# mutual-fund-project

April 18, 2023

```
[]: import pandas as pd import numpy as np from random import sample
```

#### 1 Reading Data

```
[]: df = pd.read_excel('./MUTUL_FUND_DATA_ FINAL_CODONS_new.xlsx')
df
```

## 2 Displaying Row

```
[]: def displayrow(df, var):
    df1 = df.loc[df['Category'] == var]

#Extracting Row numbers to a list
    a = []
    for i in df1.index:
        a.append(i)

#Extracting random 3 rows from dataframe
    b = sample(a,3)

#Creating a new data frame with row present in the list
    df11 = df.iloc[b]

return df11
```

## 3 Displaying Row with Rating Parameter

```
[]: def displayrowwithrating(df, var, star=''):
    df1 = df.loc[(df['Category'] == var) & (df['Fund_Rating'] == float(star))]

#Extracting Row numbers to a list
a = []
```

```
for i in df1.index:
    a.append(i)

#Extracting random 3 rows from dataframe
b = sample(a,3)

#Creating a new data frame with row present in the list
df11 = df.iloc[b]

return df11
```

## 4 Fetching Row Numbers

tolist() function can be used instead of this...

```
[]: def convertingtorow(var):
    a = []
    for i in var:
        a.append(i)
    return a
```

#### 5 Taking Input

## 6 Options Function

```
[]: def options(df, category):
    #displaying 3 rows randomly for dataframe using displayrow function
    dfequity = displayrow(df, category)
    rows = convertingtorow(dfequity.index)
    display(dfequity)
```

```
#Other Options
  while(True):
       x = input('Type "y" if you want new options <math>\Type "a" if you have a_{\sqcup}
→specific AMC in mind.. \nType "n" to continue...')
       if x.lower() == 'v':
           #displaying 3 rows randomly for dataframe using displayrow function
           dfequity = displayrow(df, category)
           rows = convertingtorow(dfequity.index)
           display(dfequity)
       elif x.lower() == 'a':
           print(df.AMC_Name.unique())
           y = input("Please Enter your Choice: ")
           if y in df.AMC_Name.unique():
               print("Amc of Choice: ",y)
               dftemp = df.loc[(df['AMC_Name']==y) &__

    df['Category'] == category)]

               rows = convertingtorow(dftemp.index)
               display(dftemp)
               break
           else:
               print("Invalid AMC")
       elif x.lower() == 'n':
           break
       else:
           print("Please Enter Appropriate Response!")
   #getting user's choice
  temp = takeint(rows)
  print('\n',df.iloc[temp])
  return temp
```

## 7 Options Function with Rating Parameter

```
[]: def optionswithrating(df, category, star=''):
    star = float(star)

#displaying 3 rows randomly for dataframe using displayrow function
    dfequity = displayrowwithrating(df, category, star)
    rows = convertingtorow(dfequity.index)
    display(dfequity)

#Other Options
    while(True):
```

```
x = input('Type "y" if you want new options \nType "a" if you have <math>a_{\sqcup}
⇒specific AMC in mind.. \nType "n" to continue...')
      if x.lower() == 'v':
          #displaying 3 rows randomly for dataframe using displayrow function
          dfequity = displayrowwithrating(df, category, star)
          rows = convertingtorow(dfequity.index)
          display(dfequity)
      elif x.lower() == 'a':
          print(df.AMC_Name.unique())
          y = input("Please Enter your Choice: ")
          if y in df.AMC_Name.unique():
              print("Amc of Choice: ",y)
              dftemp = df.loc[(df['AMC_Name']==y) &__
rows = convertingtorow(dftemp.index)
              display(dftemp)
              break
          else:
              print("Invalid AMC")
      elif x.lower() == 'n':
          break
      else:
          print("Please Enter Appropriate Response!")
  #getting user's choice
  temp = takeint(rows)
  print('\n',df.iloc[temp])
  return temp
```

## 8 Calculator Program

```
[]: def calculator(investment, r, years):
    #Returns Calculator

months = years * 12

#Compound Interest Formula
    i = r/100/12

#Seperate Calculation for FV
a = (1+i)**months-1
b = (1+i)/i

#Final Future Value Calculation
```

```
FV = investment * a * b
#print(FV)
return FV
```

#### 9 Calculation Function

```
[]: def calculate(df, amount, age, row):
         print("\nFollowing are the Funds you have chosen: ")
         display(df.loc[row])
         if amount <= 5000:</pre>
             if age <= 18:
                 equity = amount
                 a = df.loc[row]
                 rate = a.Return 1Yr
                 equity1 = calculator(equity, rate, 1)
                 rate = a.Return_3Yr
                 equity3 = calculator(equity, rate, 3)
                 rate = a.Return_5Yr
                 equity5 = calculator(equity, rate, 5)
                 #Calculating Returns
                 ## for 1 year
                 print("Returns for 1 Year \n")
                 totalinv = amount * 12
                 print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
                 equity1 = float(equity1)
                 print('Total Portfolio Value = {value:.2f}'.format(value=equity1))
                 totalgain = equity1 - totalinv
                 print('Net Profit = {value:.2f}'.format(value=totalgain))
                 gainper = totalgain/totalinv*100
                 print('Percentage Gained = {value:.2f}'.format(value=gainper))
                 ## for 3 years
                 print('\nReturns for 3 Years\n')
                 totalinv = amount * 36
                 print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
```

```
equity3 = float(equity3)
    print('Total Portfolio Value = {value:.2f}'.format(value=equity3))
    totalgain = equity3 - totalinv
    print('Net Profit = {value:.2f}'.format(value=totalgain))
    gainper = totalgain/totalinv*100
    print('Percentage Gained = {value:.2f}'.format(value=gainper))
    ## for 5 years
    print('\nReturns for 5 Years\n')
    totalinv = amount * 60
    print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
    equity5 = float(equity5)
    print('Total Portfolio Value = {value:.2f}'.format(value=equity5))
    totalgain = equity5 - totalinv
    print('Net Profit = {value:.2f}'.format(value=totalgain))
    gainper = totalgain/totalinv*100
    print('Percentage Gained = {value:.2f}'.format(value=gainper))
else:
   var = 100 - age
   per = var/100
    equity = amount * per
   hybrid = amount - equity
    #For Equity
    a = df.loc[row[0]]
    rate = a.Return_1Yr
    equity1 = calculator(equity, rate, 1)
   rate = a.Return_3Yr
    equity3 = calculator(equity, rate, 3)
   rate = a.Return_5Yr
    equity5 = calculator(equity, rate, 5)
    #For Hybrid
    a = df.loc[row[1]]
    rate = a.Return 1Yr
   hybrid1 = calculator(hybrid, rate, 1)
    rate = a.Return_3Yr
    hybrid3 = calculator(hybrid, rate, 3)
```

```
rate = a.Return_5Yr
hybrid5 = calculator(hybrid, rate, 5)
#Calculating Returns
## for 1 year
print("Returns for 1 Year \n")
totalinv = amount * 12
print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
Year1 = float(equity1) + float(hybrid1)
print('Total Portfolio Value = {value:.2f}'.format(value=Year1))
totalgain = Year1 - totalinv
print('Net Profit = {value:.2f}'.format(value=totalgain))
gainper = totalgain/totalinv*100
print('Percentage Gained = {value:.2f}'.format(value=gainper))
## for 3 years
print('\nReturns for 3 Years\n')
totalinv = amount * 36
print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
Year3 = float(equity3) + float(hybrid3)
print('Total Portfolio Value = {value:.2f}'.format(value=Year3))
totalgain = Year3 - totalinv
print('Net Profit = {value:.2f}'.format(value=totalgain))
gainper = totalgain/totalinv*100
print('Percentage Gained = {value:.2f}'.format(value=gainper))
## for 5 years
print('\nReturns for 5 Years\n')
totalinv = amount * 60
print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
Year5 = float(equity5) + float(hybrid5)
print('Total Portfolio Value = {value:.2f}'.format(value=Year5))
totalgain = Year5 - totalinv
print('Net Profit = {value:.2f}'.format(value=totalgain))
gainper = totalgain/totalinv*100
print('Percentage Gained = {value:.2f}'.format(value=gainper))
```

```
elif amount > 5000 and amount <= 10000:</pre>
    if age <= 18:
        amount1 = amount/2
        amount2 = amount/2
        a = df.loc[row[0]]
        rate = a.Return_1Yr
        equity1 = calculator(amount1, rate, 1)
        rate = a.Return_3Yr
        equity3 = calculator(amount1, rate, 3)
        rate = a.Return_5Yr
        equity5 = calculator(amount1, rate, 5)
        b = df.loc[row[1]]
        rate = b.Return_1Yr
        equity21 = calculator(amount2, rate, 1)
        rate = b.Return_3Yr
        equity23 = calculator(amount2, rate, 3)
        rate = b.Return 5Yr
        equity25 = calculator(amount2, rate, 5)
        #Calculating Returns
        ## for 1 year
        print("Returns for 1 Year \n")
        totalinv = amount * 12
        print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
        Year1 = equity1 + equity21
        print('Total Portfolio Value = {value:.2f}'.format(value=Year1))
        totalgain = Year1 - totalinv
        print('Net Profit = {value:.2f}'.format(value=totalgain))
        gainper = totalgain/totalinv*100
        print('Percentage Gained = {value:.2f}'.format(value=gainper))
        ## for 3 years
        print('\nReturns for 3 Years\n')
        totalinv = amount * 36
        print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
```

```
Year3 = equity3 + equity23
   print('Total Portfolio Value = {value:.2f}'.format(value=Year3))
   totalgain = Year3 - totalinv
   print('Net Profit = {value:.2f}'.format(value=totalgain))
   gainper = totalgain/totalinv*100
   print('Percentage Gained = {value:.2f}'.format(value=gainper))
    ## for 5 years
   print('\nReturns for 5 Years\n')
   totalinv = amount * 60
   print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
   Year5 = equity5 + equity25
   print('Total Portfolio Value = {value:.2f}'.format(value=Year5))
   totalgain = Year5 - totalinv
   print('Net Profit = {value:.2f}'.format(value=totalgain))
   gainper = totalgain/totalinv*100
   print('Percentage Gained = {value:.2f}'.format(value=gainper))
else:
   var = 100 - age
   per = var/100
   equity = amount * per
   var2 = amount - equity
   hybrid = var2 / 2
   debt = var2 / 2
    #for equity funds
   fund1 = equity/2
   fund2 = equity/2
   #For Equity Fund 1
   a = df.loc[row[0]]
   rate = a.Return 1Yr
   equity1 = calculator(fund1, rate, 1)
   rate = a.Return_3Yr
   equity3 = calculator(fund1, rate, 3)
   rate = a.Return_5Yr
   equity5 = calculator(fund1, rate, 5)
```

```
#For Equity Fund 2
a = df.loc[row[1]]
rate = a.Return_1Yr
equity21 = calculator(fund2, rate, 1)
rate = a.Return_3Yr
equity23 = calculator(fund2, rate, 3)
rate = a.Return_5Yr
equity25 = calculator(fund2, rate, 5)
#For Hybrid
a = df.loc[row[2]]
rate = a.Return_1Yr
hybrid1 = calculator(hybrid, rate, 1)
rate = a.Return_3Yr
hybrid3 = calculator(hybrid, rate, 3)
rate = a.Return_5Yr
hybrid5 = calculator(hybrid, rate, 5)
#For Debt
a = df.loc[row[3]]
rate = a.Return_1Yr
debt1 = calculator(debt, rate, 1)
rate = a.Return_3Yr
debt3 = calculator(debt, rate, 3)
rate = a.Return_5Yr
debt5 = calculator(debt, rate, 5)
#Calculating Returns
## for 1 year
print("Returns for 1 Year \n")
totalinv = amount * 12
print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
Year1 = equity1 + equity21 + hybrid1 + debt1
print('Total Portfolio Value = {value:.2f}'.format(value=Year1))
totalgain = Year1 - totalinv
print('Net Profit = {value:.2f}'.format(value=totalgain))
```

```
gainper = totalgain/totalinv*100
        print('Percentage Gained = {value:.2f}'.format(value=gainper))
        ## for 3 years
        print('\nReturns for 3 Years\n')
        totalinv = amount * 36
        print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
        Year3 = equity3 + equity23 + hybrid3 + debt3
        print('Total Portfolio Value = {value:.2f}'.format(value=Year3))
        totalgain = Year3 - totalinv
        print('Net Profit = {value:.2f}'.format(value=totalgain))
        gainper = totalgain/totalinv*100
        print('Percentage Gained = {value:.2f}'.format(value=gainper))
        ## for 5 years
        print('\nReturns for 5 Years\n')
        totalinv = amount * 60
        print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
        Year5 = equity5 + equity25 + hybrid5 + debt5
        print('Total Portfolio Value = {value:.2f}'.format(value=Year5))
        totalgain = Year5 - totalinv
        print('Net Profit = {value:.2f}'.format(value=totalgain))
        gainper = totalgain/totalinv*100
        print('Percentage Gained = {value:.2f}'.format(value=gainper))
elif amount > 10000:
    if age <= 18:
        amount1 = amount/3
        amount2 = amount/3
        amount3 = amount/3
        a = df.loc[row[0]]
        rate = a.Return_1Yr
        equity1 = calculator(amount1, rate, 1)
        rate = a.Return 3Yr
        equity3 = calculator(amount1, rate, 3)
        rate = a.Return_5Yr
        equity5 = calculator(amount1, rate, 5)
```

```
b = df.loc[row[1]]
rate = b.Return_1Yr
equity21 = calculator(amount2, rate, 1)
rate = b.Return_3Yr
equity23 = calculator(amount2, rate, 3)
rate = b.Return_5Yr
equity25 = calculator(amount2, rate, 5)
c = df.loc[row[2]]
rate = c.Return 1Yr
equity31 = calculator(amount3, rate, 1)
rate = c.Return_3Yr
equity33 = calculator(amount3, rate, 3)
rate = c.Return_5Yr
equity35 = calculator(amount3, rate, 5)
#Calculating Returns
## for 1 year
print("Returns for 1 Year \n")
totalinv = amount * 12
print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
Year1 = equity1 + equity21 + equity31
print('Total Portfolio Value = {value:.2f}'.format(value=Year1))
totalgain = Year1 - totalinv
print('Net Profit = {value:.2f}'.format(value=totalgain))
gainper = totalgain/totalinv*100
print('Percentage Gained = {value:.2f}'.format(value=gainper))
## for 3 years
print('\nReturns for 3 Years\n')
totalinv = amount * 36
print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
Year3 = equity3 + equity23 + equity33
print('Total Portfolio Value = {value:.2f}'.format(value=Year3))
totalgain = Year3 - totalinv
```

```
print('Net Profit = {value:.2f}'.format(value=totalgain))
    gainper = totalgain/totalinv*100
    print('Percentage Gained = {value:.2f}'.format(value=gainper))
    ## for 5 years
    print('\nReturns for 5 Years\n')
    totalinv = amount * 60
    print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
   Year5 = equity5 + equity25 + equity35
   print('Total Portfolio Value = {value:.2f}'.format(value=Year5))
   totalgain = Year5 - totalinv
    print('Net Profit = {value:.2f}'.format(value=totalgain))
    gainper = totalgain/totalinv*100
    print('Percentage Gained = {value:.2f}'.format(value=gainper))
else:
   var = 100 - age
    per = var/100
    equity = amount * per
    var2 = amount - equity
   hybrid = var2 / 2
    debt = var2 / 2
    #for equity funds
    fund1 = equity/3
    fund2 = equity/3
    fund3 = equity/3
    #For Equity Fund 1
    a = df.loc[row[0]]
   rate = a.Return_1Yr
    equity1 = calculator(fund1, rate, 1)
   rate = a.Return_3Yr
    equity3 = calculator(fund1, rate, 3)
    rate = a.Return_5Yr
    equity5 = calculator(fund1, rate, 5)
    #For Equity Fund 2
    a = df.loc[row[1]]
    rate = a.Return_1Yr
    equity21 = calculator(fund2, rate, 1)
```

```
rate = a.Return_3Yr
equity23 = calculator(fund2, rate, 3)
rate = a.Return_5Yr
equity25 = calculator(fund2, rate, 5)
#For Equity Fund 3
c = df.loc[row[2]]
rate = c.Return_1Yr
equity31 = calculator(fund3, rate, 1)
rate = c.Return_3Yr
equity33 = calculator(fund3, rate, 3)
rate = c.Return_5Yr
equity35 = calculator(fund3, rate, 5)
#For Hybrid
a = df.loc[row[3]]
rate = a.Return_1Yr
hybrid1 = calculator(hybrid, rate, 1)
rate = a.Return_3Yr
hybrid3 = calculator(hybrid, rate, 3)
rate = a.Return_5Yr
hybrid5 = calculator(hybrid, rate, 5)
#For Debt
a = df.loc[row[4]]
rate = a.Return_1Yr
debt1 = calculator(debt, rate, 1)
rate = a.Return_3Yr
debt3 = calculator(debt, rate, 3)
rate = a.Return_5Yr
debt5 = calculator(debt, rate, 5)
#Calculating Returns
## for 1 year
print("Returns for 1 Year \n")
totalinv = amount * 12
```

```
print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
          Year1 = (equity1 + equity21 + equity31 + hybrid1 + debt1)
          print('Total Portfolio Value = {value:.2f}'.format(value=Year1))
          totalgain = Year1 - totalinv
          print('Net Profit = {value:.2f}'.format(value=totalgain))
          gainper = totalgain/totalinv*100
          print('Percentage Gained = {value:.2f}'.format(value=gainper))
           ## for 3 years
          print('\nReturns for 3 Years\n')
          totalinv = amount * 36
          print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
          Year3 = equity3 + equity23 + equity33 + hybrid3 + debt3
          print('Total Portfolio Value = {value:.2f}'.format(value=Year3))
          totalgain = Year3 - totalinv
          print('Net Profit = {value:.2f}'.format(value=totalgain))
          gainper = totalgain/totalinv*100
          print('Percentage Gained = {value:.2f}'.format(value=gainper))
           ## for 5 years
          print('\nReturns for 5 Years\n')
          totalinv = amount * 60
          print('Total Amount Invested = {value:.2f}'.format(value=totalinv))
          Year5 = float(equity5) + float(equity25) + float(equity35) +
→float(hybrid5) + float(debt5)
          print('Total Portfolio Value = {value:.2f}'.format(value=Year5))
          totalgain = Year5 - totalinv
          print('Net Profit = {value:.2f}'.format(value=totalgain))
          gainper = totalgain/totalinv*100
          print('Percentage Gained = {value:.2f}'.format(value=gainper))
```

#### 10 Dashboard

```
while(True):
    age = input('Please Enter your age: ')
    if age.isnumeric():
        age = int(age)
```

```
if age > 100:
            print('Please Enter Appropriate Age.\n')
        elif age <= 18:</pre>
            per1 = 1
            break
        else:
            per = 100-age
            per1 = per/100
            #print('\nper: {value:.2f}'.format(value = int(per)))
    else:
        print('Please Enter appropriate Age.\n')
while(True):
    while(True):
        amount = input('\nPlease Enter Amount you wish to Invest: ')
        if amount.isnumeric():
            amount = int(amount)
            break
        else:
            print('\nPlease Enter Appropriate Amount.')
    if amount < 1000:</pre>
        print('\nMinimum Amount should be atleast Rs.1000')
    elif amount <= 5000:</pre>
        equity = amount * per1
        hybrid = amount - equity
        if hybrid == 0.00:
            print('\nAllocated Amount: \nEquity: {value:.2f}'.format(value =__
 →equity))
            rowno = []
            print('\nPlease Choose an Equity Fund: ')
            rowno.append(options(df, 'Equity'))
            xyz = df.loc[rowno]
            xyz.to_csv('Mutual_Funds.csv')
            calculate(df, amount, age, rowno)
            break
        else:
            print('\nAllocated Amount: \nEquity: {value:.2f} \nHybrid: {value2:.
 42f}'.format(value = equity, value2 = hybrid))
            rowno = []
            print('\nPlease Choose an Equity Fund: ')
            rowno.append(options(df, 'Equity'))
            print('\nPlease Choose a Hybrid Fund')
```

```
rowno.append(options(df, 'Hybrid'))
           xyz = df.loc[rowno]
           xyz.to_csv('Mutual_Funds.csv')
           calculate(df, amount, age, rowno)
           break
  elif amount > 5000 and amount <= 10000:</pre>
       equity = amount * per1
      var = amount - equity
      hybrid = var / 2
       debt = var / 2
       if hybrid == 0.00 and debt == 0.00:
           print('\nAllocated Amount: \nEquity: {value:.2f} \nHybrid: {value2:.
$\docume{\text{-2f}} \nDebt: {\value3:.2f}'.format(\value = equity, \value2 = hybrid, \value3 = \( \text{-1} \)
→debt))
           rowno = []
           print('\nPlease Choose Your First Equity Fund: ')
           rowno.append(optionswithrating(df, 'Equity', 5))
           print('\nPlease Choose Your Second Equity Fund: ')
           rowno.append(optionswithrating(df, 'Equity', 4))
           xyz = df.loc[rowno]
           xyz.to_csv('Mutual_Funds.csv')
           calculate(df, amount, age, rowno)
           break
       else:
           print('\nAllocated Amount: \nEquity: {value:.2f} \nHybrid: {value2:.
→2f} \nDebt: {value3:.2f}'.format(value = equity, value2 = hybrid, value3 = ___
→debt))
           rowno = []
           print('\nPlease Choose Your First Equity Fund: ')
           rowno.append(optionswithrating(df, 'Equity', 5))
           print('\nPlease Choose Your Second Equity Fund: ')
           rowno.append(optionswithrating(df, 'Equity', 4))
           print('\nPlease Choose a Hybrid Fund')
           rowno.append(options(df, 'Hybrid'))
           print('\nPlease Choose a Debt Fund')
           rowno.append(options(df, 'Debt'))
```

```
xyz = df.loc[rowno]
          xyz.to_csv('Mutual_Funds.csv')
           calculate(df, amount, age, rowno)
          break
  elif amount > 10000:
      equity = amount * per1
      var = amount - equity
      hybrid = var / 2
      debt = var / 2
      print('\nAllocated Amount: \nEquity: {value:.2f} \nHybrid: {value2:.2f}_\u00ed

√\nDebt: {value3:.2f}'.format(value = equity, value2 = hybrid, value3 = debt))

      if hybrid == 0.00 and debt == 0.00:
          print('\nAllocated Amount: \nEquity: {value:.2f} \nHybrid: {value2:.
△2f} \nDebt: {value3:.2f}'.format(value = equity, value2 = hybrid, value3 = ___
→debt))
          rowno = []
          print('\nPlease Choose Your First Equity Fund: ')
          rowno.append(optionswithrating(df, 'Equity', 5))
          print('\nPlease Choose Your Second Equity Fund: ')
          rowno.append(optionswithrating(df, 'Equity', 4))
          print('\nPlease Choose Your Third Equity Fund: ')
          rowno.append(optionswithrating(df, 'Equity', 3))
          xyz = df.loc[rowno]
          xyz.to_csv('Mutual_Funds.csv')
          calculate(df, amount, age, rowno)
          break
      else:
           print('\nAllocated Amount: \nEquity: {value:.2f} \nHybrid: {value2:.
△2f} \nDebt: {value3:.2f}'.format(value = equity, value2 = hybrid, value3 = ___
→debt))
          rowno = []
          print('\nPlease Choose Your First Equity Fund: ')
          rowno.append(optionswithrating(df, 'Equity', 5))
          print('\nPlease Choose Your Second Equity Fund: ')
          rowno.append(optionswithrating(df, 'Equity', 4))
          print('\nPlease Choose Your Third Equity Fund: ')
          rowno.append(optionswithrating(df, 'Equity', 3))
```

```
print('\nPlease Choose a Hybrid Fund')
    rowno.append(options(df, 'Hybrid'))

print('\nPlease Choose a Debt Fund')
    rowno.append(options(df, 'Debt'))

xyz = df.loc[rowno]
    xyz.to_csv('Mutual_Funds.csv')

calculate(df, amount, age, rowno)
    break

else:
    print('Invalid Input')
```

[]: