0.133 0.021 0.092 0.117 0.199 0.069], Final Value =
\$1473367.40, Sharpe Ratio = -18.87

Simulation Run = 9600
Weights = [0.03 0.167 0.061 0.125 0.163 0.118 0.119 0.122 0.094], Final Value =
\$1541074.03, Sharpe Ratio = -20.36

Simulation Run = 9601
Weights = [0.03 0.164 0.131 0.022 0.141 0.186 0.145 0.036 0.145], Final Value =
\$1462601.77, Sharpe Ratio = -17.50

Simulation Run = 9602
Weights = [0.158 0.011 0.145 0.121 0.109 0.159 0.057 0.13 0.11], Final Value =
\$1562612.12, Sharpe Ratio = -18.12

Simulation Run = 9603
Weights = [0.162 0.028 0.142 0.147 0.06 0.025 0.186 0.112 0.138], Final Value =
\$1470246.98, Sharpe Ratio = -15.97

Simulation Run = 9604
Weights = [0.194 0.128 0.096 0.025 0.001 0.046 0.123 0.213 0.175], Final Value =
\$1408159.03, Sharpe Ratio = -18.88

Simulation Run = 9605
Weights = [0.124 0.071 0.07 0.099 0.15 0.236 0.1 0.143 0.008], Final Value =
\$1691669.44, Sharpe Ratio = -15.92

Simulation Run = 9606
Weights = [0.031 0.192 0.117 0.188 0.119 0.07 0.067 0.111 0.104], Final Value =
\$1490297.62, Sharpe Ratio = -23.20

Simulation Run = 9607
Weights = [0.124 0.086 0.093 0.025 0.153 0.078 0.103 0.174 0.165], Final Value =
\$1466809.49, Sharpe Ratio = -20.80

Simulation Run = 9608
Weights = [0.15 0.094 0.044 0.155 0.203 0.162 0.139 0.009 0.044], Final Value =
\$1661655.15, Sharpe Ratio = -17.12

Simulation Run = 9609
Weights = [0.033 0.27 0.038 0.086 0.168 0.251 0.005 0.047 0.103], Final Value =
\$1562538.92, Sharpe Ratio = -22.23

Simulation Run = 9610
Weights = [0.3 0.074 0.048 0.099 0.095 0.016 0.167 0.128 0.072], Final Value =
\$1575420.91, Sharpe Ratio = -16.53

Simulation Run = 9611
Weights = [0.205 0.012 0.122 0.138 0.118 0.037 0.148 0.19 0.029], Final Value =
\$1606960.34, Sharpe Ratio = -16.17

Simulation Run = 9612
Weights = [0.01 0.104 0.082 0.076 0.231 0.122 0.173 0.063 0.14], Final Value =
\$1509877.55, Sharpe Ratio = -18.04

Simulation Run = 9613

Weights = [0.029 0.135 0.149 0.033 0.062 0.143 0.094 0.181 0.176], Final Value = \$1408423.70, Sharpe Ratio = -19.54

Simulation Run = 9614

Weights = [0.049 0.157 0.143 0.18 0.164 0.034 0.126 0.135 0.013], Final Value = \$1565221.28, Sharpe Ratio = -19.09

Simulation Run = 9615

Weights = [0.111 0.158 0.164 0.09 0.081 0.159 0.098 0.021 0.117], Final Value = \$1481253.75, Sharpe Ratio = -18.40

Simulation Run = 9616

Weights = [0.144 0.012 0.226 0.126 0.201 0.07 0.097 0.085 0.04], Final Value = \$1574595.72, Sharpe Ratio = -17.32

Simulation Run = 9617

Weights = [0. 0.143 0.229 0.194 0.073 0.055 0.167 0.036 0.103], Final Value = \$1429519.58, Sharpe Ratio = -16.64

Simulation Run = 9618

Weights = [0.025 0.012 0.057 0.163 0.036 0.15 0.185 0.092 0.28], Final Value = \$1404846.05, Sharpe Ratio = -16.40

Simulation Run = 9619

Weights = [0.156 0.078 0.132 0.071 0.107 0.053 0.085 0.163 0.155], Final Value = \$1457475.44, Sharpe Ratio = -20.74

Simulation Run = 9620

Weights = [0.175 0.011 0.132 0.167 0.014 0.163 0.146 0.067 0.125], Final Value = \$1538195.67, Sharpe Ratio = -15.05

Simulation Run = 9621

Weights = [0.133 0.158 0.099 0.089 0.137 0.133 0.01 0.059 0.182], Final Value = \$1465397.30, Sharpe Ratio = -24.67

Simulation Run = 9622

Weights = [0.094 0.201 0.002 0.164 0.08 0.065 0.16 0.048 0.186], Final Value = \$1450997.11, Sharpe Ratio = -20.12

Simulation Run = 9623
Weights = [0.206 0.174 0.11 0.161 0.16 0.008 0.02 0.048 0.112], Final Value =
\$1504296.60, Sharpe Ratio = -25.59

Simulation Run = 9624
Weights = [0.09 0.094 0.119 0.12 0.091 0.138 0.145 0.054 0.149], Final Value =
\$1484464.27, Sharpe Ratio = -17.41

Simulation Run = 9625
Weights = [0.089 0.108 0.134 0.171 0.007 0.181 0.156 0.05 0.105], Final Value =
\$1518133.56, Sharpe Ratio = -15.38

Simulation Run = 9626
Weights = [0.008 0.094 0.107 0.055 0.136 0.166 0.145 0.164 0.125], Final Value =
\$1506208.28, Sharpe Ratio = -17.34

Simulation Run = 9627
Weights = [0.095 0.102 0.06 0.211 0.16 0.098 0.194 0.034 0.048], Final Value =
\$1614960.77, Sharpe Ratio = -16.15

Simulation Run = 9628
Weights = [0.112 0.033 0.149 0.127 0.139 0.005 0.097 0.152 0.185], Final Value =
\$1430782.99, Sharpe Ratio = -21.14

Simulation Run = 9629
Weights = [0.164 0.192 0.095 0.224 0.073 0.005 0.163 0.026 0.059], Final Value =
\$1527378.44, Sharpe Ratio = -18.13

Simulation Run = 9630
Weights = [0.081 0.037 0.153 0.183 0.036 0.113 0.162 0.061 0.175], Final Value =
\$1452179.02, Sharpe Ratio = -16.27

Simulation Run = 9631
Weights = [0.035 0.063 0.182 0.009 0.164 0.304 0.082 0.013 0.147], Final Value =
\$1518408.57, Sharpe Ratio = -15.97

Simulation Run = 9632
Weights = [0.134 0.108 0.154 0.165 0.105 0.101 0.142 0.037 0.054], Final Value =

\$1557045.54, Sharpe Ratio = -16.83

Simulation Run = 9633

Weights = [0.057 0.098 0.082 0.2 0.035 0.197 0.127 0.05 0.154], Final Value = \$1515749.69, Sharpe Ratio = -17.02

Simulation Run = 9634

Weights = [0.18 0.024 0.069 0.096 0.064 0.091 0.155 0.177 0.143], Final Value = \$1518609.29, Sharpe Ratio = -16.65

Simulation Run = 9635

Weights = [0.319 0.168 0.236 0.041 0.039 0.097 0.032 0.033 0.035], Final Value = \$1516974.17, Sharpe Ratio = -17.85

Simulation Run = 9636

Weights = [0.072 0.169 0.067 0.153 0.166 0.088 0.075 0.116 0.093], Final Value = \$1544652.45, Sharpe Ratio = -22.98

Simulation Run = 9637

Weights = [0.036 0.12 0.213 0.075 0.052 0.184 0.279 0.036 0.006], Final Value = \$1545247.45, Sharpe Ratio = -11.69

Simulation Run = 9638

Weights = [0.13 0.176 0.008 0.108 0.178 0.034 0.151 0.197 0.018], Final Value = \$1612958.15, Sharpe Ratio = -19.24

Simulation Run = 9639

Weights = [0.22 0.075 0.183 0.075 0.242 0.04 0.04 0.037 0.088], Final Value = \$1537231.83, Sharpe Ratio = -21.49

Simulation Run = 9640

Weights = [0.091 0.118 0.042 0.174 0.023 0.026 0.208 0.17 0.148], Final Value = \$1462716.08, Sharpe Ratio = -16.67

Simulation Run = 9641

Weights = [0.076 0.182 0.085 0.037 0.13 0.033 0.139 0.196 0.123], Final Value = \$1451266.25, Sharpe Ratio = -20.57

Simulation Run = 9642
Weights = [0.067 0.114 0.186 0.135 0.041 0.097 0.12 0.159 0.081], Final Value =
\$1487314.31, Sharpe Ratio = -17.37

Simulation Run = 9643
Weights = [0.067 0.131 0.261 0.02 0.04 0.254 0.042 0.071 0.113], Final Value =
\$1459154.17, Sharpe Ratio = -16.42

Simulation Run = 9644
Weights = [0.012 0.105 0.132 0.143 0.156 0.12 0.125 0.18 0.025], Final Value =
\$1590184.95, Sharpe Ratio = -17.75

Simulation Run = 9645
Weights = [0.025 0.176 0.153 0.131 0.17 0.06 0.073 0.037 0.175], Final Value =
\$1411179.59, Sharpe Ratio = -24.13

Simulation Run = 9646
Weights = [0.09 0.109 0.179 0.022 0.104 0.161 0.046 0.166 0.125], Final Value =
\$1476078.82, Sharpe Ratio = -19.63

Simulation Run = 9647
Weights = [0.14 0.106 0.083 0.111 0.059 0.132 0.05 0.163 0.156], Final Value =
\$1494138.47, Sharpe Ratio = -21.08

Simulation Run = 9648
Weights = [0.137 0.161 0.08 0.174 0.129 0.033 0.005 0.168 0.112], Final Value =
\$1515911.58, Sharpe Ratio = -26.38

Simulation Run = 9649
Weights = [0.12 0.044 0.149 0.048 0.112 0.142 0.109 0.151 0.126], Final Value =
\$1506949.45, Sharpe Ratio = -17.55

Simulation Run = 9650
Weights = [0.018 0.014 0.148 0.135 0.104 0.214 0.057 0.131 0.179], Final Value =
\$1497750.72, Sharpe Ratio = -18.44

Simulation Run = 9651
Weights = [0.077 0.167 0.164 0.17 0.087 0.126 0.123 0.003 0.083], Final Value =
\$1507558.21, Sharpe Ratio = -17.97

Simulation Run = 9652
Weights = [0.154 0.004 0.005 0.096 0.09 0.157 0.177 0.186 0.131], Final Value =
\$1585570.27, Sharpe Ratio = -15.30

Simulation Run = 9653
Weights = [0.175 0.108 0.033 0.179 0.178 0.068 0.049 0.064 0.147], Final Value =
\$1547002.14, Sharpe Ratio = -24.42

Simulation Run = 9654
Weights = [0.059 0.203 0.188 0.104 0.097 0.192 0.032 0.109 0.016], Final Value =
\$1563682.53, Sharpe Ratio = -18.88

Simulation Run = 9655
Weights = [0.073 0.032 0.004 0.144 0.251 0.115 0.058 0.208 0.115], Final Value =
\$1621111.72, Sharpe Ratio = -22.54

Simulation Run = 9656
Weights = [0.16 0.001 0.045 0.114 0.194 0.175 0.027 0.175 0.109], Final Value =
\$1635349.95, Sharpe Ratio = -19.99

Simulation Run = 9657
Weights = [0.115 0.166 0.098 0.071 0.121 0.101 0.083 0.11 0.135], Final Value =
\$1478773.42, Sharpe Ratio = -21.65

Simulation Run = 9658
Weights = [0.01 0.171 0.031 0.079 0.173 0.099 0.055 0.227 0.154], Final Value =
\$1487894.94, Sharpe Ratio = -25.78

Simulation Run = 9659
Weights = [0.187 0.115 0.052 0.173 0.09 0.047 0.014 0.119 0.202], Final Value =
\$1463607.13, Sharpe Ratio = -26.16

Simulation Run = 9660
Weights = [0.043 0.13 0.049 0.157 0.123 0.033 0.221 0.156 0.088], Final Value =
\$1524356.22, Sharpe Ratio = -16.45

Simulation Run = 9661

Weights = [0.018 0.034 0.242 0.046 0.159 0.058 0.035 0.266 0.143], Final Value = \$1425583.32, Sharpe Ratio = -21.03

Simulation Run = 9662

Weights = [0.118 0.011 0.027 0.174 0.154 0.071 0.167 0.162 0.116], Final Value = \$1582629.02, Sharpe Ratio = -17.38

Simulation Run = 9663

Weights = [0.153 0.09 0.161 0.178 0.01 0.11 0.109 0.017 0.173], Final Value = \$1442069.69, Sharpe Ratio = -17.99

Simulation Run = 9664

Weights = [0.003 0.155 0.164 0.193 0.075 0.001 0.16 0.081 0.167], Final Value = \$1379369.99, Sharpe Ratio = -18.99

Simulation Run = 9665

Weights = [0.166 0.06 0.188 0.097 0.042 0.227 0.186 0.021 0.013], Final Value = \$1610969.12, Sharpe Ratio = -12.72

Simulation Run = 9666

Weights = [0.049 0.151 0.176 0.182 0.176 0.072 0.058 0.026 0.11], Final Value = \$1487433.10, Sharpe Ratio = -22.40

Simulation Run = 9667

Weights = [0.162 0.115 0.185 0.188 0.056 0.104 0.046 0.082 0.061], Final Value = \$1541115.58, Sharpe Ratio = -18.99

Simulation Run = 9668

Weights = [0.11 0.151 0.114 0.148 0.095 0.023 0.16 0.044 0.155], Final Value = \$1432729.47, Sharpe Ratio = -19.07

Simulation Run = 9669

Weights = [0.076 0.007 0.057 0.019 0.124 0.32 0.226 0.098 0.073], Final Value = \$1648259.14, Sharpe Ratio = -11.94

Simulation Run = 9670

Weights = [0.127 0.024 0.148 0.118 0.149 0.089 0.166 0.012 0.167], Final Value = \$1475840.67, Sharpe Ratio = -16.94

Simulation Run = 9671
Weights = [0.103 0.024 0.179 0.188 0.164 0.067 0.19 0.006 0.08], Final Value =
\$1544850.41, Sharpe Ratio = -15.44

Simulation Run = 9672
Weights = [0.156 0.044 0.018 0.19 0.03 0.098 0.119 0.191 0.153], Final Value =
\$1537185.93, Sharpe Ratio = -18.40

Simulation Run = 9673
Weights = [0.122 0.005 0.186 0.017 0.166 0.146 0.21 0.101 0.046], Final Value =
\$1573742.96, Sharpe Ratio = -13.57

Simulation Run = 9674
Weights = [0.027 0.119 0.129 0.163 0.185 0.032 0.007 0.123 0.216], Final Value =
\$1406271.22, Sharpe Ratio = -28.27

Simulation Run = 9675
Weights = [0.024 0.042 0.185 0.156 0.181 0.031 0.107 0.117 0.157], Final Value =
\$1446875.87, Sharpe Ratio = -20.23

Simulation Run = 9676
Weights = [0.191 0.178 0.008 0.104 0. 0.178 0.012 0.17 0.159], Final Value =
\$1515535.18, Sharpe Ratio = -21.29

Simulation Run = 9677
Weights = [0.129 0.114 0.027 0.196 0.086 0.067 0.162 0.12 0.098], Final Value =
\$1558318.12, Sharpe Ratio = -17.90

Simulation Run = 9678
Weights = [0.201 0.1 0.077 0.035 0.034 0.113 0.003 0.206 0.232], Final Value =
\$1416422.76, Sharpe Ratio = -23.18

Simulation Run = 9679
Weights = [0.071 0.107 0.178 0.095 0.04 0.187 0.068 0.154 0.1], Final Value =
\$1503032.52, Sharpe Ratio = -17.65

Simulation Run = 9680
Weights = [0.048 0.14 0.038 0.111 0.074 0.197 0.005 0.2 0.187], Final Value =

\$1492430.03, Sharpe Ratio = -22.80

Simulation Run = 9681

Weights = [0.061 0.064 0.231 0.066 0.097 0.106 0.192 0.179 0.004], Final Value = \$1547253.78, Sharpe Ratio = -14.03

Simulation Run = 9682

Weights = [0.144 0.052 0.166 0.037 0.2 0.157 0.021 0.103 0.12], Final Value = \$1536281.70, Sharpe Ratio = -20.39

Simulation Run = 9683

Weights = [0.165 0.114 0.186 0.108 0.015 0.168 0.116 0.093 0.036], Final Value = \$1555952.68, Sharpe Ratio = -15.42

Simulation Run = 9684

Weights = [0.222 0.169 0.118 0.047 0.201 0.003 0.044 0.092 0.104], Final Value = \$1495548.00, Sharpe Ratio = -24.46

Simulation Run = 9685

Weights = [0.169 0.111 0.163 0.183 0.064 0.058 0.068 0.064 0.12], Final Value = \$1483373.14, Sharpe Ratio = -20.28

Simulation Run = 9686

Weights = [0.082 0.091 0.144 0.179 0.051 0.078 0.155 0.039 0.181], Final Value = \$1424938.05, Sharpe Ratio = -17.71

Simulation Run = 9687

Weights = [0.058 0.089 0.034 0.223 0.218 0.001 0.135 0.186 0.057], Final Value = \$1602929.16, Sharpe Ratio = -20.42

Simulation Run = 9688

Weights = [0.127 0.137 0.026 0.097 0.14 0.095 0.094 0.141 0.143], Final Value = \$1519193.09, Sharpe Ratio = -21.82

Simulation Run = 9689

Weights = [0.057 0.068 0.165 0.05 0.203 0.205 0.087 0.149 0.016], Final Value = \$1627237.62, Sharpe Ratio = -16.82

Simulation Run = 9690
Weights = [0.218 0.176 0.005 0.107 0.083 0.061 0.167 0.128 0.055], Final Value =
\$1580562.88, Sharpe Ratio = -17.39

Simulation Run = 9691
Weights = [0.194 0.147 0.031 0.098 0.199 0.105 0.123 0.036 0.069], Final Value =
\$1606390.87, Sharpe Ratio = -19.31

Simulation Run = 9692
Weights = [0.112 0.17 0.09 0.036 0.187 0.201 0.085 0.056 0.063], Final Value =
\$1588474.92, Sharpe Ratio = -18.81

Simulation Run = 9693
Weights = [0.165 0.227 0.084 0.209 0.163 0.044 0.052 0.018 0.039], Final Value =
\$1579698.68, Sharpe Ratio = -23.70

Simulation Run = 9694
Weights = [0.038 0.14 0.142 0.191 0.046 0.115 0.078 0.122 0.129], Final Value =
\$1472351.37, Sharpe Ratio = -20.15

Simulation Run = 9695
Weights = [0.028 0.09 0.104 0.178 0.149 0.125 0.124 0.121 0.081], Final Value =
\$1565908.40, Sharpe Ratio = -18.45

Simulation Run = 9696
Weights = [0.056 0.148 0.135 0.125 0.126 0.169 0.092 0.093 0.057], Final Value =
\$1563951.90, Sharpe Ratio = -18.48

Simulation Run = 9697
Weights = [0.16 0.083 0.001 0.164 0.077 0.137 0.09 0.144 0.143], Final Value =
\$1564510.21, Sharpe Ratio = -19.64

Simulation Run = 9698
Weights = [0.151 0.077 0.109 0.024 0.196 0.196 0.046 0.027 0.174], Final Value =
\$1514466.29, Sharpe Ratio = -20.24

Simulation Run = 9699
Weights = [0.157 0.127 0.08 0.056 0.151 0.124 0.137 0.018 0.151], Final Value =
\$1497398.89, Sharpe Ratio = -18.64

Simulation Run = 9700

Weights = [0.035 0.103 0.112 0.124 0.085 0.098 0.143 0.196 0.106], Final Value = \$1500875.52, Sharpe Ratio = -17.96

Simulation Run = 9701

Weights = [0.202 0.014 0.176 0.137 0.043 0.24 0.017 0.045 0.126], Final Value = \$1560092.66, Sharpe Ratio = -16.59

Simulation Run = 9702

Weights = [0.085 0.159 0.159 0.162 0.053 0.081 0.122 0.176 0.002], Final Value = \$1561361.43, Sharpe Ratio = -17.31

Simulation Run = 9703

Weights = [0.168 0.008 0.011 0.153 0.122 0.069 0.126 0.12 0.222], Final Value = \$1493603.49, Sharpe Ratio = -19.88

Simulation Run = 9704

Weights = [0.128 0.109 0.224 0.071 0.028 0.238 0.126 0.025 0.051], Final Value = \$1541951.49, Sharpe Ratio = -14.22

Simulation Run = 9705

Weights = [0.192 0.099 0.024 0.079 0.028 0.211 0.032 0.193 0.142], Final Value = \$1558714.95, Sharpe Ratio = -18.80

Simulation Run = 9706

Weights = [0.05 0.084 0.188 0.169 0.044 0.15 0.127 0.187], Final Value = \$1372970.82, Sharpe Ratio = -17.45

Simulation Run = 9707

Weights = [0.14 0.068 0.14 0.098 0.146 0.057 0.031 0.118 0.202], Final Value = \$1432382.19, Sharpe Ratio = -24.10

Simulation Run = 9708

Weights = [0.072 0.122 0.148 0.04 0.137 0.158 0.089 0.016 0.217], Final Value = \$1406317.54, Sharpe Ratio = -20.35

Simulation Run = 9709

Weights = [0.149 0.042 0.201 0.172 0.066 0.07 0.11 0.022 0.168], Final Value = \$1439756.55, Sharpe Ratio = -18.02

Simulation Run = 9710

Weights = [0.029 0.041 0.078 0.206 0.247 0.035 0.045 0.176 0.143], Final Value = \$1538495.42, Sharpe Ratio = -24.93

Simulation Run = 9711

Weights = [0.235 0.105 0.099 0.233 0.137 0.013 0.014 0.163], Final Value = \$1494493.58, Sharpe Ratio = -25.13

Simulation Run = 9712

Weights = [0.241 0.043 0.03 0.17 0.022 0.084 0.076 0.254 0.079], Final Value = \$1604866.94, Sharpe Ratio = -18.40

Simulation Run = 9713

Weights = [0.131 0.158 0.105 0.087 0.123 0.02 0.16 0.077 0.139], Final Value = \$1445951.40, Sharpe Ratio = -19.16

Simulation Run = 9714

Weights = [0.09 0.108 0.117 0.108 0.001 0.186 0.163 0.148 0.08], Final Value = \$1536007.70, Sharpe Ratio = -14.87

Simulation Run = 9715

Weights = [0.163 0.047 0.045 0.09 0.119 0.158 0.09 0.156 0.133], Final Value = \$1567794.63, Sharpe Ratio = -18.65

Simulation Run = 9716

Weights = [0.118 0.16 0.145 0.118 0.074 0.029 0.155 0.136 0.064], Final Value = \$1491392.42, Sharpe Ratio = -17.71

Simulation Run = 9717

Weights = [0.147 0.16 0.042 0.067 0.04 0.16 0.15 0.187 0.047], Final Value = \$1584432.59, Sharpe Ratio = -16.12

Simulation Run = 9718

Weights = [0.166 0.017 0.157 0.168 0.152 0.052 0.079 0.042 0.166], Final Value = \$1485325.25, Sharpe Ratio = -20.38

Simulation Run = 9719
Weights = [0.102 0.176 0.079 0.095 0.106 0.04 0.28 0.11 0.013], Final Value =
\$1555207.49, Sharpe Ratio = -13.68

Simulation Run = 9720
Weights = [0.189 0.071 0.155 0.047 0.218 0.018 0.041 0.107 0.155], Final Value =
\$1465916.28, Sharpe Ratio = -23.50

Simulation Run = 9721
Weights = [0.234 0.145 0.183 0.04 0.034 0.009 0.168 0.076 0.111], Final Value =
\$1422799.58, Sharpe Ratio = -16.49

Simulation Run = 9722
Weights = [0.073 0.08 0.09 0.127 0.22 0.108 0.02 0.219 0.064], Final Value =
\$1605539.07, Sharpe Ratio = -22.84

Simulation Run = 9723
Weights = [0.187 0.062 0.18 0.182 0.068 0.093 0.024 0.116 0.088], Final Value =
\$1538599.27, Sharpe Ratio = -19.54

Simulation Run = 9724
Weights = [0.141 0.098 0.168 0.084 0.156 0.079 0.111 0.057 0.105], Final Value =
\$1499682.46, Sharpe Ratio = -18.95

Simulation Run = 9725
Weights = [0.108 0.1 0.06 0.183 0.181 0.009 0.185 0.066 0.108], Final Value =
\$1532069.25, Sharpe Ratio = -18.17

Simulation Run = 9726
Weights = [0.161 0.129 0.148 0.07 0.156 0.038 0.109 0.093 0.097], Final Value =
\$1492329.57, Sharpe Ratio = -20.01

Simulation Run = 9727
Weights = [0.145 0.248 0.091 0.074 0.035 0.256 0.105 0.039 0.007], Final Value =
\$1610569.14, Sharpe Ratio = -15.81

Simulation Run = 9728
Weights = [0.203 0.071 0.182 0.137 0.088 0.059 0.087 0.081 0.093], Final Value =

\$1511170.30, Sharpe Ratio = -18.53

Simulation Run = 9729

Weights = [0.166 0.076 0.133 0.111 0.077 0.198 0.063 0.106 0.07], Final Value = \$1589174.36, Sharpe Ratio = -17.20

Simulation Run = 9730

Weights = [0.082 0.117 0.03 0.086 0.152 0.133 0.144 0.152 0.103], Final Value = \$1562173.19, Sharpe Ratio = -18.29

Simulation Run = 9731

Weights = [0.117 0.086 0.118 0.132 0.227 0.005 0.084 0.028 0.203], Final Value = \$1434845.17, Sharpe Ratio = -24.13

Simulation Run = 9732

Weights = [0.118 0.184 0.145 0.162 0.115 0.007 0.05 0.135 0.084], Final Value = \$1485190.17, Sharpe Ratio = -23.48

Simulation Run = 9733

Weights = [0.177 0.091 0.023 0.165 0.229 0.033 0.05 0.161 0.07], Final Value = \$1622780.14, Sharpe Ratio = -23.70

Simulation Run = 9734

Weights = [0.066 0.093 0.145 0.216 0.187 0.019 0.086 0.043 0.145], Final Value = \$1477400.35, Sharpe Ratio = -22.27

Simulation Run = 9735

Weights = [0.112 0.168 0.201 0.125 0.017 0.103 0.123 0.084 0.068], Final Value = \$1476897.52, Sharpe Ratio = -17.00

Simulation Run = 9736

Weights = [0.051 0.168 0.093 0.132 0.098 0.103 0.107 0.134 0.116], Final Value = \$1493155.80, Sharpe Ratio = -20.53

Simulation Run = 9737

Weights = [0.024 0.156 0.155 0.045 0.158 0.095 0.132 0.091 0.144], Final Value = \$1431619.09, Sharpe Ratio = -19.61

Simulation Run = 9738
Weights = [0.02 0.165 0.216 0.095 0.116 0.18 0.136 0.031 0.04], Final Value =
\$1525329.90, Sharpe Ratio = -16.08

Simulation Run = 9739
Weights = [0.119 0.118 0.153 0.04 0.033 0.146 0.122 0.081 0.187], Final Value =
\$1408959.64, Sharpe Ratio = -17.65

Simulation Run = 9740
Weights = [0.113 0.024 0.155 0.099 0.162 0.148 0.135 0.086 0.078], Final Value =
\$1573983.99, Sharpe Ratio = -16.31

Simulation Run = 9741
Weights = [0.039 0.13 0.046 0.197 0.056 0.215 0.082 0.135 0.1], Final Value =
\$1581355.18, Sharpe Ratio = -18.29

Simulation Run = 9742
Weights = [0.15 0.149 0.151 0.079 0.083 0.099 0.112 0.021 0.155], Final Value =
\$1437549.15, Sharpe Ratio = -19.27

Simulation Run = 9743
Weights = [0.146 0.144 0.13 0.107 0.143 0.101 0.07 0.075 0.084], Final Value =
\$1533708.11, Sharpe Ratio = -20.80

Simulation Run = 9744
Weights = [0.009 0.181 0.102 0.072 0.091 0.165 0.137 0.103 0.14], Final Value =
\$1462729.64, Sharpe Ratio = -18.32

Simulation Run = 9745
Weights = [0.085 0.127 0.197 0.205 0.205 0.058 0.07 0.004 0.049], Final Value =
\$1550768.19, Sharpe Ratio = -20.37

Simulation Run = 9746
Weights = [0.054 0.101 0.062 0.083 0.132 0.136 0.147 0.126 0.159], Final Value =
\$1494370.16, Sharpe Ratio = -18.35

Simulation Run = 9747
Weights = [0.197 0.082 0.01 0.1 0.183 0.053 0.03 0.162 0.184], Final Value =
\$1516927.14, Sharpe Ratio = -25.77

Simulation Run = 9748
Weights = [0.075 0.07 0.151 0.013 0.102 0.17 0.169 0.123 0.127], Final Value =
\$1486055.83, Sharpe Ratio = -15.46

Simulation Run = 9749
Weights = [0.057 0.145 0.128 0.017 0.108 0.135 0.118 0.153 0.139], Final Value =
\$1454505.28, Sharpe Ratio = -18.95

Simulation Run = 9750
Weights = [0.139 0.016 0.143 0.051 0.104 0.097 0.192 0.095 0.163], Final Value =
\$1463955.05, Sharpe Ratio = -15.46

Simulation Run = 9751
Weights = [0.118 0.188 0.283 0.013 0.055 0.128 0.047 0.052 0.118], Final Value =
\$1393408.33, Sharpe Ratio = -18.88

Simulation Run = 9752
Weights = [0.135 0.224 0.097 0.114 0.088 0.096 0.203 0.022 0.022], Final Value =
\$1556138.53, Sharpe Ratio = -15.68

Simulation Run = 9753
Weights = [0.048 0.102 0.055 0.188 0.129 0.118 0.143 0.047 0.169], Final Value =
\$1500936.45, Sharpe Ratio = -19.19

Simulation Run = 9754
Weights = [0.145 0.116 0.128 0.042 0.135 0.123 0.072 0.079 0.159], Final Value =
\$1469007.43, Sharpe Ratio = -20.84

Simulation Run = 9755
Weights = [0.176 0.086 0.108 0.109 0.093 0.151 0.179 0.06 0.039], Final Value =
\$1604593.10, Sharpe Ratio = -14.76

Simulation Run = 9756
Weights = [0.246 0.074 0.092 0.155 0.079 0.063 0.166 0.005 0.12], Final Value =
\$1528682.24, Sharpe Ratio = -16.61

Simulation Run = 9757

Weights = [0.149 0.031 0.226 0.019 0.141 0.156 0.182 0.053 0.043], Final Value = \$1556440.40, Sharpe Ratio = -13.88

Simulation Run = 9758

Weights = [0.087 0.099 0.089 0.02 0.146 0.168 0.109 0.205 0.077], Final Value = \$1566831.77, Sharpe Ratio = -17.88

Simulation Run = 9759

Weights = [0.175 0.17 0.057 0.12 0.018 0.168 0.087 0.115 0.09], Final Value = \$1553709.38, Sharpe Ratio = -18.30

Simulation Run = 9760

Weights = [0.03 0.233 0.066 0.226 0.063 0.012 0.145 0.11 0.113], Final Value = \$1459756.51, Sharpe Ratio = -20.77

Simulation Run = 9761

Weights = [0.118 0.038 0.114 0.144 0.094 0.166 0.146 0.174 0.006], Final Value = \$1651607.38, Sharpe Ratio = -14.97

Simulation Run = 9762

Weights = [0.211 0.099 0.182 0.123 0.232 0.048 0.008 0.018 0.079], Final Value = \$1550291.64, Sharpe Ratio = -22.52

Simulation Run = 9763

Weights = [0.136 0.045 0.135 0.021 0.173 0.127 0.166 0.161 0.035], Final Value = \$1595657.85, Sharpe Ratio = -15.43

Simulation Run = 9764

Weights = [0.145 0.095 0.142 0.116 0.15 0.053 0.156 0.035 0.109], Final Value = \$1501136.37, Sharpe Ratio = -17.80

Simulation Run = 9765

Weights = [0.168 0.131 0.054 0.03 0.219 0.09 0.026 0.167 0.114], Final Value = \$1549616.46, Sharpe Ratio = -24.45

Simulation Run = 9766

Weights = [0.061 0.11 0.175 0.139 0.042 0.072 0.157 0.168 0.076], Final Value = \$1484953.07, Sharpe Ratio = -16.52

Simulation Run = 9767
Weights = [0.02 0.2 0.018 0.182 0.142 0.01 0.151 0.135 0.143], Final Value =
\$1470428.69, Sharpe Ratio = -21.86

Simulation Run = 9768
Weights = [0.095 0.029 0.07 0.13 0.113 0.158 0.09 0.142 0.172], Final Value =
\$1523127.62, Sharpe Ratio = -19.16

Simulation Run = 9769
Weights = [0.119 0.108 0.108 0.194 0.027 0.206 0.088 0.083 0.067], Final Value =
\$1592208.24, Sharpe Ratio = -16.71

Simulation Run = 9770
Weights = [0.188 0.164 0.177 0.085 0.146 0.079 0.102 0.007 0.052], Final Value =
\$1530300.81, Sharpe Ratio = -18.86

Simulation Run = 9771
Weights = [0.161 0.15 0.051 0.15 0.077 0.042 0.088 0.099 0.181], Final Value =
\$1452891.78, Sharpe Ratio = -22.97

Simulation Run = 9772
Weights = [0.038 0.037 0.191 0.145 0.013 0.084 0.051 0.23 0.211], Final Value =
\$1382108.61, Sharpe Ratio = -20.34

Simulation Run = 9773
Weights = [0.171 0.014 0.193 0.012 0.183 0.059 0.133 0.06 0.174], Final Value =
\$1438711.62, Sharpe Ratio = -17.93

Simulation Run = 9774
Weights = [0.069 0.168 0.06 0.062 0.138 0.161 0.215 0.055 0.072], Final Value =
\$1556867.92, Sharpe Ratio = -15.14

Simulation Run = 9775
Weights = [0.041 0.042 0.044 0.221 0.179 0.191 0.085 0.056 0.142], Final Value =
\$1595070.35, Sharpe Ratio = -19.46

Simulation Run = 9776
Weights = [0.084 0.115 0.137 0.101 0.119 0.105 0.075 0.141 0.124], Final Value =

\$1489508.39, Sharpe Ratio = -20.81

Simulation Run = 9777

Weights = [0.035 0.049 0.206 0.04 0.243 0.047 0.01 0.136 0.234], Final Value = \$1372682.21, Sharpe Ratio = -25.33

Simulation Run = 9778

Weights = [0.055 0.062 0.156 0.111 0.213 0.063 0.11 0.15 0.08], Final Value = \$1537656.34, Sharpe Ratio = -19.44

Simulation Run = 9779

Weights = [0.093 0.029 0.155 0.17 0.156 0.114 0.032 0.064 0.186], Final Value = \$1480811.78, Sharpe Ratio = -21.93

Simulation Run = 9780

Weights = [0.127 0.033 0.094 0.072 0.09 0.168 0.109 0.133 0.174], Final Value = \$1501141.32, Sharpe Ratio = -17.70

Simulation Run = 9781

Weights = [0.129 0.115 0.142 0.187 0.061 0.062 0.145 0.096 0.064], Final Value = \$1530749.07, Sharpe Ratio = -17.17

Simulation Run = 9782

Weights = [0.165 0.171 0.215 0.081 0.127 0.109 0.07 0.039 0.021], Final Value = \$1543271.47, Sharpe Ratio = -18.58

Simulation Run = 9783

Weights = [0.279 0.128 0.173 0.083 0.136 0.11 0.033 0.009 0.048], Final Value = \$1573434.89, Sharpe Ratio = -19.38

Simulation Run = 9784

Weights = [0.045 0.179 0.112 0.101 0.005 0.157 0.1 0.122 0.179], Final Value = \$1415873.21, Sharpe Ratio = -19.31

Simulation Run = 9785

Weights = [0.123 0.106 0.107 0.196 0.01 0.178 0.1 0.155 0.024], Final Value = \$1618502.79, Sharpe Ratio = -16.18

Simulation Run = 9786
Weights = [0.096 0.135 0.095 0.119 0.098 0.062 0.029 0.209 0.158], Final Value =
\$1460519.76, Sharpe Ratio = -25.02

Simulation Run = 9787
Weights = [0.116 0.036 0.189 0.132 0.185 0.024 0.137 0.138 0.044], Final Value =
\$1554519.59, Sharpe Ratio = -17.30

Simulation Run = 9788
Weights = [0.126 0.118 0.122 0.198 0.066 0.001 0.133 0.172 0.063], Final Value =
\$1521410.94, Sharpe Ratio = -18.54

Simulation Run = 9789
Weights = [0.075 0.097 0.061 0.155 0.156 0.118 0.109 0.106 0.125], Final Value =
\$1546274.35, Sharpe Ratio = -20.14

Simulation Run = 9790
Weights = [0.041 0.166 0.099 0.155 0.19 0.088 0.121 0.13 0.009], Final Value =
\$1604194.38, Sharpe Ratio = -19.34

Simulation Run = 9791
Weights = [0.157 0.053 0.089 0.152 0.137 0.08 0.162 0.13 0.04], Final Value =
\$1613091.97, Sharpe Ratio = -16.35

Simulation Run = 9792
Weights = [0.196 0.026 0.103 0.044 0.149 0.194 0.169 0.063 0.056], Final Value =
\$1627072.01, Sharpe Ratio = -14.38

Simulation Run = 9793
Weights = [0.091 0.088 0.164 0.112 0.104 0.135 0.109 0.065 0.132], Final Value =
\$1485207.95, Sharpe Ratio = -18.20

Simulation Run = 9794
Weights = [0.167 0.191 0.024 0.116 0.156 0.086 0.114 0.071 0.073], Final Value =
\$1575304.53, Sharpe Ratio = -20.60

Simulation Run = 9795
Weights = [0.005 0.174 0.176 0.079 0.147 0.106 0.031 0.119 0.164], Final Value =
\$1412806.43, Sharpe Ratio = -24.14

Simulation Run = 9796
Weights = [0.145 0.2 0.056 0.2 0.001 0.06 0.128 0.082 0.127], Final Value =
\$1478387.70, Sharpe Ratio = -19.60

Simulation Run = 9797
Weights = [0.026 0.03 0.174 0.1 0.052 0.171 0.153 0.142 0.152], Final Value =
\$1465488.00, Sharpe Ratio = -15.57

Simulation Run = 9798
Weights = [0.16 0.17 0.025 0.121 0.025 0.123 0.133 0.161 0.081], Final Value =
\$1555499.97, Sharpe Ratio = -17.75

Simulation Run = 9799
Weights = [0.131 0.066 0.165 0.004 0.092 0.091 0.004 0.4 0.047], Final Value =
\$1543379.50, Sharpe Ratio = -20.15

Simulation Run = 9800
Weights = [0.065 0.112 0.026 0.136 0.103 0.239 0.176 0.096 0.046], Final Value =
\$1647471.33, Sharpe Ratio = -14.66

Simulation Run = 9801
Weights = [0.005 0.085 0.129 0.116 0.009 0.076 0.181 0.204 0.195], Final Value =
\$1384415.08, Sharpe Ratio = -16.81

Simulation Run = 9802
Weights = [0.182 0.199 0.193 0.111 0.093 0.074 0.032 0.041 0.075], Final Value =
\$1487570.86, Sharpe Ratio = -21.52

Simulation Run = 9803
Weights = [0.122 0.073 0.175 0.065 0.148 0.012 0.179 0.132 0.094], Final Value =
\$1475825.16, Sharpe Ratio = -16.71

Simulation Run = 9804
Weights = [0.057 0.045 0.156 0.074 0.163 0.132 0.089 0.133 0.151], Final Value =
\$1485937.95, Sharpe Ratio = -19.47

Simulation Run = 9805

Weights = [0.116 0.029 0.143 0.087 0.093 0.149 0.194 0.099 0.089], Final Value = \$1545263.51, Sharpe Ratio = -14.37

Simulation Run = 9806

Weights = [0.083 0.146 0.092 0.213 0.016 0.08 0.055 0.1 0.216], Final Value = \$1407781.84, Sharpe Ratio = -23.45

Simulation Run = 9807

Weights = [0.067 0.131 0.123 0.17 0.159 0.166 0.11 0.025 0.049], Final Value = \$1596954.50, Sharpe Ratio = -18.00

Simulation Run = 9808

Weights = [0.024 0.183 0.23 0.187 0.106 0.159 0. 0.023 0.088], Final Value = \$1491493.55, Sharpe Ratio = -20.63

Simulation Run = 9809

Weights = [0.102 0.044 0.13 0.104 0.201 0.075 0.223 0.111 0.01], Final Value = \$1615605.01, Sharpe Ratio = -14.46

Simulation Run = 9810

Weights = [0.049 0.121 0.172 0.061 0.237 0.012 0.127 0.186 0.035], Final Value = \$1529374.83, Sharpe Ratio = -19.41

Simulation Run = 9811

Weights = [0.152 0.022 0.067 0.058 0.137 0.074 0.218 0.097 0.173], Final Value = \$1486505.72, Sharpe Ratio = -15.51

Simulation Run = 9812

Weights = [0.18 0.171 0.102 0.039 0.075 0.103 0.16 0.062 0.109], Final Value = \$1486164.25, Sharpe Ratio = -17.12

Simulation Run = 9813

Weights = [0.133 0.264 0.029 0.088 0.137 0.101 0.084 0.024 0.14], Final Value = \$1485021.59, Sharpe Ratio = -23.80

Simulation Run = 9814

Weights = [0.158 0.066 0.013 0.016 0.059 0.202 0.115 0.168 0.204], Final Value = \$1496707.18, Sharpe Ratio = -17.17

Simulation Run = 9815
Weights = [0.162 0.147 0.004 0.191 0.093 0.014 0.153 0.148 0.087], Final Value =
\$1556092.21, Sharpe Ratio = -19.22

Simulation Run = 9816
Weights = [0.21 0.189 0.124 0.068 0.061 0.05 0.023 0.131 0.144], Final Value =
\$1439702.86, Sharpe Ratio = -23.94

Simulation Run = 9817
Weights = [0.027 0.119 0.015 0.179 0.166 0.17 0.048 0.107 0.17], Final Value =
\$1541404.76, Sharpe Ratio = -23.22

Simulation Run = 9818
Weights = [0.165 0.091 0.07 0.152 0.185 0.046 0.094 0.155 0.043], Final Value =
\$1613594.09, Sharpe Ratio = -20.36

Simulation Run = 9819
Weights = [0.041 0.175 0.007 0.113 0.208 0.137 0.168 0.05 0.1], Final Value =
\$1569258.70, Sharpe Ratio = -18.44

Simulation Run = 9820
Weights = [0.085 0.171 0.173 0.014 0.043 0.167 0.164 0.018 0.165], Final Value =
\$1400900.24, Sharpe Ratio = -16.12

Simulation Run = 9821
Weights = [0.007 0.134 0.142 0.142 0.147 0.008 0.205 0.013 0.202], Final Value =
\$1369299.71, Sharpe Ratio = -17.88

Simulation Run = 9822
Weights = [0.123 0.118 0.153 0.118 0.073 0.103 0.013 0.143 0.156], Final Value =
\$1455114.09, Sharpe Ratio = -22.62

Simulation Run = 9823
Weights = [0.124 0.026 0.172 0.112 0.086 0.096 0.111 0.156 0.118], Final Value =
\$1500819.05, Sharpe Ratio = -17.50

Simulation Run = 9824
Weights = [0.216 0.055 0.083 0.009 0.193 0.105 0.172 0.019 0.148], Final Value =

\$1520413.47, Sharpe Ratio = -16.68

Simulation Run = 9825

Weights = [0.102 0.173 0.047 0.112 0.172 0.12 0.04 0.099 0.134], Final Value = \$1527275.28, Sharpe Ratio = -24.65

Simulation Run = 9826

Weights = [0.022 0.048 0.092 0.03 0.228 0.061 0.103 0.217 0.197], Final Value = \$1445838.04, Sharpe Ratio = -22.38

Simulation Run = 9827

Weights = [0.106 0.041 0.01 0.177 0.255 0.057 0.071 0.228 0.055], Final Value = \$1660988.70, Sharpe Ratio = -22.04

Simulation Run = 9828

Weights = [0.102 0.009 0.125 0.108 0.19 0.175 0.084 0.14 0.067], Final Value = \$1621173.72, Sharpe Ratio = -17.57

Simulation Run = 9829

Weights = [0.141 0.189 0.017 0.132 0.144 0.063 0.103 0.148 0.062], Final Value = \$1578627.82, Sharpe Ratio = -21.54

Simulation Run = 9830

Weights = [0.127 0.172 0.044 0.183 0.049 0.135 0.089 0.064 0.139], Final Value = \$1515513.20, Sharpe Ratio = -20.46

Simulation Run = 9831

Weights = [0.191 0.012 0.048 0.146 0.133 0.117 0.07 0.061 0.222], Final Value = \$1502126.04, Sharpe Ratio = -21.11

Simulation Run = 9832

Weights = [0.023 0.043 0.147 0.148 0.157 0.139 0.083 0.138 0.122], Final Value = \$1527505.47, Sharpe Ratio = -19.30

Simulation Run = 9833

Weights = [0.064 0.21 0.07 0.123 0.114 0.135 0.012 0.109 0.161], Final Value = \$1472543.08, Sharpe Ratio = -25.78

Simulation Run = 9834
Weights = [0.044 0.033 0.042 0.229 0.124 0.035 0.084 0.085 0.324], Final Value =
\$1369540.68, Sharpe Ratio = -25.17

Simulation Run = 9835
Weights = [0.063 0.193 0.094 0.043 0.077 0.169 0.028 0.172 0.161], Final Value =
\$1453838.86, Sharpe Ratio = -22.62

Simulation Run = 9836
Weights = [0.107 0.01 0.173 0.037 0.133 0.107 0.205 0.049 0.179], Final Value =
\$1439538.34, Sharpe Ratio = -15.08

Simulation Run = 9837
Weights = [0.139 0.132 0.144 0.147 0.117 0.086 0.027 0.125 0.083], Final Value =
\$1532188.55, Sharpe Ratio = -22.01

Simulation Run = 9838
Weights = [0.075 0.254 0.031 0.154 0.112 0.162 0.088 0.059 0.064], Final Value =
\$1574801.26, Sharpe Ratio = -20.80

Simulation Run = 9839
Weights = [0.031 0.123 0.069 0.154 0.111 0.096 0.102 0.138 0.176], Final Value =
\$1464989.36, Sharpe Ratio = -21.74

Simulation Run = 9840
Weights = [0.081 0.005 0.134 0.219 0.097 0.042 0.025 0.228 0.17], Final Value =
\$1480834.01, Sharpe Ratio = -22.50

Simulation Run = 9841
Weights = [0.009 0.126 0.049 0.167 0.145 0.088 0.174 0.142 0.099], Final Value =
\$1539770.38, Sharpe Ratio = -18.07

Simulation Run = 9842
Weights = [0.016 0.136 0.021 0.218 0.2 0.212 0.021 0.006 0.17], Final Value =
\$1564587.70, Sharpe Ratio = -23.22

Simulation Run = 9843
Weights = [0.069 0.161 0.149 0.171 0.085 0.009 0.04 0.152 0.164], Final Value =
\$1407803.46, Sharpe Ratio = -24.91

Simulation Run = 9844
Weights = [0.252 0.156 0.033 0.003 0.012 0.024 0.171 0.126 0.223], Final Value =
\$1379083.29, Sharpe Ratio = -17.85

Simulation Run = 9845
Weights = [0.134 0.018 0.085 0.182 0.174 0.034 0.102 0.163 0.108], Final Value =
\$1563319.09, Sharpe Ratio = -20.14

Simulation Run = 9846
Weights = [0.137 0.035 0.12 0.073 0.067 0.047 0.131 0.157 0.233], Final Value =
\$1388382.91, Sharpe Ratio = -19.14

Simulation Run = 9847
Weights = [0.053 0.154 0.148 0.025 0.143 0.057 0.167 0.127 0.125], Final Value =
\$1433292.21, Sharpe Ratio = -18.22

Simulation Run = 9848
Weights = [0.037 0.192 0.201 0.165 0.108 0.016 0.048 0.181 0.052], Final Value =
\$1477422.18, Sharpe Ratio = -22.00

Simulation Run = 9849
Weights = [0.033 0.245 0.048 0.14 0.038 0.241 0.123 0.09 0.041], Final Value =
\$1589417.50, Sharpe Ratio = -16.64

Simulation Run = 9850
Weights = [0.118 0.081 0.118 0.102 0.114 0.191 0.096 0.136 0.044], Final Value =
\$1612085.70, Sharpe Ratio = -16.81

Simulation Run = 9851
Weights = [0.134 0.238 0.1 0.008 0.116 0.18 0.138 0.036 0.048], Final Value =
\$1547364.39, Sharpe Ratio = -17.05

Simulation Run = 9852
Weights = [0.054 0.206 0.081 0.038 0.052 0.135 0.027 0.198 0.21], Final Value =
\$1391280.91, Sharpe Ratio = -24.63

Simulation Run = 9853

Weights = [0.017 0.102 0.174 0.074 0.036 0.254 0.089 0.18 0.075], Final Value = \$1538111.65, Sharpe Ratio = -15.70

Simulation Run = 9854

Weights = [0.121 0.05 0.105 0.19 0.098 0.024 0.129 0.218 0.066], Final Value = \$1559433.98, Sharpe Ratio = -18.21

Simulation Run = 9855

Weights = [0.018 0.052 0.105 0.025 0.2 0.211 0.256 0.128 0.005], Final Value = \$1644805.47, Sharpe Ratio = -12.58

Simulation Run = 9856

Weights = [0.18 0.062 0.162 0.009 0.103 0.198 0.127 0.108 0.048], Final Value = \$1583634.43, Sharpe Ratio = -15.01

Simulation Run = 9857

Weights = [0.012 0.118 0.172 0.034 0.153 0.078 0.166 0.017 0.251], Final Value = \$1325218.32, Sharpe Ratio = -18.83

Simulation Run = 9858

Weights = [0.177 0.062 0.114 0.162 0.06 0.11 0.035 0.165 0.116], Final Value = \$1539130.60, Sharpe Ratio = -20.22

Simulation Run = 9859

Weights = [0.068 0.218 0.243 0.067 0.129 0.1 0.135 0.018 0.021], Final Value = \$1491912.66, Sharpe Ratio = -17.12

Simulation Run = 9860

Weights = [0.043 0.08 0.016 0.029 0.209 0.177 0.202 0.124 0.12], Final Value = \$1570794.57, Sharpe Ratio = -15.68

Simulation Run = 9861

Weights = [0.097 0.008 0.134 0.162 0.171 0.01 0.146 0.12 0.152], Final Value = \$1483536.78, Sharpe Ratio = -18.70

Simulation Run = 9862

Weights = [0.156 0.033 0.279 0.089 0.172 0.088 0.022 0.082 0.078], Final Value = \$1511689.48, Sharpe Ratio = -18.75

Simulation Run = 9863
Weights = [0.179 0.141 0.158 0.058 0.101 0.081 0.018 0.156 0.108], Final Value =
\$1485062.55, Sharpe Ratio = -22.23

Simulation Run = 9864
Weights = [0.018 0.177 0.126 0.072 0.136 0.218 0.021 0.026 0.206], Final Value =
\$1434587.82, Sharpe Ratio = -22.31

Simulation Run = 9865
Weights = [0.053 0.122 0.106 0.072 0.171 0.18 0.17 0.064 0.062], Final Value =
\$1576518.43, Sharpe Ratio = -15.98

Simulation Run = 9866
Weights = [0.136 0.003 0.187 0.15 0.181 0.068 0.097 0.109 0.071], Final Value =
\$1564937.66, Sharpe Ratio = -18.02

Simulation Run = 9867
Weights = [0.079 0.003 0.237 0.236 0.025 0.055 0.061 0.236 0.068], Final Value =
\$1516293.40, Sharpe Ratio = -17.18

Simulation Run = 9868
Weights = [0.207 0.066 0.075 0.194 0.046 0.18 0.157 0.009 0.066], Final Value =
\$1622670.63, Sharpe Ratio = -14.89

Simulation Run = 9869
Weights = [0.147 0.071 0.028 0.143 0.172 0.124 0.082 0.17 0.063], Final Value =
\$1640488.79, Sharpe Ratio = -19.74

Simulation Run = 9870
Weights = [0.021 0.131 0.138 0.116 0.139 0.172 0.14 0.094 0.049], Final Value =
\$1568254.13, Sharpe Ratio = -16.73

Simulation Run = 9871
Weights = [0.149 0.121 0.073 0.073 0.121 0.071 0.163 0.11 0.12], Final Value =
\$1503852.27, Sharpe Ratio = -17.93

Simulation Run = 9872
Weights = [0.113 0.032 0.127 0.189 0.03 0.045 0.195 0.157 0.113], Final Value =

\$1498343.15, Sharpe Ratio = -15.39

Simulation Run = 9873

Weights = [0.023 0.072 0.137 0.135 0.084 0.112 0.221 0.078 0.138], Final Value = \$1470167.54, Sharpe Ratio = -14.93

Simulation Run = 9874

Weights = [0.221 0.173 0.11 0.232 0.075 0.003 0.088 0.024 0.074], Final Value = \$1528529.30, Sharpe Ratio = -20.81

Simulation Run = 9875

Weights = [0.001 0.221 0.16 0.083 0.078 0.175 0.008 0.188 0.085], Final Value = \$1487373.89, Sharpe Ratio = -21.65

Simulation Run = 9876

Weights = [0.087 0.121 0.009 0.04 0.208 0.104 0.164 0.117 0.148], Final Value = \$1522245.51, Sharpe Ratio = -18.82

Simulation Run = 9877

Weights = [0.054 0.101 0.106 0.203 0.003 0.217 0.055 0.086 0.176], Final Value = \$1489732.56, Sharpe Ratio = -18.61

Simulation Run = 9878

Weights = [0.135 0.082 0.013 0.197 0.211 0.014 0.12 0.086 0.142], Final Value = \$1548546.87, Sharpe Ratio = -22.00

Simulation Run = 9879

Weights = [0.17 0.234 0.036 0.153 0.071 0.033 0.036 0.21 0.058], Final Value = \$1548327.79, Sharpe Ratio = -24.76

Simulation Run = 9880

Weights = [0.154 0.055 0.168 0.026 0.187 0.106 0.076 0.066 0.163], Final Value = \$1469536.90, Sharpe Ratio = -20.19

Simulation Run = 9881

Weights = [0.185 0.099 0.052 0.086 0.012 0.089 0.159 0.221 0.098], Final Value = \$1529978.33, Sharpe Ratio = -16.41

Simulation Run = 9882
Weights = [0.047 0.147 0.1 0.193 0.016 0.133 0.201 0.131 0.031], Final Value =
\$1567916.44, Sharpe Ratio = -14.70

Simulation Run = 9883
Weights = [0.22 0.07 0.038 0.099 0.029 0.25 0.268 0.008 0.017], Final Value =
\$1676713.48, Sharpe Ratio = -11.26

Simulation Run = 9884
Weights = [0.063 0.182 0.067 0.134 0.032 0.166 0.02 0.17 0.167], Final Value =
\$1470968.29, Sharpe Ratio = -22.80

Simulation Run = 9885
Weights = [0.234 0.035 0.22 0.019 0.071 0.007 0.296 0.038 0.081], Final Value =
\$1459565.01, Sharpe Ratio = -12.06

Simulation Run = 9886
Weights = [0.175 0.13 0.028 0.138 0.105 0.074 0.177 0.122 0.05], Final Value =
\$1597258.91, Sharpe Ratio = -16.72

Simulation Run = 9887
Weights = [0.082 0.049 0.072 0.068 0.057 0.136 0.167 0.179 0.191], Final Value =
\$1459389.86, Sharpe Ratio = -16.61

Simulation Run = 9888
Weights = [0.064 0.023 0.11 0.218 0.169 0.12 0.066 0.133 0.097], Final Value =
\$1589592.31, Sharpe Ratio = -19.92

Simulation Run = 9889
Weights = [0.126 0.111 0.132 0.137 0.079 0.157 0.086 0.045 0.127], Final Value =
\$1511609.49, Sharpe Ratio = -18.72

Simulation Run = 9890
Weights = [0.062 0.207 0.148 0.037 0.156 0.053 0.094 0.215 0.028], Final Value =
\$1515940.59, Sharpe Ratio = -20.88

Simulation Run = 9891
Weights = [0.133 0.059 0.147 0.087 0.063 0.129 0.142 0.156 0.085], Final Value =
\$1531751.57, Sharpe Ratio = -16.02

Simulation Run = 9892
Weights = [0.179 0.013 0.096 0.154 0.184 0.112 0.04 0.048 0.173], Final Value =
\$1537673.38, Sharpe Ratio = -21.78

Simulation Run = 9893
Weights = [0.023 0.198 0.184 0.022 0.113 0.142 0.187 0.023 0.108], Final Value =
\$1436280.50, Sharpe Ratio = -16.07

Simulation Run = 9894
Weights = [0.048 0.075 0.206 0.193 0.021 0.116 0.007 0.183 0.151], Final Value =
\$1446196.55, Sharpe Ratio = -20.34

Simulation Run = 9895
Weights = [0.009 0.096 0.266 0.138 0.052 0.128 0.002 0.063 0.246], Final Value =
\$1323361.29, Sharpe Ratio = -21.29

Simulation Run = 9896
Weights = [0.17 0.157 0.087 0.174 0.158 0.033 0.009 0.048 0.164], Final Value =
\$1478507.29, Sharpe Ratio = -27.29

Simulation Run = 9897
Weights = [0.079 0.147 0.212 0.015 0.024 0.171 0.147 0.17 0.033], Final Value =
\$1507301.32, Sharpe Ratio = -14.86

Simulation Run = 9898
Weights = [0.223 0.146 0.194 0.115 0.108 0.073 0.002 0.049 0.091], Final Value =
\$1501133.86, Sharpe Ratio = -21.71

Simulation Run = 9899
Weights = [0.054 0.151 0.048 0.054 0.192 0.075 0.162 0.017 0.247], Final Value =
\$1391863.06, Sharpe Ratio = -20.59

Simulation Run = 9900
Weights = [0.009 0.151 0.043 0.122 0.255 0.108 0.043 0.071 0.199], Final Value =
\$1479906.99, Sharpe Ratio = -27.32

Simulation Run = 9901

Weights = [0.093 0.184 0.017 0.066 0.127 0.119 0.087 0.17 0.136], Final Value = \$1510747.46, Sharpe Ratio = -22.17

Simulation Run = 9902

Weights = [0.031 0.138 0.069 0.126 0.065 0.159 0.123 0.166 0.122], Final Value = \$1513225.41, Sharpe Ratio = -18.35

Simulation Run = 9903

Weights = [0.083 0.229 0.129 0.097 0.096 0.202 0.103 0.024 0.037], Final Value = \$1562709.41, Sharpe Ratio = -17.66

Simulation Run = 9904

Weights = [0.115 0.188 0.046 0.025 0.115 0.141 0.197 0.022 0.15], Final Value = \$1475591.43, Sharpe Ratio = -16.46

Simulation Run = 9905

Weights = [0.102 0.22 0.155 0.222 0.044 0.034 0.04 0.102 0.082], Final Value = \$1475599.25, Sharpe Ratio = -22.74

Simulation Run = 9906

Weights = [0.17 0.09 0.168 0.002 0.052 0.01 0.12 0.224 0.164], Final Value = \$1388852.05, Sharpe Ratio = -18.88

Simulation Run = 9907

Weights = [0.114 0.075 0.202 0.006 0.06 0.198 0.011 0.202 0.133], Final Value = \$1475511.29, Sharpe Ratio = -18.45

Simulation Run = 9908

Weights = [0.132 0.189 0.101 0.004 0.148 0.191 0.096 0.072 0.066], Final Value = \$1559000.65, Sharpe Ratio = -18.29

Simulation Run = 9909

Weights = [0.04 0.014 0.081 0.179 0.145 0.037 0.202 0.197 0.106], Final Value = \$1539978.32, Sharpe Ratio = -16.28

Simulation Run = 9910

Weights = [0.157 0.092 0.085 0.2 0.074 0.064 0.122 0.144 0.063], Final Value = \$1575755.33, Sharpe Ratio = -18.21

Simulation Run = 9911
Weights = [0.052 0.151 0.167 0.189 0.034 0.101 0.109 0.004 0.194], Final Value =
\$1392147.79, Sharpe Ratio = -19.64

Simulation Run = 9912
Weights = [0.029 0.12 0.199 0.114 0.187 0.166 0.077 0.091 0.018], Final Value =
\$1586797.92, Sharpe Ratio = -18.02

Simulation Run = 9913
Weights = [0.042 0.193 0.216 0.114 0.157 0.145 0.012 0.037 0.084], Final Value =
\$1491491.24, Sharpe Ratio = -21.67

Simulation Run = 9914
Weights = [0.105 0.26 0.022 0.128 0.043 0.09 0.12 0.001 0.231], Final Value =
\$1382665.26, Sharpe Ratio = -22.31

Simulation Run = 9915
Weights = [0.166 0.123 0.005 0.145 0.083 0.14 0.092 0.098 0.149], Final Value =
\$1545942.58, Sharpe Ratio = -20.04

Simulation Run = 9916
Weights = [0.007 0.031 0.038 0.127 0.221 0.188 0.192 0.064 0.132], Final Value =
\$1586036.75, Sharpe Ratio = -15.86

Simulation Run = 9917
Weights = [0.151 0.247 0.022 0.157 0.091 0.027 0.143 0.106 0.056], Final Value =
\$1543077.29, Sharpe Ratio = -20.14

Simulation Run = 9918
Weights = [0.181 0.08 0.062 0.111 0.046 0.151 0.119 0.148 0.101], Final Value =
\$1565396.76, Sharpe Ratio = -16.95

Simulation Run = 9919
Weights = [0.037 0.25 0.063 0.031 0.02 0.086 0.089 0.097 0.327], Final Value =
\$1247219.53, Sharpe Ratio = -24.59

Simulation Run = 9920
Weights = [0.186 0.014 0.212 0.071 0.168 0.033 0.129 0.166 0.021], Final Value =

\$1569893.70, Sharpe Ratio = -16.35

Simulation Run = 9921

Weights = [0.037 0.159 0.091 0.149 0.016 0.111 0.297 0.108 0.032], Final Value = \$1541919.86, Sharpe Ratio = -12.47

Simulation Run = 9922

Weights = [0.171 0.237 0.277 0.049 0.083 0.084 0.017 0.002 0.08], Final Value = \$1424154.09, Sharpe Ratio = -20.63

Simulation Run = 9923

Weights = [0.057 0. 0.197 0.038 0.106 0.153 0.17 0.151 0.127], Final Value = \$1483644.53, Sharpe Ratio = -14.94

Simulation Run = 9924

Weights = [0.135 0.063 0.153 0.006 0.177 0.057 0.049 0.179 0.18], Final Value = \$1434006.91, Sharpe Ratio = -22.83

Simulation Run = 9925

Weights = [0.108 0.078 0.132 0.153 0.217 0.062 0.009 0.094 0.146], Final Value = \$1508561.61, Sharpe Ratio = -24.95

Simulation Run = 9926

Weights = [0.071 0.01 0.156 0.145 0.2 0.012 0.128 0.151 0.127], Final Value = \$1497644.57, Sharpe Ratio = -19.18

Simulation Run = 9927

Weights = [0.021 0.188 0.192 0.008 0.118 0.097 0.151 0.071 0.154], Final Value = \$1379485.40, Sharpe Ratio = -18.36

Simulation Run = 9928

Weights = [0.117 0.147 0.195 0.115 0.054 0.09 0.196 0.014 0.073], Final Value = \$1478547.13, Sharpe Ratio = -15.08

Simulation Run = 9929

Weights = [0.214 0.078 0.169 0.05 0.073 0.156 0.181 0.024 0.056], Final Value = \$1556415.22, Sharpe Ratio = -14.09

Simulation Run = 9930
Weights = [0.028 0.072 0.198 0.157 0.19 0.082 0.091 0.072 0.111], Final Value =
\$1496399.24, Sharpe Ratio = -19.74

Simulation Run = 9931
Weights = [0.055 0.018 0.016 0.284 0.166 0.012 0.266 0.131 0.053], Final Value =
\$1627781.85, Sharpe Ratio = -14.29

Simulation Run = 9932
Weights = [0.075 0.243 0.121 0.001 0.007 0.208 0.111 0.154 0.08], Final Value =
\$1485092.88, Sharpe Ratio = -16.96

Simulation Run = 9933
Weights = [0.22 0.027 0.11 0.046 0.132 0.139 0.021 0.116 0.189], Final Value =
\$1497625.62, Sharpe Ratio = -20.93

Simulation Run = 9934
Weights = [0.148 0.167 0.101 0.144 0.135 0.027 0.069 0.069 0.139], Final Value =
\$1470887.13, Sharpe Ratio = -23.97

Simulation Run = 9935
Weights = [0.056 0.147 0.138 0.171 0.135 0.157 0.04 0.067 0.089], Final Value =
\$1544973.61, Sharpe Ratio = -21.03

Simulation Run = 9936
Weights = [0.051 0.161 0.123 0.081 0.079 0.093 0.134 0.109 0.169], Final Value =
\$1413945.33, Sharpe Ratio = -19.48

Simulation Run = 9937
Weights = [0.121 0.156 0.097 0.138 0.157 0.015 0.091 0.055 0.172], Final Value =
\$1440077.17, Sharpe Ratio = -23.94

Simulation Run = 9938
Weights = [0.17 0.121 0.187 0.12 0.165 0.111 0.016 0.047 0.062], Final Value =
\$1555579.80, Sharpe Ratio = -20.85

Simulation Run = 9939
Weights = [0.097 0.051 0.189 0.052 0.015 0.227 0.056 0.091 0.222], Final Value =
\$1410215.74, Sharpe Ratio = -17.39

Simulation Run = 9940
Weights = [0.102 0.167 0.157 0.048 0.168 0.184 0.011 0.012 0.151], Final Value =
\$1476876.01, Sharpe Ratio = -22.21

Simulation Run = 9941
Weights = [0.17 0.085 0.114 0.123 0.068 0.128 0.179 0.095 0.037], Final Value =
\$1592117.46, Sharpe Ratio = -14.84

Simulation Run = 9942
Weights = [0.056 0.054 0.123 0.156 0.104 0.101 0.104 0.123 0.179], Final Value =
\$1463502.46, Sharpe Ratio = -19.82

Simulation Run = 9943
Weights = [0.143 0.087 0.175 0.086 0.159 0.186 0.006 0.014 0.144], Final Value =
\$1512367.54, Sharpe Ratio = -20.49

Simulation Run = 9944
Weights = [0.174 0.145 0.071 0.114 0.113 0.125 0.133 0.073 0.05], Final Value =
\$1593446.36, Sharpe Ratio = -17.53

Simulation Run = 9945
Weights = [0.166 0.191 0.068 0.098 0.07 0.143 0.029 0.039 0.196], Final Value =
\$1450582.83, Sharpe Ratio = -23.49

Simulation Run = 9946
Weights = [0.09 0.028 0.134 0.165 0.087 0.061 0.146 0.146 0.144], Final Value =
\$1483255.02, Sharpe Ratio = -17.64

Simulation Run = 9947
Weights = [0.085 0.132 0.146 0.064 0.148 0.164 0.085 0.094 0.082], Final Value =
\$1537558.24, Sharpe Ratio = -18.88

Simulation Run = 9948
Weights = [0.064 0.147 0.151 0.036 0.2 0.166 0.095 0.015 0.126], Final Value =
\$1494944.32, Sharpe Ratio = -19.63

Simulation Run = 9949

Weights = [0.185 0.023 0.177 0.091 0.101 0.029 0.163 0.098 0.134], Final Value = \$1466051.45, Sharpe Ratio = -16.48

Simulation Run = 9950

Weights = [0.089 0.185 0.057 0.203 0.043 0.169 0.041 0.198 0.015], Final Value = \$1630138.83, Sharpe Ratio = -19.59

Simulation Run = 9951

Weights = [0.132 0.058 0.165 0.169 0.103 0.113 0.027 0.188 0.045], Final Value = \$1588084.16, Sharpe Ratio = -19.24

Simulation Run = 9952

Weights = [0.135 0.059 0.138 0.137 0.105 0.114 0.12 0.143 0.05], Final Value = \$1583406.01, Sharpe Ratio = -16.95

Simulation Run = 9953

Weights = [0.178 0.137 0.123 0.06 0.066 0.077 0.111 0.077 0.171], Final Value = \$1428048.76, Sharpe Ratio = -19.66

Simulation Run = 9954

Weights = [0.163 0.143 0.108 0.128 0.03 0.023 0.131 0.159 0.115], Final Value = \$1465528.72, Sharpe Ratio = -18.94

Simulation Run = 9955

Weights = [0.179 0.332 0.22 0.072 0.06 0.028 0.02 0.022 0.067], Final Value = \$1412844.41, Sharpe Ratio = -23.34

Simulation Run = 9956

Weights = [0.242 0.101 0.036 0.075 0.077 0.029 0.156 0.171 0.112], Final Value = \$1523761.93, Sharpe Ratio = -17.71

Simulation Run = 9957

Weights = [0.069 0.065 0.069 0.162 0.159 0.122 0.151 0.072 0.131], Final Value = \$1545335.48, Sharpe Ratio = -18.00

Simulation Run = 9958

Weights = [0.071 0.102 0.186 0.036 0.14 0.187 0.02 0.162 0.094], Final Value = \$1522060.63, Sharpe Ratio = -19.55

Simulation Run = 9959
Weights = [0.111 0.022 0.122 0.257 0.254 0.005 0.016 0.115 0.1], Final Value =
\$1579689.43, Sharpe Ratio = -23.44

Simulation Run = 9960
Weights = [0.092 0.212 0.012 0.016 0.176 0.203 0.078 0.056 0.155], Final Value =
\$1518464.54, Sharpe Ratio = -20.97

Simulation Run = 9961
Weights = [0.025 0.281 0.076 0.054 0.053 0.136 0.213 0.022 0.141], Final Value =
\$1418397.87, Sharpe Ratio = -16.29

Simulation Run = 9962
Weights = [0.049 0.123 0.155 0.031 0.177 0.077 0.237 0.121 0.03], Final Value =
\$1534902.62, Sharpe Ratio = -14.53

Simulation Run = 9963
Weights = [0.184 0.005 0.051 0.057 0.053 0.198 0.033 0.22 0.198], Final Value =
\$1519474.28, Sharpe Ratio = -18.77

Simulation Run = 9964
Weights = [0.084 0.041 0.275 0.146 0.105 0.049 0.193 0.039 0.069], Final Value =
\$1477354.18, Sharpe Ratio = -14.46

Simulation Run = 9965
Weights = [0.078 0.078 0.082 0.146 0.21 0.181 0.066 0.018 0.142], Final Value =
\$1563937.23, Sharpe Ratio = -20.64

Simulation Run = 9966
Weights = [0.013 0.127 0.13 0.046 0.12 0.264 0.136 0.07 0.095], Final Value =
\$1544768.12, Sharpe Ratio = -15.58

Simulation Run = 9967
Weights = [0.094 0.192 0.033 0.221 0.176 0.034 0.089 0.118 0.044], Final Value =
\$1595983.44, Sharpe Ratio = -23.02

Simulation Run = 9968
Weights = [0.158 0.139 0.002 0.151 0.105 0.161 0.099 0.094 0.09], Final Value =

\$1606734.09, Sharpe Ratio = -18.99

Simulation Run = 9969

Weights = [0.164 0.073 0.194 0.132 0.065 0.063 0.134 0.011 0.164], Final Value = \$1427331.54, Sharpe Ratio = -17.57

Simulation Run = 9970

Weights = [0.09 0.113 0.02 0.207 0.036 0.172 0.182 0.075 0.105], Final Value = \$1575014.16, Sharpe Ratio = -15.54

Simulation Run = 9971

Weights = [0.121 0.153 0.179 0.184 0.079 0.079 0.065 0.112 0.03], Final Value = \$1549110.35, Sharpe Ratio = -19.37

Simulation Run = 9972

Weights = [0.025 0.161 0.175 0.159 0.124 0.121 0.061 0.146 0.029], Final Value = \$1555032.13, Sharpe Ratio = -19.77

Simulation Run = 9973

Weights = [0.15 0.052 0.163 0.072 0.149 0.126 0.073 0.135 0.079], Final Value = \$1556091.43, Sharpe Ratio = -18.51

Simulation Run = 9974

Weights = [0.162 0.103 0.079 0.072 0.096 0.111 0.18 0.102 0.096], Final Value = \$1538179.44, Sharpe Ratio = -16.03

Simulation Run = 9975

Weights = [0.042 0.025 0.211 0.168 0.038 0.082 0.216 0.14 0.079], Final Value = \$1492715.11, Sharpe Ratio = -13.81

Simulation Run = 9976

Weights = [0.075 0.183 0.007 0.139 0.18 0.185 0.166 0.007 0.057], Final Value = \$1626477.09, Sharpe Ratio = -16.99

Simulation Run = 9977

Weights = [0.153 0.053 0.195 0.191 0.067 0.067 0.098 0.023 0.152], Final Value = \$1457945.76, Sharpe Ratio = -18.48

Simulation Run = 9978

Weights = [0.173 0.088 0.209 0.14 0.175 0.05 0.019 0.103 0.043], Final Value = \$1558420.91, Sharpe Ratio = -20.62

Simulation Run = 9979

Weights = [0.143 0.147 0.12 0.071 0.012 0.263 0.026 0.189 0.028], Final Value = \$1612082.78, Sharpe Ratio = -16.47

Simulation Run = 9980

Weights = [0.073 0.021 0.182 0.07 0.097 0.358 0.024 0.032 0.143], Final Value = \$1560566.32, Sharpe Ratio = -15.21

Simulation Run = 9981

Weights = [0.106 0.15 0.033 0.138 0.127 0.077 0.13 0.095 0.144], Final Value = \$1503451.66, Sharpe Ratio = -20.63

Simulation Run = 9982

Weights = [0.13 0.037 0.147 0.116 0.147 0.174 0.059 0.114 0.074], Final Value = \$1594281.04, Sharpe Ratio = -18.05

Simulation Run = 9983

Weights = [0.183 0.09 0.211 0.127 0.104 0.018 0.006 0.069 0.192], Final Value = \$1394550.02, Sharpe Ratio = -23.32

Simulation Run = 9984

Weights = [0.155 0.125 0.077 0.177 0.142 0.105 0.013 0.043 0.163], Final Value = \$1513655.33, Sharpe Ratio = -24.74

Simulation Run = 9985

Weights = [0.186 0.127 0.038 0.042 0.123 0.065 0.146 0.209 0.065], Final Value = \$1567411.70, Sharpe Ratio = -18.02

Simulation Run = 9986

Weights = [0.091 0.041 0.21 0.208 0.026 0.186 0.18 0.053 0.004], Final Value = \$1607604.48, Sharpe Ratio = -13.07

Simulation Run = 9987

Weights = [0.066 0.22 0.021 0.091 0.141 0.082 0.196 0.038 0.144], Final Value = \$1473455.32, Sharpe Ratio = -18.21

Simulation Run = 9988
Weights = [0.224 0.045 0.189 0.009 0. 0.124 0.265 0.058 0.085], Final Value =
\$1489820.85, Sharpe Ratio = -11.94

Simulation Run = 9989
Weights = [0.014 0.021 0.215 0.085 0.197 0.017 0.175 0.168 0.108], Final Value =
\$1462871.55, Sharpe Ratio = -16.71

Simulation Run = 9990
Weights = [0.086 0.058 0.143 0.164 0.153 0.115 0.159 0.015 0.106], Final Value =
\$1536172.94, Sharpe Ratio = -16.76

Simulation Run = 9991
Weights = [0.117 0.18 0.116 0.017 0.123 0.135 0.109 0.137 0.066], Final Value =
\$1528851.78, Sharpe Ratio = -18.69

Simulation Run = 9992
Weights = [0.014 0.078 0.141 0.107 0.158 0.144 0.136 0.066 0.156], Final Value =
\$1478214.28, Sharpe Ratio = -18.17

Simulation Run = 9993
Weights = [0.065 0.112 0.086 0.237 0.038 0.14 0.154 0.056 0.112], Final Value =
\$1534431.33, Sharpe Ratio = -16.76

Simulation Run = 9994
Weights = [0.181 0.131 0.091 0.095 0.119 0.145 0.076 0.036 0.126], Final Value =
\$1529897.99, Sharpe Ratio = -19.96

Simulation Run = 9995
Weights = [0.042 0.171 0.185 0.13 0.054 0.17 0.024 0.103 0.118], Final Value =
\$1468768.78, Sharpe Ratio = -20.40

Simulation Run = 9996
Weights = [0.076 0.097 0.094 0.066 0.141 0.199 0.076 0.062 0.189], Final Value =
\$1484108.53, Sharpe Ratio = -19.81

Simulation Run = 9997

```
Weights = [0.127 0.18 0.111 0.082 0.057 0.075 0.118 0.168 0.083], Final Value = $1493108.91, Sharpe Ratio = -19.13
```

```
Simulation Run = 9998
```

```
Weights = [0.113 0.024 0.147 0.108 0.145 0.13 0.179 0.123 0.031], Final Value = $1607484.07, Sharpe Ratio = -14.77
```

```
Simulation Run = 9999
```

```
Weights = [0.122 0.176 0.048 0.115 0.066 0.044 0.148 0.155 0.126], Final Value = $1477367.73, Sharpe Ratio = -19.47
```

```
[23]: ## Lowest Sharpe ratio from the sim runs
      sharpe_ratio_runs.min()
```

```
[23]: -34.27917450403768
```

```
[24]: # generating Sharpe ratio, volatility corresponding to the best weights
      ↪ allocation (maximum Sharpe ratio)
      optimal_portfolio_return, optimal_volatility, optimal_sharpe_ratio,
      ↪ highest_final_value, optimal_return_on_investment =
      ↪ simulation_engine(weights_runs[sharpe_ratio_runs.argmax(), :],
      ↪ initial_investment)
```

```
[25]: print('Best Portfolio Metrics Based on {} Monte Carlo Simulation Runs:'.
      ↪ format(sim_runs))
      print(' - Portfolio Expected Annual Return = {:.02f}%'.
      ↪ format(optimal_portfolio_return * 100))
      print(' - Portfolio Standard Deviation (Volatility) = {:.02f}%'.
      ↪ format(optimal_volatility * 100))
      print(' - Sharpe Ratio = {:.02f}'.format(optimal_sharpe_ratio))
      print(' - Final Value = ${:.02f}'.format(highest_final_value))
      print(' - Return on Investment = {:.02f}%'.format(optimal_return_on_investment))
```

```
Best Portfolio Metrics Based on 10000 Monte Carlo Simulation Runs:
```

- Portfolio Expected Annual Return = 24.15%
- Portfolio Standard Deviation (Volatility) = 43.90%
- Sharpe Ratio = -7.79
- Final Value = \$1443756.90
- Return on Investment = 44.38%

```
[26]: # Pulling the index of the minimum Sharpe ratio
      max_sharpe_index = np.argmax(optimal_sharpe_ratio)

      # Pulling the weights corresponding to the lowest Sharpe ratio
```



```
lowest_sharpe_weights = weights_runs[max_sharpe_index]
```

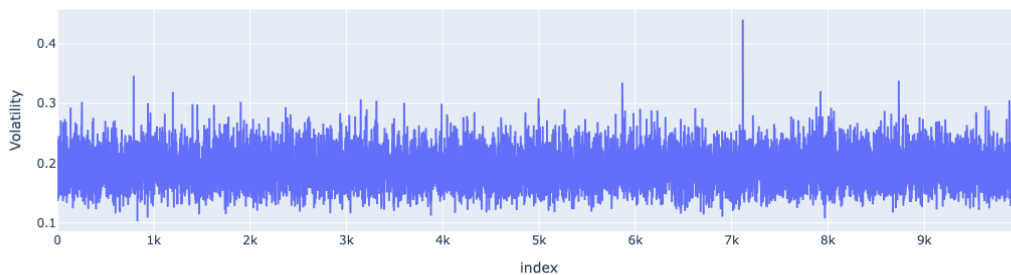
```
[27]: # Created a dataframe that contains volatility, return, and Sharpe ratio for all
      ↪ simulation runs
sim_out_df = pd.DataFrame({'Volatility': volatility_runs.tolist(),
      ↪ 'Portfolio_Return': expected_portfolio_returns_runs.tolist(), 'Sharpe_Ratio':
      ↪ sharpe_ratio_runs.tolist() })
sim_out_df
```

```
[27]:
```

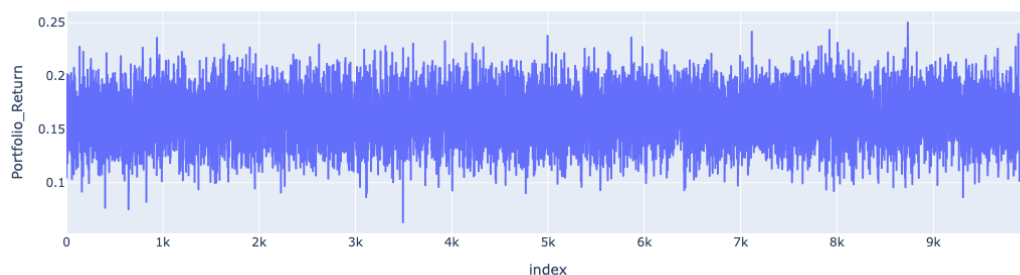
	Volatility	Portfolio_Return	Sharpe_Ratio
0	0.200795	0.184217	-17.310118
1	0.137930	0.104689	-25.776149
2	0.210009	0.182665	-16.558031
3	0.139304	0.129944	-25.340734
4	0.159506	0.126654	-22.151871
...
9995	0.172556	0.140284	-20.397519
9996	0.177284	0.148505	-19.807194
9997	0.183154	0.156602	-19.128202
9998	0.234201	0.200772	-14.770344
9999	0.180119	0.152270	-19.474492

[10000 rows x 3 columns]

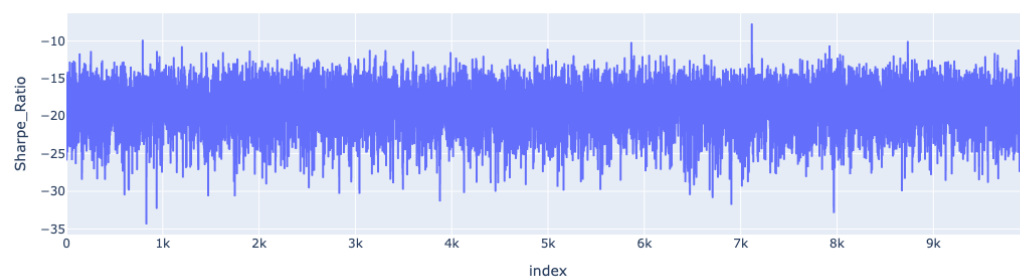
```
[28]: sim_out_df
fig = px.line(sim_out_df, y = 'Volatility')
fig.show()
```



```
[29]: sim_out_df
fig = px.line(sim_out_df, y = 'Portfolio_Return')
fig.show()
```



```
[30]: sim_out_df
fig = px.line(sim_out_df, y = 'Sharpe_Ratio')
fig.show()
```



```
[31]: actual_portfolio_df = asset_allocation(portfolio_df, lowest_sharpe_weights, 100000)
actual_portfolio_df.round(2)
```

```
[31]:
```

	AAPL	GLD	GM	JPM	LMT	META	\
Date							
2021-01-04	13725.42	15809.21	1175.45	16246.87	4504.46	9873.90	
2021-01-05	13895.12	15856.03	1208.82	16335.27	4558.70	9948.43	
2021-01-06	13427.38	15598.51	1247.12	17102.31	4548.76	9667.20	
2021-01-07	13885.57	15562.09	1256.98	17663.94	4477.14	9866.56	
2021-01-08	14005.42	15029.72	1249.44	17683.44	4392.84	9823.60	
...	
2024-09-09	23934.32	20081.24	1407.72	31013.16	8345.69	18571.01	
2024-09-10	23847.65	20169.68	1331.10	29403.92	8282.29	18571.01	
2024-09-11	24123.93	20137.60	1326.64	29642.80	8206.59	18830.01	
2024-09-12	24135.84	20491.36	1369.70	29552.69	8225.55	19336.60	

2024-09-13	24106.59	20695.12	1375.05	29226.55	8249.29	19300.55
------------	----------	----------	---------	----------	---------	----------

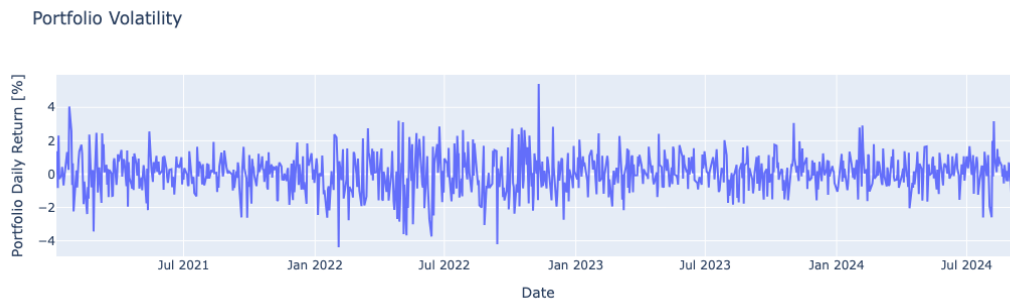
	PLTR	SPY	TLT	Portfolio Value [\$]	\
Date					
2021-01-04	15008.87	19829.10	3826.73	100000.00	
2021-01-05	15798.81	19965.67	3798.31	101365.15	
2021-01-06	15118.05	20085.04	3720.34	100514.71	
2021-01-07	16055.70	20383.45	3687.54	102838.98	
2021-01-08	16184.15	20499.59	3675.64	102543.83	
...	
2024-09-09	22221.09	30908.62	2681.68	159164.53	
2024-09-10	22323.85	31043.25	2700.46	157673.20	
2024-09-11	22381.65	31361.72	2698.31	158709.25	
2024-09-12	22420.18	31625.89	2685.71	159843.53	
2024-09-13	22856.90	31791.06	2692.95	160294.06	

	Portfolio Daily Return [%]
Date	
2021-01-04	0.00
2021-01-05	1.37
2021-01-06	-0.84
2021-01-07	2.31
2021-01-08	-0.29
...	...
2024-09-09	2.66
2024-09-10	-0.94
2024-09-11	0.66
2024-09-12	0.71
2024-09-13	0.28

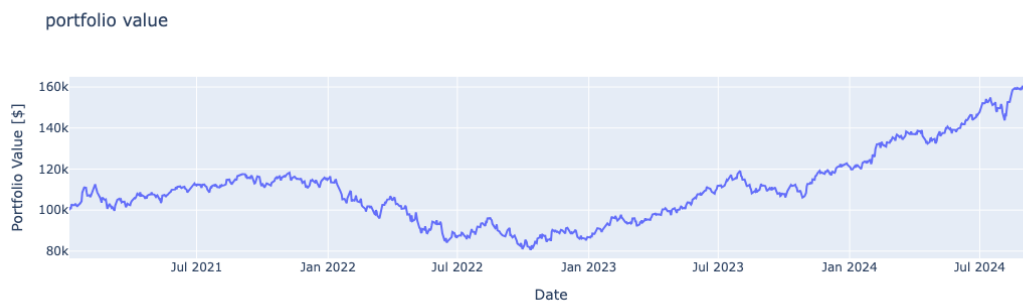
[930 rows x 11 columns]

```
[32]: ## Line chart to show the portfolio volatility

fig=px.line(actual_portfolio_df, y='Portfolio Daily Return [%]',
            title='Portfolio Volatility')
fig.show()
```



```
[33]: fig = px.line(actual_portfolio_df, y='Portfolio Value [$]', title = 'portfolio_
      ↳value')
      fig.show()
```



```
[34]: print('The point of the project was to show the workings of the Monte Carlo_
      ↳Simulation and by creating an engine function using python on Jupyter notebook.
      ↳')
      print('Best Portfolio Metrics Based on {} Monte Carlo Simulation Runs:'.
            ↳format(sim_runs))
      print(' - Portfolio Expected Annual Return = {:.02f}%'.
            ↳format(optimal_portfolio_return * 100))
      print(' - Portfolio Standard Deviation (Volatility) = {:.02f}%'.
            ↳format(optimal_volatility * 100))
      print(' - Sharpe Ratio = {:.02f}'.format(optimal_sharpe_ratio))
      print(' - Final Value = ${:.02f}'.format(highest_final_value))
      print(' - Return on Investment = {:.02f}%'.format(optimal_return_on_investment))
      print('')
      print('The best set of the random weighting pulled using the Monte Carlo_
            ↳Simulation came out to be {}'.format(lowest_sharpe_weights))
      print('The above graph shows the returns using these particular weights')
```

```
print('As this simulation engine can be replicated, you can attempt to update,
↳the rf (risk free rate at the fed level) to show the returns would have been,
↳as the criteria were based on the best weighting that the simulation would
↳pull, based on highest Sharpe ratio value. This means the better its returns
↳have been relative to the amount of investment risk taken')
```

The point of the project was to show the workings of the Monte Carlo Simulation and by creating an engine function using python on Jupyter notebook.

Best Portfolio Metrics Based on 10000 Monte Carlo Simulation Runs:

- Portfolio Expected Annual Return = 24.15%
- Portfolio Standard Deviation (Volatility) = 43.90%
- Sharpe Ratio = -7.79
- Final Value = \$1443756.90
- Return on Investment = 44.38%

The best set of the random weighting pulled using the Monte Carlo Simulation came out to be [0.13725418 0.15809208 0.01175448 0.16246872 0.04504457 0.09873899

0.15008871 0.19829099 0.03826729]

The above graph shows the returns using these particular weights

As this simulation engine can be replicated, you can attempt to update the rf (risk free rate at the fed level) to show the returns would have been, as the criteria were based on the best weighting that the simulation would pull, based on highest Sharpe ratio value. This means the better its returns have been relative to the amount of investment risk taken