

```
Current Date: 2024-02-09
45 days before current date: 2023-12-26
0 days before current date: 2024-02-10
Requirement already satisfied: pyfolio in /usr/local/lib/python3.10/dist-packages (0.9.2)
Requirement already satisfied: ipython>=3.2.3 in /usr/local/lib/python3.10/dist-packages (from pyfolio) (7.34.0)
Requirement already satisfied: matplotlib>=1.4.0 in /usr/local/lib/python3.10/dist-packages (from pyfolio) (3.7.1)
Requirement already satisfied: numpy>=1.11.1 in /usr/local/lib/python3.10/dist-packages (from pyfolio) (1.23.5)
Requirement already satisfied: pandas>=0.18.1 in /usr/local/lib/python3.10/dist-packages (from pyfolio) (1.5.3)
Requirement already satisfied: pytz>=2014.10 in /usr/local/lib/python3.10/dist-packages (from pyfolio) (2023.4)
Requirement \ already \ satisfied: \ scipy>=0.14.0 \ in \ /usr/local/lib/python3.10/dist-packages \ (from \ pyfolio) \ (1.11.4)
Requirement already satisfied: scikit-learn>=0.16.1 in /usr/local/lib/python3.10/dist-packages (from pyfolio) (1.2.2)
Requirement already satisfied: seaborn>=0.7.1 in /usr/local/lib/python3.10/dist-packages (from pyfolio) (0.13.1)
Requirement already satisfied: empyrical>=0.5.0 in /usr/local/lib/python3.10/dist-packages (from pyfolio) (0.5.5)
Requirement already satisfied: pandas-datareader>=0.2 in /usr/local/lib/python3.10/dist-packages (from empyrical>=0.5.0->
pyfolio) (0.10.0)
Requirement already satisfied: setuptools>=18.5 in /usr/local/lib/python3.10/dist-packages (from ipython>=3.2.3->pyfolio)
(67.7.2)
Requirement already satisfied: jedi>=0.16 in /usr/local/lib/python3.10/dist-packages (from ipython>=3.2.3->pyfolio) (0.19
.1)
Requirement already satisfied: decorator in /usr/local/lib/python3.10/dist-packages (from ipython>=3.2.3->pyfolio) (4.4.2
Requirement already satisfied: pickleshare in /usr/local/lib/python3.10/dist-packages (from ipython>=3.2.3->pyfolio) (0.7
.5)
Requirement already satisfied: traitlets>=4.2 in /usr/local/lib/python3.10/dist-packages (from ipython>=3.2.3->pyfolio) (
5.7.1)
Requirement already satisfied: prompt-toolkit!=3.0.0,!=3.0.1,<3.1.0,>=2.0.0 in /usr/local/lib/python3.10/dist-packages (f
rom ipython>=3.2.3->pyfolio) (3.0.43)
Requirement already satisfied: pygments in /usr/local/lib/python3.10/dist-packages (from ipython>=3.2.3->pyfolio) (2.16.1
Requirement already satisfied: backcall in /usr/local/lib/python3.10/dist-packages (from inython>=3.2.3->pyfolio) (0.2.0)
Requirement already satisfied: matplotlib-inline in /usr/local/lib/python3.10/dist-packages (from ipython>=3.2.3->pyfolio
) (0.1.6)
Requirement already satisfied: pexpect>4.3 in /usr/local/lib/python3.10/dist-packages (from ipython>=3.2.3->pyfolio) (4.9
.0)
Requirement already satisfied: contourpy>=1.0.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=1.4.0->pyfol
io) (1.2.0)
Requirement already satisfied: cycler>=0.10 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=1.4.0->pyfolio)
(0.12.1)
Requirement already satisfied: fonttools>=4.22.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=1.4.0->pyfo
lio) (4.48.1)
Requirement already satisfied: kiwisolver>=1.0.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=1.4.0->pyfo
lio) (1.4.5)
Requirement already satisfied: packaging>=20.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=1.4.0->pyfoli
o) (23.2)
Requirement already satisfied: pillow>=6.2.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=1.4.0->pyfolio)
(9.4.0)
Requirement already satisfied: pyparsing>=2.3.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=1.4.0->pyfol
io) (3.1.1)
Requirement already satisfied: python-dateutil>=2.7 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=1.4.0->p
yfolio) (2.8.2)
Requirement already satisfied: joblib>=1.1.1 in /usr/local/lib/python3.10/dist-packages (from scikit-learn>=0.16.1->pyfol
io) (1.3.2)
Requirement already satisfied: threadpoolctl>=2.0.0 in /usr/local/lib/python3.10/dist-packages (from scikit-learn>=0.16.1
->pyfolio) (3.2.0)
Requirement already satisfied: parso<0.9.0,>=0.8.3 in /usr/local/lib/python3.10/dist-packages (from jedi>=0.16->ipython>=
3.2.3->pyfolio) (0.8.3)
Requirement already satisfied: lxml in /usr/local/lib/python3.10/dist-packages (from pandas-datareader>=0.2->empyrical>=0
.5.0->pyfolio) (4.9.4)
Requirement already satisfied: requests>=2.19.0 in /usr/local/lib/python3.10/dist-packages (from pandas-datareader>=0.2->
empyrical>=0.5.0->pyfolio) (2.31.0)
Requirement already satisfied: ptyprocess>=0.5 in /usr/local/lib/python3.10/dist-packages (from pexpect>4.3->ipython>=3.2
.3->pvfolio) (0.7.0)
Requirement already satisfied: wcwidth in /usr/local/lib/python3.10/dist-packages (from prompt-toolkit!=3.0.0,!=3.0.1,<3.
1.0,>=2.0.0->ipython>=3.2.3->pyfolio) (0.2.13)
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (from python-dateutil>=2.7->matplotlib
>=1.4.0->pyfolio) (1.16.0)
Requirement already satisfied: charset-normalizer<4,>=2 in /usr/local/lib/python3.10/dist-packages (from requests>=2.19.0
->pandas-datareader>=0.2->empyrical>=0.5.0->pyfolio) (3.3.2)
Requirement already satisfied: idna<4,>=2.5 in /usr/local/lib/python3.10/dist-packages (from requests>=2.19.0->pandas-dat
areader>=0.2->empyrical>=0.5.0->pyfolio) (3.6)
Requirement already satisfied: urllib3<3,>=1.21.1 in /usr/local/lib/python3.10/dist-packages (from requests>=2.19.0->pand
as-datareader>=0.2->empyrical>=0.5.0->pyfolio) (2.0.7)
Requirement already satisfied: certifi>=2017.4.17 in /usr/local/lib/python3.10/dist-packages (from requests>=2.19.0->pand
as-datareader>=0.2->empyrical>=0.5.0->pyfolio) (2024.2.2)
```

Special Eyes-Only Report on

Report written by Markov Markowitz Company

Report issued on 27.08.2023

Any comments should be sent to: info@markovmarkowitz.com

Step 1: Analysis of present portfolio

Dear Customer,

Per your request, we analysed your present portfolio, as of 27.08.2023 as follows:

Selected = Best_PF_For_bist30.csv bist30 ShoppingList.csv NEG_SHARPE.csv

File NEG_SHARPE.csv is present

File Best_PF_For_bist30.csv is present

	Symbol	Current Price	Date	Time	Change	0pen	High	Low	Volume	Trade Date	Purchase Price	Quantity	Commission	L:
Symbol														
IPEKE.IS	IPEKE.IS	39.02	2024/02/09	17:09 TRT	0.820000	38.40	39.44	38.34	8593095	20231226	29.82	623.0	NaN	
GUBRF.IS	GUBRF.IS	163.60	2024/02/09	17:09 TRT	5.600006	161.40	170.20	161.40	32624059	20231226	172.60	232.0	NaN	
AKFGY.IS	AKFGY.IS	2.32	2024/02/09	17:09 TRT	0.010000	2.32	2.34	2.28	122356431	20231226	1.75	21828.0	NaN	
KOZAL.IS	KOZAL.IS	22.14	2024/02/09	17:09 TRT	0.920000	21.36	22.44	21.34	198577157	20231226	18.99	8588.0	NaN	
AHGAZ.IS	AHGAZ.IS	13.51	2024/02/09	17:09 TRT	0.200000	13.34	13.70	13.26	14325825	20231226	9.62	48279.0	NaN	
TUKAS.IS	TUKAS.IS	8.84	2024/02/09	17:09 TRT	0.090000	8.75	9.04	8.71	27887920	20231226	6.30	42190.0	0.0	

1328252.8299999998

<ipython-input-273-ed49d056d309>:4: SettingWithCopyWarning:

A value is trying to be set on a copy of a slice from a DataFrame.

Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-v iew-versus-a-copy

MYPF['Purchase Amount'] = np.trunc(MYPF['End PF %']*CURRENT_T2/100)

<ipython-input-273-ed49d056d309>:5: SettingWithCopyWarning:

A value is trying to be set on a copy of a slice from a DataFrame.

Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-v iew-versus-a-copy

MYPF['End Quantity'] = np.trunc(MYPF['Purchase Amount'] / MYPF['Current Price'])

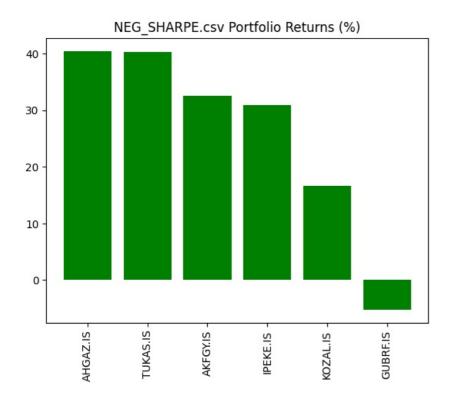
<ipython-input-273-ed49d056d309>:7: SettingWithCopyWarning:

A value is trying to be set on a copy of a slice from a DataFrame

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-v iew-versus-a-copy
MYPF.dropna(inplace=True)

MTPF. ur opnia(Inplace-IT de)										
	Quantity	Purchase Price	Purchased Value			Start PF %	End PF %	PnL %	Purchase Amount	End Quantity
Symbol										
AHGAZ.IS	48279.0	9.62	464443.98	13.51	652249.29	46.90656	49.10581	40.436590	652249.0	48278.0
TUKAS.IS	42190.0	6.30	265797.00	8.84	372959.60	26.84419	28.07896	40.317460	372959.0	42189.0
KOZAL.IS	8588.0	18.99	163086.12	22.14	190138.32	16.47090	14.31492	16.587678	190138.0	8587.0
GUBRF.IS	232.0	172.60	40043.20	163.60	37955.20	4.04417	2.85753	-5.214368	37955.0	231.0
AKFGY.IS	21828.0	1.75	38199.00	2.32	50640.96	3.85791	3.81260	32.571429	50640.0	21827.0
IPEKE.IS	623.0	29.82	18577.86	39.02	24309.46	1.87627	1.83018	30.851777	24309.0	622.0

NEG_SHARPE.csv Portfolio 49.1% IPEKE.IS 2.9% GUBRF.IS 28.1% AKFGY.IS 14.3% TUKAS.IS KOZAL.IS



	Quantity	Purchase Price	Purchased Current Value Price		Market Value			PnL %	Purchase Amount	End Quantity
Symbol										
AHGAZ.IS	48279.0	9.62	464443.98	13.51	652249.29	46.90656	49.10581	40.436590	652249.0	48278.0
TUKAS.IS	42190.0	6.30	265797.00	8.84	372959.60	26.84419	28.07896	40.317460	372959.0	42189.0
KOZAL.IS	8588.0	18.99	163086.12	22.14	190138.32	16.47090	14.31492	16.587678	190138.0	8587.0
AKFGY.IS	21828.0	1.75	38199.00	2.32	50640.96	3.85791	3.81260	32.571429	50640.0	21827.0
GUBRF.IS	232.0	172.60	40043.20	163.60	37955.20	4.04417	2.85753	-5.214368	37955.0	231.0
IPEKE.IS	623.0	29.82	18577.86	39.02	24309.46	1.87627	1.83018	30.851777	24309.0	622.0

Dear Customer, now starting to analyze your current portfolio performance...

Starting Download ...

Downloading AHGAZ.IS

Downloading TUKAS.IS

Downloading KOZAL.IS Downloading AKFGY.IS

Downloading GUBRF.IS

```
Downloading IPEKE.IS
******************
************
                                Open High Low Close
                                                               Volume Dividends \
2023-12-26 00:00:00+03:00 10.68 10.75 9.62 9.62 15247773
                                                                                0.0
0.0
                                                                               0.0
                                                                               0.0

    2024-01-02
    00:00:00+03:00
    10.25
    10.25
    10.25
    10.31
    9060918

    2024-01-03
    00:00:00+03:00
    10.39
    10.39
    9.85
    9.90
    9493398

    2024-01-04
    00:00:00+03:00
    10.01
    10.15
    9.85
    10.15
    4933550

                                                                               0.0
                                                                               0.0
2024-01-05 00:00:00+03:00 10.15 10.26 10.05 10.21 5347975 2024-01-09 00:00:00+03:00 10.32 10.40 9.98 10.04 7813816 2024-01-10 00:00:00+03:00 10.05 10.14 9.98 10.10 6712042 2024-01-11 00:00:00+03:00 10.11 10.31 10.10 10.22 8071099
                                                                               0.0
                                                                               0.0
                                                                               0.0
                                                                               0.0
                                                                               0.0
2024-01-12 00:00:00+03:00 10.22 10.45 10.14 10.36 11237474 2024-01-15 00:00:00+03:00 10.37 10.87 10.36 10.64 10525957
                                                                               0.0
                                                                               0.0
2024-01-16 00:00:00+03:00 10.64 10.73 10.51 10.56 7262699
                                                                               0.0
2024-01-17 00:00:00+03:00 10.56 10.73 10.54 10.72 6850278 2024-01-18 00:00:00+03:00 10.82 11.06 10.73 11.00 9525878
                                                                               0.0
                                                                               0.0
2024-01-19 00:00:00+03:00 11.02 12.10 11.02 12.10 32301809
                                                                               0.0
2024-01-22 00:00:00+03:00 12.23 12.96 12.13 12.18 36515079 2024-01-23 00:00:00+03:00 12.21 12.38 12.05 12.09 16786431
                                                                               0.0
                                                                               0.0
2024-01-24 00:00:00+03:00 12.15 12.24 12.06 12.12 9671255
                                                                               0.0
2024-01-25 00:00:00+03:00 12.14 12.49 12.04 12.29 13525207 2024-01-26 00:00:00+03:00 12.40 12.62 12.32 12.58 11627541
                                                                               0.0
                                                                               0.0
2024-01-29 00:00:00+03:00 12.79 12.79 12.47 12.70 11994428
                                                                               0.0
2024-01-30 00:00:00+03:00 12.83 12.90 12.64 12.79 8928096 2024-01-31 00:00:00+03:00 12.80 12.86 12.60 12.68 8893723
                                                                               0.0
                                                                               0.0
2024-02-01 00:00:00+03:00 12.71 12.82 12.66 12.73 10164800
                                                                               0.0
2024-02-02 00:00:00+03:00 12.76 13.83 12.67 13.30 32678979
                                                                               0.0
2024-02-05 00:00:00+03:00 13.29 13.36 13.06 13.11 11631889
                                                                               0.0
2024-02-06 00:00:00+03:00 13.14 13.39 13.06 13.24 12457518
2024-02-07 00:00:00+03:00 13.28 13.60 13.25 13.31 14795491
                                                                              0.0
                                                                               0.0
2024-02-08 00:00:00+03:00 13.35 13.47 13.24 13.31 9137159
                                                                             0.0
2024-02-09 00:00:00+03:00 13.34 13.70 13.26 13.51 14325825
                                                                              0.0
                             Stock Splits
Date
2023-12-26 00:00:00+03:00
                                        0.0
2023-12-27 00:00:00+03:00
                                       0.0
2023-12-28 00:00:00+03:00
2023-12-29 00:00:00+03:00
                                       0.0
2024-01-02 00:00:00+03:00
                                       0.0
2024-01-03 00:00:00+03:00
2024-01-04 00:00:00+03:00
                                       0.0
2024-01-05 00:00:00+03:00
                                       0.0
2024-01-08 00:00:00+03:00
                                       0.0
2024-01-09 00:00:00+03:00
                                       0.0
2024-01-10 00:00:00+03:00
                                       0.0
2024-01-11 00:00:00+03:00
                                       0.0
2024-01-12 00:00:00+03:00
                                       0.0
2024-01-15 00:00:00+03:00
                                        0.0
2024-01-16 00:00:00+03:00
                                       0.0
2024-01-17 00:00:00+03:00
                                       0.0
2024-01-18 00:00:00+03:00
                                        0.0
2024-01-19 00:00:00+03:00
                                       0.0
2024-01-22 00:00:00+03:00
                                       0.0
2024-01-23 00:00:00+03:00
2024-01-24 00:00:00+03:00
                                       0.0
2024-01-25 00:00:00+03:00
                                       0.0
2024-01-26 00:00:00+03:00
                                       0.0
2024-01-29 00:00:00+03:00
                                       0.0
2024-01-30 00:00:00+03:00
                                       0.0
2024-01-31 00:00:00+03:00
                                       0.0
2024-02-01 00:00:00+03:00
2024-02-02 00:00:00+03:00
                                       0.0
2024-02-05 00:00:00+03:00
                                       0.0
2024-02-06 00:00:00+03:00
                                       0.0
2024-02-07 00:00:00+03:00
                                       0.0
2024-02-08 00:00:00+03:00
                                       0.0
2024-02-09 00:00:00+03:00
                                       0.0 ,
                                                                               Open High Low Close
                                                                                                             Volume Dividends \
Date
2023-12-26 00:00:00+03:00 6.31 6.45 6.23 6.30 7689705
                                                                            0.0
2023-12-27 00:00:00+03:00 6.31 6.55 6.28 6.40 9923371
                                                                            0.0
2023-12-28 00:00:00+03:00 6.40 7.04 6.40
                                                   6.63 13385860
                                                                            0.0
2023-12-29 00:00:00+03:00 6.65 6.86 6.52 6.83 9575663
2024-01-02 00:00:00+03:00 6.86 7.10 6.86
                                                   7.10 12066222
                                                                            0.0
                                                  6.76 11569759
2024-01-03 00:00:00+03:00 7.10 7.11 6.76
                                                                            0.0
2024-01-04 00:00:00+03:00 6.76 6.87 6.68 6.84 8574842
2024-01-05 00:00:00+03:00 6.83 6.98 6.82 6.94 7187678
2024-01-08 00:00:00+03:00 6.94 7.19 6.94 7.11 12716049
                                                                            0.0
                                                                            0.0
2024-01-09 00:00:00+03:00 7.18 7.20 6.88 6.94 10043692
                                                                            0.0
```

2024-01-10 00:00:00+03:00 6.94

2024-01-11 00:00:00+03:00 6.96 7.08 6.89

7.00 6.85

2024-01-12 00:00:00+03:00 6.92 7.23 6.81 7.15 24809529 2024-01-15 00:00:00+03:00 7.15 7.25 7.06 7.09 15619836

6.94

7681363

6.93 9260303

0.0

0.0

```
2024-01-16 00:00:00+03:00 7.10 7.21 7.04
                                             7.15 14340047
                                                                   0.0
2024-01-17 00:00:00+03:00 7.13
                                      7.11
                                             7.25
                                                   14691358
                                7.31
                                                                   0.0
2024-01-18 00:00:00+03:00 7.28
                                7.79
                                      7.28
                                             7.41
                                                   28027187
                                                                   \Theta \cdot \Theta
2024-01-19 00:00:00+03:00 7.42
                                7.52
                                      7.33
                                             7.38
                                                   11088326
                                                                   0.0
2024-01-22 00:00:00+03:00
                         7.38
                                7.51
                                      7.32
                                             7.38
                                                   10403833
2024-01-23 00:00:00+03:00 7.48
                                7.56
                                      7.27
                                             7.31 14133935
                                                                   0.0
                                7.48
                                             7.47
2024-01-24 00:00:00+03:00 7.32
                                      7.25
                                                   11583644
                                                                   0.0
2024-01-25 00:00:00+03:00 7.49
                                7.64
                                      7.47
                                             7.55
                                                   12806122
                                                                   0.0
2024-01-26 00:00:00+03:00 7.55
                                7.68
                                      7.50
                                             7.66
                                                   15597975
                                                                   0.0
2024-01-29 00:00:00+03:00 7.70
                                7.86
                                      7.66
                                             7.71
                                                   17259990
                                                                   0.0
2024-01-30 00:00:00+03:00 7.80
                                7.83
                                      7.63
                                             7.63
                                                   13820766
                                                                   0.0
2024-01-31 00:00:00+03:00 7.63
                                8.39
                                     7.59
                                             8.39
                                                   60425320
2024-02-01 00:00:00+03:00 8.39
                                9.03
                                      8.23
                                             8.59
                                                   85787413
                                                                   0.0
2024-02-02 00:00:00+03:00 8.61
                                8.78
                                      8.40
                                             8.43
                                                   29833301
                                                                   0.0
2024-02-05 00:00:00+03:00 8.42
                                8.54
                                      8.37
                                             8.52
                                                   17218886
                                                                   0.0
2024-02-06 00:00:00+03:00 8.55
                                8.79
                                      8.39
                                             8.53
                                                   26530320
                                                                   0.0
2024-02-07 00:00:00+03:00 8.54
                                8.69
                                     8.42
                                             8.42 21308758
                                                                   0.0
2024-02-08 00:00:00+03:00 8.42
                                8.86 8.42
                                             8.75 38149758
                                                                   0.0
2024-02-09 00:00:00+03:00 8.75
                                9.04
                                      8.71
                                             8.84
                                                   27887920
                                                                   0.0
                          Stock Splits
Date
2023-12-26 00:00:00+03:00
                                   0.0
2023-12-27 00:00:00+03:00
                                   0.0
2023-12-28 00:00:00+03:00
                                   0.0
2023-12-29 00:00:00+03:00
2024-01-02 00:00:00+03:00
                                   0.0
2024-01-03 00:00:00+03:00
                                   0 0
2024-01-04 00:00:00+03:00
2024-01-05 00:00:00+03:00
                                   0.0
2024-01-08 00:00:00+03:00
                                   0.0
2024-01-09 00:00:00+03:00
                                   0.0
2024-01-10 00:00:00+03:00
2024-01-11 00:00:00+03:00
                                   0.0
2024-01-12 00:00:00+03:00
                                   0.0
2024-01-15 00:00:00+03:00
                                   0.0
2024-01-16 00:00:00+03:00
                                   0.0
2024-01-17 00:00:00+03:00
                                   0.0
                                   0.0
2024-01-18 00:00:00+03:00
2024-01-19 00:00:00+03:00
2024-01-22 00:00:00+03:00
                                   0.0
2024-01-23 00:00:00+03:00
                                   0.0
2024-01-24 00:00:00+03:00
                                   0.0
2024-01-25 00:00:00+03:00
                                   0.0
2024-01-26 00:00:00+03:00
                                   0.0
2024-01-29 00:00:00+03:00
                                   0.0
2024-01-30 00:00:00+03:00
2024-01-31 00:00:00+03:00
                                   0.0
2024-02-01 00:00:00+03:00
                                   0.0
2024-02-02 00:00:00+03:00
                                   0.0
2024-02-05 00:00:00+03:00
                                   0.0
2024-02-06 00:00:00+03:00
                                   0.0
2024-02-07 00:00:00+03:00
                                   0.0
2024-02-08 00:00:00+03:00
                                   0.0
2024-02-09 00:00:00+03:00
                                                                             High
                                                                                     Low Close
                                                                                                    Volume Dividends \
                                   0.0
                                                                      0pen
Date
2023-12-26 00:00:00+03:00 19.23 19.42 18.64 18.99
                                                       62579680
                                                                        0.0
2023-12-27 00:00:00+03:00 18.93 19.49
                                        18.52
                                               19.31
                                                       59509447
                                                                        0.0
2023-12-28 00:00:00+03:00 19.27
                                                       53545992
                                 19.87
                                        19.27
                                               19.57
                                                                        0.0
2023-12-29 00:00:00+03:00 19.57
                                 19.80 19.16 19.53
                                                       54120248
                                                                        0.0
2024-01-02 00:00:00+03:00 19.64
                                 19.96
                                        19.60
                                              19.91
                                                       59312280
2024-01-03 00:00:00+03:00 19.89
                                 20.46
                                       19.18 19.22
                                                       76622403
                                                                        0.0
2024-01-04 00:00:00+03:00 19.18 19.69
                                        19.06 19.67
                                                       54422489
                                                                        0.0
2024-01-05 00:00:00+03:00 19.65
                                 19.68
                                        19.33 19.65
                                                       42220960
                                                                        0.0
2024-01-08 00:00:00+03:00 19.75
                                19.99
                                       19.69 19.78
                                                       59592076
                                                                        0.0
2024-01-09 00:00:00+03:00 19.86
                                 20.36
                                       19.45 19.45 100762759
                                                                        0.0
2024-01-10 00:00:00+03:00 19.45
                                 19.77
                                        19.39
                                              19.60
                                                       76421569
                                                                        0.0
2024-01-11 00:00:00+03:00 19.69
                                 20.24 19.68 19.91
                                                       99894500
2024-01-12 00:00:00+03:00 19.75
                                 21.52
                                        19.61
                                               20.40
                                                     104541215
                                                                        0.0
2024-01-15 00:00:00+03:00 20.62
                                 20.68
                                        20.24
                                               20.40
                                                       78625843
                                                                        0.0
2024-01-16 00:00:00+03:00 20.50
                                 20.60
                                        20.28
                                               20.34
                                                       97909181
                                                                        0.0
2024-01-17 00:00:00+03:00 20.20
                                 20.68
                                        20.18
                                               20.36
                                                       86451182
                                                                        0.0
2024-01-18 00:00:00+03:00 20.54
                                 20.58
                                        20.10
                                               20.12
                                                       61984547
                                                                        \Theta \cdot \Theta
2024-01-19 00:00:00+03:00 20.20
                                 20.36
                                        20.04
                                               20.20
                                                       57472001
                                                                        0.0
2024-01-22 00:00:00+03:00
                          20.14
                                 20.54
                                        20.04
                                               20.10
                                                       63079803
2024-01-23 00:00:00+03:00 20.32 20.42 19.67 19.71
                                                       62179637
                                                                        0.0
2024-01-24 00:00:00+03:00 19.78
                                 20.10 19.53 19.93
                                                       65172606
                                                                        0.0
2024-01-25 00:00:00+03:00 20.06
                                 20.56
                                        20.04
                                               20.48
                                                       79808812
                                                                        0.0
2024-01-26 00:00:00+03:00 20.54
                                 20.92
                                        20.34
                                               20.88
                                                       90080307
                                                                        0.0
2024-01-29 00:00:00+03:00 21.00
                                 21.14
                                        20.76
                                               20.94
                                                       83930939
                                                                        0.0
2024-01-30 00:00:00+03:00 21.00
                                 21.20
                                        20.64
                                               20.74
                                                       77453129
                                                                        0.0
2024-01-31 00:00:00+03:00 20.68 21.04
                                        20.54
                                               20.76
                                                       74256285
                                                                        0.0
2024-02-01 00:00:00+03:00 20.78
                                 21.42
                                        20.78
                                               21.20 107342912
                                                                        0.0
2024-02-02 00:00:00+03:00 21.32 21.84
                                        20.96
                                               21.08
                                                       84025048
                                                                        \Theta \cdot \Theta
2024-02-05 00:00:00+03:00 21.24
                                 21.38
                                        21.10
                                               21.36
                                                       68558234
                                                                        0.0
2024-02-06 00:00:00+03:00
                          21.42
                                 21.46
                                        21.08
                                               21.24
                                                       93998050
                                                                        0.0
2024-02-07 00:00:00+03:00 21.30
                                 21.60
                                        21.08
                                               21.12
                                                      103487365
                                                                        0.0
2024-02-08 00:00:00+03:00 21.18 21.44
                                        21.12
                                               21.22
                                                       73679521
                                                                        0.0
2024-02-09 00:00:00+03:00 21.36 22.44
                                        21.34
                                               22.14
                                                      198577157
                                                                        0.0
```

```
Date
2023-12-26 00:00:00+03:00
                                   0.0
2023-12-27 00:00:00+03:00
                                   0.0
2023-12-28 00:00:00+03:00
                                   0.0
2023-12-29 00:00:00+03:00
                                   0.0
2024-01-02 00:00:00+03:00
                                   0.0
2024-01-03 00:00:00+03:00
                                   0.0
2024-01-04 00:00:00+03:00
                                   0.0
2024-01-05 00:00:00+03:00
                                   0.0
2024-01-08 00:00:00+03:00
2024-01-09 00:00:00+03:00
                                   0.0
2024-01-10 00:00:00+03:00
                                   0.0
2024-01-11 00:00:00+03:00
                                   0.0
2024-01-12 00:00:00+03:00
                                   0.0
2024-01-15 00:00:00+03:00
                                   0.0
2024-01-16 00:00:00+03:00
                                   0.0
2024-01-17 00:00:00+03:00
                                   0.0
2024-01-18 00:00:00+03:00
                                   0.0
2024-01-19 00:00:00+03:00
                                   0.0
2024-01-22 00:00:00+03:00
                                   0.0
2024-01-23 00:00:00+03:00
                                   0.0
2024-01-24 00:00:00+03:00
                                   0.0
2024-01-25 00:00:00+03:00
                                   0.0
2024-01-26 00:00:00+03:00
                                   0.0
2024-01-29 00:00:00+03:00
                                   0.0
2024-01-30 00:00:00+03:00
                                   0 0
2024-01-31 00:00:00+03:00
                                   0.0
2024-02-01 00:00:00+03:00
                                   0.0
2024-02-02 00:00:00+03:00
                                   0.0
2024-02-05 00:00:00+03:00
                                   0.0
2024-02-06 00:00:00+03:00
                                   0.0
2024-02-07 00:00:00+03:00
                                   0.0
2024-02-08 00:00:00+03:00
                                   0.0
2024-02-09 00:00:00+03:00
                                   0.0
                                                                     Open High
                                                                                 Low Close
                                                                                                 Volume Dividends \
2023-12-26 00:00:00+03:00 1.68 1.80 1.66
                                                                    0.0
                                            1.75
                                                    75308757
2023-12-27 00:00:00+03:00 1.74 1.77
                                      1.69
                                             1.73
                                                    57476726
                                                                    0.0
2023-12-28 00:00:00+03:00 1.74 1.88 1.73
                                                    50808962
                                             1.86
                                                                    0.0
2023-12-29 00:00:00+03:00 1.87
                                1.99
                                     1.86
                                             1.97
                                                    82159763
                                                                    0.0
2024-01-02 00:00:00+03:00 1.98
                                2.00 1.94
                                             1.95
                                                    63375293
                                                                    0.0
2024-01-03 00:00:00+03:00 1.96 1.99 1.83
                                            1.84
                                                    81968946
                                                                    0.0
2024-01-04 00:00:00+03:00 1.84
                                1.89 1.83
                                             1.86
                                                    58666544
                                                                    0.0
2024-01-05 00:00:00+03:00 1.87
                                1.89 1.81
                                             1.83 112359180
                                                                    0.0
2024-01-08 00:00:00+03:00 1.84
                                1.91 1.83
                                             1.90 102551570
                                                                    0.0
2024-01-09 00:00:00+03:00 1.90
                                1.93 1.85
                                             1.86
                                                    86342337
                                                                    0.0
2024-01-10 00:00:00+03:00 1.86 1.92 1.83
                                                    82570189
                                                                    0.0
                                             1.88
2024-01-11 00:00:00+03:00 1.89 1.92 1.87 2024-01-12 00:00:00+03:00 1.89 1.92 1.86
                                             1.91
                                                    70334251
                                                                    0.0
                                             1.89
                                                    86424381
                                                                    0.0
2024-01-15 00:00:00+03:00 1.89
                                1.94 1.89
                                             1.91 108663211
                                                                    0.0
2024-01-16 00:00:00+03:00 1.92
                                                   98471508
                                1.95 1.90
                                             1.90
                                                                    0.0
2024-01-17 00:00:00+03:00 1.90
                                1.95 1.87
                                             1.89
                                                   193040265
                                                                    0.0
2024-01-18 00:00:00+03:00 1.91 1.93 1.87
                                             1.87 112084594
                                                                    0.0
2024-01-19 00:00:00+03:00 1.88
                                1.90 1.86
                                             1.87
                                                   61290129
                                                                    0.0
2024-01-22 00:00:00+03:00 1.87
                                1.93 1.87
                                             1.91 119821528
                                                                    0.0
2024-01-23 00:00:00+03:00 1.93 1.97 1.92
                                            1.92 223640437
                                                                    0.0
2024-01-24 00:00:00+03:00 1.93
                                1.96
                                     1.92
                                             1.95
                                                   124509808
                                                                    0.0
2024-01-25 00:00:00+03:00 1.97
                                2.07 1.96
                                             2.04 174690600
                                                                    0.0
2024-01-26 00:00:00+03:00 2.05
                                2.11 2.02
                                             2.08 135196223
                                                                    0.0
2024-01-29 00:00:00+03:00 2.10
                                2.12
                                      2.03
                                             2.04
                                                   136507537
                                                                    0.0
2024-01-30 00:00:00+03:00 2.05
                                2.06 2.02
                                             2.02
                                                   87555337
                                                                    0.0
2024-01-31 00:00:00+03:00 2.02
                                2.08 2.01
                                             2.05 122793851
                                                                    0.0
2024-02-01 00:00:00+03:00 2.05
                                2.12
                                      2.05
                                             2.09
                                                   160233716
                                                                    0.0
2024-02-02 00:00:00+03:00 2.10
                                2.20 2.09
                                            2.16 205153896
                                                                    0.0
2024-02-05 00:00:00+03:00 2.18
                                2.23 2.16
                                             2.19 164586910
                                                                    0.0
2024-02-06 00:00:00+03:00 2.20
                                2.23
                                      2.16
                                             2.19 147486841
                                                                    0.0
2024-02-07 00:00:00+03:00 2.20
                                             2.24 234524046
                                2.30 2.19
                                                                    0.0
2024-02-08 00:00:00+03:00 2.24
                                2.34
                                      2.24
                                             2.31 172033417
                                                                    0.0
2024-02-09 00:00:00+03:00 2.32 2.34
                                             2.32 122356431
                                      2.28
                                                                    0.0
                          Stock Splits
Date
2023-12-26 00:00:00+03:00
                                   0.0
2023-12-27 00:00:00+03:00
                                   0.0
2023-12-28 00:00:00+03:00
                                   0.0
2023-12-29 00:00:00+03:00
                                   0.0
2024-01-02 00:00:00+03:00
                                   0.0
2024-01-03 00:00:00+03:00
                                   0.0
2024-01-04 00:00:00+03:00
                                   0.0
2024-01-05 00:00:00+03:00
                                   0.0
2024-01-08 00:00:00+03:00
                                   0.0
2024-01-09 00:00:00+03:00
                                   0.0
2024-01-10 00:00:00+03:00
                                   0.0
2024-01-11 00:00:00+03:00
                                   0.0
2024-01-12 00:00:00+03:00
                                   0.0
2024-01-15 00:00:00+03:00
                                   0.0
2024-01-16 00:00:00+03:00
                                   0.0
```

Stock Splits

2024-01-17 00:00:00+03:00

```
2024-01-18 00:00:00+03:00
                                   0.0
2024-01-19 00:00:00+03:00
                                   0.0
2024-01-22 00:00:00+03:00
                                   0.0
2024-01-23 00:00:00+03:00
                                   0.0
2024-01-24 00:00:00+03:00
                                   0.0
2024-01-25 00:00:00+03:00
                                   0.0
2024-01-26 00:00:00+03:00
                                   0.0
2024-01-29 00:00:00+03:00
                                   0.0
2024-01-30 00:00:00+03:00
                                   0.0
2024-01-31 00:00:00+03:00
                                   0.0
2024-02-01 00:00:00+03:00
                                   0.0
2024-02-02 00:00:00+03:00
                                   0.0
2024-02-05 00:00:00+03:00
                                   0.0
2024-02-06 00:00:00+03:00
                                   0.0
2024-02-07 00:00:00+03:00
                                   0.0
2024-02-08 00:00:00+03:00
                                   0.0
2024-02-09 00:00:00+03:00
                                                                     0pen
                                                                            Hiah
                                                                                   Low Close
                                                                                                 Volume Dividends \
                                   0.0
Date
2023-12-26 00:00:00+03:00 172.6 172.6 172.6 172.6
                                                      3051966
                                                                     0.0
2023-12-27 00:00:00+03:00 155.4 155.4 155.4 155.4
                                                      1864302
                                                                     0.0
2023-12-28 00:00:00+03:00 139.9 141.0 139.9 139.9
                                                     15850960
                                                                     0.0
2023-12-29 00:00:00+03:00 139.9
                                153.8 135.0 153.8
                                                     72382161
                                                                     0.0
2024-01-02 00:00:00+03:00 155.0 169.1 154.6 169.1
                                                     34025794
                                                                     0.0
2024-01-03 00:00:00+03:00 173.5 179.4 161.4 163.5
                                                     70903373
                                                                     0.0
2024-01-04 00:00:00+03:00 164.0 167.3 161.4 161.6
                                                     18969438
                                                                     0.0
2024-01-05 00:00:00+03:00 162.3 162.8 151.2 152.8
                                                     21863978
                                                                     0.0
2024-01-08 00:00:00+03:00 152.8
                                156.8
                                       148.5 151.5
                                                     23067667
                                                                     0.0
2024-01-09 00:00:00+03:00 152.5 155.1 148.2 149.0 14317207
                                                                     0.0
2024-01-10 00:00:00+03:00 149.0 149.2 143.9 144.1 12981904
                                                                     0.0
2024-01-11 00:00:00+03:00 145.0
                                146.9
                                       140.5 141.1
                                                     12203435
                                                                     0.0
2024-01-12 00:00:00+03:00 140.1 150.3 139.6 145.5 22670274
                                                                     0.0
2024-01-15 00:00:00+03:00 146.4 147.0 137.8 138.9
                                                     18778755
                                                                     0.0
2024-01-16 00:00:00+03:00 138.9 143.5 134.8 138.6
                                                     21782139
                                                                     0.0
2024-01-17 00:00:00+03:00 137.9 139.5 135.9 135.9
                                                      9118291
                                                                     0.0
2024-01-18 00:00:00+03:00 136.8 139.6 136.1 136.2 10210266
                                                                     0.0
2024-01-19 00:00:00+03:00 136.9 139.8 136.4 137.6
                                                     10194952
                                                                     0.0
2024-01-22 00:00:00+03:00 137.7 145.4 137.6 141.4 15231965
                                                                     0.0
2024-01-23 00:00:00+03:00 143.0 143.2 137.6 137.7
                                                      8192612
                                                                     0.0
2024-01-24 00:00:00+03:00 138.1 139.5 136.4 137.8
                                                      7431288
                                                                     0.0
2024-01-25 00:00:00+03:00 138.5 140.6 137.9 139.0
                                                      8165830
                                                                     0.0
2024-01-26 00:00:00+03:00 139.2 152.9
                                       139.0 148.0
                                                     29629480
                                                                     0.0
2024-01-29 00:00:00+03:00 149.0 149.9 145.7 146.0 14086439
                                                                     0.0
2024-01-30 00:00:00+03:00 146.4 148.8 144.7 145.6
                                                      9032525
                                                                     0.0
2024-01-31 00:00:00+03:00 145.8 146.9
                                       144.8 145.6
                                                      8678823
                                                                     0.0
2024-02-01 00:00:00+03:00 146.1 149.3 145.8 147.4 10777940
                                                                     0.0
2024-02-02 00:00:00+03:00 147.9 148.7 144.3 144.9
                                                      9099290
                                                                     0.0
2024-02-05 00:00:00+03:00 145.3
                                146.1
                                       144.3 144.3
                                                      6578295
                                                                     0.0
2024-02-06 00:00:00+03:00 144.6 145.3 142.5 143.0
                                                      7727266
                                                                     0.0
2024-02-07 00:00:00+03:00 143.3 148.0 142.5 143.7
                                                     14691492
                                                                     0.0
2024-02-08 00:00:00+03:00 144.4 158.0 143.6 158.0
                                                     31857762
                                                                     0.0
2024-02-09 00:00:00+03:00 161.4 170.2 161.4 163.6 32624059
                                                                     0.0
                          Stock Splits
Date
2023-12-26 00:00:00+03:00
                                   0.0
2023-12-27 00:00:00+03:00
                                   0.0
2023-12-28 00:00:00+03:00
                                   0.0
2023-12-29 00:00:00+03:00
                                   0.0
2024-01-02 00:00:00+03:00
                                   0.0
2024-01-03 00:00:00+03:00
                                   0.0
2024-01-04 00:00:00+03:00
2024-01-05 00:00:00+03:00
                                   0.0
2024-01-08 00:00:00+03:00
                                   0.0
2024-01-09 00:00:00+03:00
                                   0.0
2024-01-10 00:00:00+03:00
                                   0.0
2024-01-11 00:00:00+03:00
                                   0.0
2024-01-12 00:00:00+03:00
                                   0.0
2024-01-15 00:00:00+03:00
                                   0.0
2024-01-16 00:00:00+03:00
                                   0.0
2024-01-17 00:00:00+03:00
                                   0.0
2024-01-18 00:00:00+03:00
                                   0.0
2024-01-19 00:00:00+03:00
                                   0.0
2024-01-22 00:00:00+03:00
                                   0.0
2024-01-23 00:00:00+03:00
                                   0.0
2024-01-24 00:00:00+03:00
                                   0.0
2024-01-25 00:00:00+03:00
                                   0.0
2024-01-26 00:00:00+03:00
                                   0.0
2024-01-29 00:00:00+03:00
                                   0.0
2024-01-30 00:00:00+03:00
                                   0.0
2024-01-31 00:00:00+03:00
                                   0.0
2024-02-01 00:00:00+03:00
                                   0.0
2024-02-02 00:00:00+03:00
                                   0.0
2024-02-05 00:00:00+03:00
                                   0.0
2024-02-06 00:00:00+03:00
                                   \Theta \cdot \Theta
2024-02-07 00:00:00+03:00
                                   0.0
2024-02-08 00:00:00+03:00
                                   0.0
2024-02-09 00:00:00+03:00
                                                                            Hiah
                                                                                    Low Close Volume Dividends \
                                                                     0pen
                                   0.0
Date
2023-12-26 00:00:00+03:00 29.54 31.00 29.12 29.82 3126453
                                                                    0.0
```

```
2023-12-27 00:00:00+03:00 29.50 31.04 29.40 30.66 2318975
                                                                  0.0
2023-12-28 00:00:00+03:00 30.60 31.98
                                      30.60
                                             31.90
                                                    1617481
                                                                  0.0
2023-12-29 00:00:00+03:00 31.90 32.44 31.54
                                             31.92 1942798
                                                                  0.0
2024-01-02 00:00:00+03:00 32.38 32.90 32.30 32.90 2167449
                                                                  0.0
2024-01-03 00:00:00+03:00 32.88
                                34.66
                                      31.70
                                             31.88 2648582
2024-01-04 00:00:00+03:00 31.86 33.30 31.68 33.20 4012817
                                                                  0.0
2024-01-05 00:00:00+03:00 33.30 33.40 32.58 33.10 1952404
                                                                  0.0
2024-01-08 00:00:00+03:00 33.20 33.90 33.14 33.44 2342944
                                                                  0.0
2024-01-09 00:00:00+03:00 33.58 34.24 32.62 32.62 4913300
                                                                  0.0
2024-01-10 00:00:00+03:00 32.66 33.02 32.40 32.64 3205280
                                                                  0.0
2024-01-11 00:00:00+03:00 32.70 33.70 32.68 33.14 4670020
                                                                  0.0
2024-01-12 00:00:00+03:00 33.10 34.20 32.58 33.86 5300228
2024-01-15 00:00:00+03:00 34.24 34.78 33.94 34.46 4546751
                                                                  0.0
2024-01-16 00:00:00+03:00 34.60 34.72 33.98 34.10 3322091
                                                                  0.0
2024-01-17 00:00:00+03:00 33.98 34.94 33.90 34.38 5429865
                                                                  0.0
2024-01-18 00:00:00+03:00 34.54 34.66 33.48 33.60
                                                    3179052
                                                                  0.0
2024-01-19 00:00:00+03:00 33.60 34.90 33.26 34.76 5452041
                                                                 0.0
2024-01-22 00:00:00+03:00 34.74 35.06 34.22 34.24 4712308
                                                                  0.0
2024-01-23 00:00:00+03:00 34.44 34.66 33.74 33.98
                                                    3439594
                                                                  0.0
2024-01-24 00:00:00+03:00 33.98 35.04 33.56 34.66 7030147
                                                                  0.0
2024-01-25 00:00:00+03:00 34.98 36.52 34.78 36.14 6765351
                                                                  0 0
2024-01-26 00:00:00+03:00 36.30 36.64 35.34 36.40 7276485
                                                                  0.0
2024-01-29 00:00:00+03:00 36.54 37.00 36.18 36.68 4840607
                                                                  0.0
2024-01-30 00:00:00+03:00 36.76 37.00 36.00 36.14 4755732
                                                                  0.0
2024 \hbox{-} 01 \hbox{-} 31 \ 00 \hbox{:} 00 \hbox{:} 00 \hbox{+} 03 \hbox{:} 00 \quad 36.18 \quad 36.70 \quad 36.02 \quad 36.34 \quad 5009773
                                                                  0.0
2024-02-01 00:00:00+03:00 36.38 37.68 36.34 37.22 6125185
2024-02-02 00:00:00+03:00 37.50 38.24 35.80 35.86 7173675
                                                                  0.0
2024-02-05 00:00:00+03:00 36.08 37.26 35.96 36.70 4802385
                                                                  0.0
2024-02-06 00:00:00+03:00 36.68 37.20
                                      36.34 37.00 4817252
                                                                  0.0
2024-02-07 00:00:00+03:00 37.30 38.38
                                      37.16
                                             37.52 7374198
                                                                  0.0
2024-02-08 00:00:00+03:00 37.80 38.20 37.66 38.20 4726054
                                                                  0.0
2024-02-09 00:00:00+03:00 38.40 39.44 38.34 39.02 8593095
                                                                  0.0
                         Stock Splits
Date
2023-12-26 00:00:00+03:00
                                  0.0
2023-12-27 00:00:00+03:00
                                  0.0
2023-12-28 00:00:00+03:00
                                  0.0
2023-12-29 00:00:00+03:00
2024-01-02 00:00:00+03:00
2024-01-03 00:00:00+03:00
                                  0.0
2024-01-04 00:00:00+03:00
                                  0.0
2024-01-05 00:00:00+03:00
2024-01-08 00:00:00+03:00
                                  0.0
2024-01-09 00:00:00+03:00
                                 0.0
2024-01-10 00:00:00+03:00
                                 0.0
2024-01-11 00:00:00+03:00
2024-01-12 00:00:00+03:00
                                 0.0
2024-01-15 00:00:00+03:00
                                 0.0
2024-01-16 00:00:00+03:00
2024-01-17 00:00:00+03:00
                                 0.0
2024-01-18 00:00:00+03:00
                                 0.0
2024-01-19 00:00:00+03:00
                                 0.0
2024-01-22 00:00:00+03:00
2024-01-23 00:00:00+03:00
                                 0.0
2024-01-24 00:00:00+03:00
                                 0.0
2024-01-25 00:00:00+03:00
                                 0.0
2024-01-26 00:00:00+03:00
                                  0.0
2024-01-29 00:00:00+03:00
                                 0.0
2024-01-30 00:00:00+03:00
                                 0.0
2024-01-31 00:00:00+03:00
2024-02-01 00:00:00+03:00
                                 0.0
2024-02-02 00:00:00+03:00
                                 0.0
2024-02-05 00:00:00+03:00
                                 0.0
2024-02-06 00:00:00+03:00
                                 0.0
2024-02-07 00:00:00+03:00
                                  0.0
2024-02-08 00:00:00+03:00
                                 0.0
2024-02-09 00:00:00+03:00
                                  0.0
Construct Time series...
______
Ordered Table:
                     Date AHGAZ.IS TUKAS.IS KOZAL.IS AKFGY.IS \
   2023-12-26 00:00:00+03:00 9.62
0
                                       6.30 18.99
                                                             1.75
   2023-12-27 00:00:00+03:00
                                                   19.31
1
                                 8.85
                                          6.40
                                                             1.73
   2023-12-28 00:00:00+03:00
                                 9.73
                                        6.63
                                                  19.57
                                                             1.86
2
                                        6.83
                                                 19.53
   2023-12-29 00:00:00+03:00
                             10.24
3
                                                             1.97
                               10.31
   2024-01-02 00:00:00+03:00
                                          7.10
                                                   19.91
4
                                                              1.95
                                        6.76
                                                19.22
   2024-01-03 00:00:00+03:00
                                9.90
                                                             1.84
   2024-01-04 00:00:00+03:00
                                                   19.67
6
                                10.15
                                          6.84
                                                             1.86
7
   2024-01-05 00:00:00+03:00
                                10.21
                                          6.94
                                                   19.65
                                                              1.83
   2024-01-08 00:00:00+03:00
                                10.32
                                         7.11 19.78
                                                             1.90
   2024-01-09 00:00:00+03:00
                                                   19.45
9
                                10.04
                                          6.94
                                                             1.86
                                                 19.60
   2024-01-10 00:00:00+03:00
10
                                10.10
                                          6.94
                                                             1.88
   2024-01-11 00:00:00+03:00
                                10.22
                                          6.93
                                                 19.91
                                                             1.91
11
12
   2024-01-12 00:00:00+03:00
                                10.36
                                          7.15
                                                   20.40
                                                              1.89
   2024-01-15 00:00:00+03:00
                                          7.09
                                                   20.40
13
                                10.64
                                                             1.91
14
   2024-01-16 00:00:00+03:00
                                10.56
                                         7.15
                                                   20.34
                                                             1.90
   2024-01-17 00:00:00+03:00
                                10.72
                                                   20.36
15
                                          7.25
                                                             1.89
```

```
2024-01-19 00:00:00+03:00
                                  12.10
                                             7.38
                                                      20.20
                                                                 1.87
17
   2024-01-22 00:00:00+03:00
18
                                  12.18
                                             7.38
                                                      20.10
                                                                 1.91
19
   2024-01-23 00:00:00+03:00
                                  12.09
                                             7.31
                                                      19.71
                                                                 1.92
   2024-01-24 00:00:00+03:00
                                                      19.93
20
                                  12.12
                                             7.47
21
   2024-01-25 00:00:00+03:00
                                  12.29
                                             7.55
                                                      20.48
                                                                 2.04
22
   2024-01-26 00:00:00+03:00
                                  12.58
                                             7.66
                                                      20.88
                                                                 2.08
23
   2024-01-29 00:00:00+03:00
                                  12.70
                                             7.71
                                                      20.94
                                                                 2.04
24
   2024-01-30 00:00:00+03:00
                                  12.79
                                             7.63
                                                      20.74
                                                                 2.02
25
   2024-01-31 00:00:00+03:00
                                  12.68
                                             8.39
                                                      20.76
                                                                 2.05
26
   2024-02-01 00:00:00+03:00
                                  12.73
                                             8.59
                                                      21.20
                                                                 2.09
   2024-02-02 00:00:00+03:00
                                  13.30
27
                                             8.43
                                                      21.08
                                                                 2.16
28
   2024-02-05 00:00:00+03:00
                                  13.11
                                             8.52
                                                      21.36
                                                                 2.19
29
   2024-02-06 00:00:00+03:00
                                  13.24
                                             8.53
                                                      21.24
                                                                 2.19
30
   2024-02-07 00:00:00+03:00
                                  13.31
                                             8.42
                                                      21.12
                                                                 2.24
31
   2024-02-08 00:00:00+03:00
                                  13.31
                                             8.75
                                                      21.22
                                                                 2.31
   2024-02-09 00:00:00+03:00
32
                                 13.51
                                             8.84
                                                      22.14
                                                                 2.32
    GUBRF.IS IPEKE.IS
0
      172.6
                29.82
1
      155.4
                 30.66
2
      139.9
                 31.90
3
      153.8
                 31.92
      169.1
                 32.90
4
5
      163.5
                 31.88
      161.6
                 33.20
7
      152.8
                 33.10
8
      151.5
                 33.44
9
      149.0
                 32.62
10
      144.1
                 32.64
11
      141.1
                 33.14
12
      145.5
                 33.86
13
      138.9
                 34.46
      138.6
                 34.10
14
15
      135.9
                 34.38
16
      136.2
                 33.60
17
      137.6
                 34.76
18
      141.4
                 34.24
19
      137.7
                 33.98
20
      137.8
                 34.66
21
      139.0
                 36.14
22
      148.0
                 36.40
23
      146.0
                 36.68
24
      145.6
                 36.14
25
      145.6
                 36.34
26
      147.4
                 37.22
27
      144.9
                 35.86
                 36.70
28
      144.3
29
      143.0
                 37.00
30
      143.7
                 37.52
31
      158.0
                 38.20
32
      163.6
                 39.02
Initial prices:
Svmbol
AHGAZ.IS
            9.62
TUKAS.IS
            6.3
KOZAL.IS
           18.99
AKFGY. IS
            1.75
GUBRF.IS
            172.6
IPEKE.IS
            29.82
Name: InitialPrices, dtype: object
Final prices: Symbol
AHGAZ.IS
           13.51
TUKAS.IS
            8.84
KOZAL.IS
            22.14
AKFGY.IS
            2.32
GUBRF.IS
            163.6
           39.02
IPEKE.IS
Name: FinalPrices, dtype: object
Prices:
 [[ 9.62 8.85 9.73 10.24 10.31 9.9
                                             10.15 10.21 10.32 10.04
  10.1 10.22 10.36 10.64 10.56 10.72 11.
                                                          12.18 12.09
                                                    12.1
         12.29
                12.58 12.7
                               12.79 12.68
                                            12.73 13.3
                                                           13.11
                                                                  13.24
  12.12
  13.31 13.31 13.51]
 [ 6.3
                 6.63
                         6.83
                               7.1
                                       6.76
                                              6.84
                                                     6.94
                                                            7.11
                                                                   6.94
          6.4
   6.94
          6.93
                 7.15
                         7.09
                                7.15
                                       7.25
                                              7.41
                                                     7.38
                                                            7.38
                                                                   7.31
   7.47
          7.55
                 7.66
                        7.71
                                7.63
                                       8.39
                                              8.59
                                                     8.43
   8.42
          8.75
                 8.84]
                19.57 19.53 19.91 19.22 19.67 19.65 19.78 19.45
 Γ 18.99
         19.31
   19.6
         19.91
                20.4
                        20.4
                               20.34 20.36 20.12 20.2
                                                           20.1
                                                                  19.71
   19.93
         20.48
                20.88 20.94 20.74 20.76 21.2
                                                    21.08
                                                           21.36
                                                                  21.24
   21.12
         21.22
                22.14]
   1.75
         1.73
                1.86
                        1.97
                               1.95
                                      1.84
                                             1.86
                                                    1.83
                                                           1.9
                                                                   1.86
```

11.00

7.41

20.12

1.87

16 2024-01-18 00:00:00+03:00

1.88

1.91

1.89

1.91

1.9

1.89

1.87

1.87

1.91

```
2.08 2.04 2.02 2.05 2.09 2.16 2.19
   1.95
         2.04
                2.32]
   2.24
          2.31
 [172.6 155.4 139.9 153.8 169.1 163.5 161.6 152.8 151.5 149.
  144.1 141.1 145.5 138.9 138.6 135.9 136.2 137.6 141.4 137.7
                           145.6 145.6 147.4 144.9 144.3 143.
 137.8 139.
              148.
                     146.
 143.7 158.
             163.6 ]
 [ 29.82 30.66 31.9 31.92 32.9
                                                      33.44 32.62
                                  31.88 33.2
                                                 33.1
  32.64
         33.14
               33.86 34.46 34.1
                                    34.38 33.6
                                                 34.76 34.24 33.98
  34.66 36.14 36.4 36.68 36.14 36.34 37.22 35.86 36.7
  37.52 38.2
                39.02]]
FirstPrices:
 ['2023-12-26 00:00:00+03:00' 9.62 6.3 18.99 1.75 172.6]
portfolio['Portfolio_Shares']:
 Symbol
AHGAZ.IS
           48279.0
TUKAS.IS
           42190.0
KOZAL.IS
            8588.0
AKFGY.IS
           21828.0
GUBRF.IS
             232.0
IPEKE.IS
             623.0
Name: Portfolio_Shares, dtype: float64
 prices:
 [[ 9.62 6.3 18.99
                       1.75 172.6
                                   29.82]
         6.4 19.31
 [ 8.85
                       1.73 155.4
                                    30.66]
   9.73
          6.63 19.57
                       1.86 139.9
  10.24
          6.83 19.53
                       1.97 153.8
                                    31.92]
                       1.95 169.1
          7.1 19.91
 [ 10.31
                                   32.9 1
  9.9
          6.76 19.22
                       1.84 163.5
                                   31.88]
  10.15
          6.84 19.67
                       1.86 161.6
          6.94 19.65
                       1.83 152.8
 [ 10.21
                                   33.1 ]
  10.32
          7.11 19.78
                       1.9 151.5
                                   33.441
  10.04
          6.94 19.45
                       1.86 149.
                                    32.62]
          6.94 19.6
 [ 10.1
                       1.88 144.1
                                   32.64]
          6.93 19.91
                       1.91 141.1
  10.22
                                   33.141
                                    33.86]
  10.36
          7.15 20.4
                       1.89 145.5
         7.09 20.4
 [ 10.64
                       1.91 138.9
                                   34.46]
                       1.9 138.6
  10.56
          7.15
                20.34
                                    34.1 ]
                       1.89 135.9
 [ 10.72
          7.25
               20.36
                                    34.381
 [ 11.
          7.41 20.12
                      1.87 136.2
                                   33.6 ]
  12.1
          7.38 20.2
                       1.87 137.6
                                   34.76]
 Γ 12.18
          7.38 20.1
                       1.91 141.4
                                    34.241
 [ 12.09
          7.31 19.71
                       1.92 137.7
                                    33.98]
  12.12
          7.47
               19.93
                       1.95 137.8
                                    34.661
          7.55 20.48
                       2.04 139.
                                    36.14]
 Γ 12.29
  12.58
          7.66 20.88
                       2.08 148.
                                    36.4 1
 [ 12.7
          7.71 20.94
                       2.04 146.
                                    36.68]
 [ 12.79
         7.63 20.74
                       2.02 145.6
                                   36.14]
          8.39
                20.76
                       2.05 145.6
  12.68
                                    36.34]
 [ 12.73
          8.59
                21.2
                       2.09 147.4
                                    37.221
 [ 13.3
          8.43 21.08
                       2.16 144.9
                                    35.86]
  13.11
               21.36
                       2.19 144.3
          8.52
                                    36.7 ]
 [ 13.24
          8.53 21.24
                       2.19 143.
                                    37.
 [ 13.31
          8.42 21.12
                       2.24 143.7
                                    37.52]
  13.31
          8.75 21.22
                       2.31 158.
                                    38.2 ]
 [ 13.51
                       2.32 163.6
          8.84 22.14
                                   39.0211
 OrderedTable['PF_Value']:
      990147.16
0
1
      956035.85
2
     1010472.11
3
     1048827.22
4
     1070585.07
     1026184.62
6
     1046312.29
7
     1050497.53
8
     1065535.14
9
     1040046.70
10
     1043543.86
11
     1051848.06
12
     1073129.84
13
     1083395.72
14
     1081037.36
15
     1092482.52
16
     1109837.02
```

17

18

19

20

21

22

23

24

25

26

1163412.74

1167847.02

1156397.19

1167587.00

1187057.99

1212258.10

1219513.68

1217900.21

1245605.12

```
27
     1281913.50
     1279981.19
28
29
    1285534.10
    1284819.93
30
31
     1304870.63
32
     1328252.83
```

Name: PF_Value, dtype: float64 Residue cash: 338105.6699999999

Average return of the current portfolio is 0.7219823530182763 %

Showing Tearsheet of NEG_SHARPE.csv Portfolio...

****** PORTFOLIO TEARSHEET **********

/usr/local/lib/python3.10/dist-packages/pyfolio/timeseries.py:724: FutureWarning: The default dtype for empty Series will be 'object' instead of 'float64' in a future version. Specify a dtype explicitly to silence this warning. stats = pd.Series()

/usr/local/lib/python3.10/dist-packages/pyfolio/plotting.py:648: FutureWarning: iteritems is deprecated and will be remov ed in a future version. Use .items instead.

for stat, value in perf_stats[column].iteritems():

Start date 2023-12-27 End date 2024-02-09

Total months	1
	Backtest
Annual return	496.5%
Cumulative returns	25.5%
Annual volatility	23.7%
Sharpe ratio	7.67
Calmar ratio	157.52
Stability	0.95
Max drawdown	-3.2%
Omega ratio	3.65
Sortino ratio	14.33
Skew	-0.33
Kurtosis	1.27

/usr/local/lib/python3.10/dist-packages/pyfolio/plotting.py:805: FutureWarning: The default dtype for empty Series will b e 'object' instead of 'float64' in a future version. Specify a dtype explicitly to silence this warning. oos_cum_returns = pd.Series([])
******* end of TEARSHEET *********

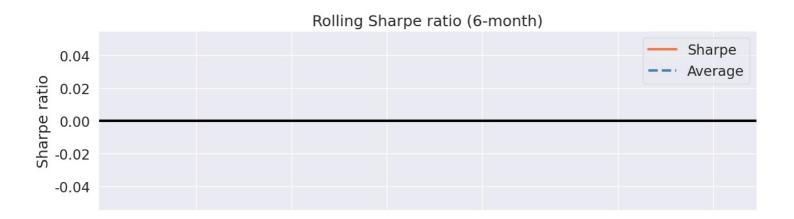
-2.3%

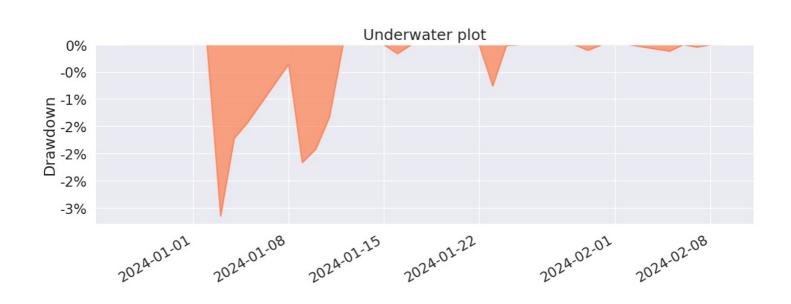
Tail ratio 1.50

Daily value at risk

Error generating returns tear sheet: 'NoneType' object has no attribute 'savefig'







```
CURRENT PORTFOLIO PERFORMANCE

/usr/local/lib/python3.10/dist-packages/pyfolio/timeseries.py:724: FutureWarning: The default dtype for empty Series will be 'object' instead of 'float64' in a future version. Specify a dtype explicitly to silence this warning.

stats = pd.Series()

<ipython-input-283-97d2e39f3402>:3: DeprecationWarning: Risk functions in pyfolio.timeseries are deprecated and will be removed in a future release. Please install the empyrical package instead.

max_drawdown = np.abs(100*pf.timeseries.max_drawdown(OrderedTimeSeries['pct_change'].dropna()))

<ipython-input-283-97d2e39f3402>:4: DeprecationWarning: Risk functions in pyfolio.timeseries are deprecated and will be removed in a future release. Please install the empyrical package instead.

annual_return = pf.timeseries.annual_return(OrderedTimeSeries['pct_change'].dropna())
```

<ipython-input-283-97d2e39f3402>:5: DeprecationWarning: Risk functions in pyfolio.timeseries are deprecated and will be r

emoved in a future release. Please install the empyrical package instead.
 sharpe_ratio = pf.timeseries.sharpe_ratio(OrderedTimeSeries['pct_change'].dropna())

Annual return 4.964727 Cumulative returns 0.254549 Annual volatility 0.237354 7.665337 Sharpe ratio Calmar ratio 157.515631 Stability 0.949693 Max drawdown -0.031519 Omega ratio 3.646754 Sortino ratio 14.333515 Skew -0.325063 Kurtosis 1.270442 Tail ratio 1.498946 Daily value at risk -0.022684 dtype: float64

	Quantity	Purchase Price	Purchased Value	Current Price	Market Value	Start PF %	End PF %	PnL %	Purchase Amount	End Quantity	Portfolio_Weights	InitialPrices
Symbol												
AHGAZ.IS	48279.0	9.62	464443.98	13.51	652249.29	46.91	49.11	40.44	652249.0	48278.0	0.491058	9.62
TUKAS.IS	42190.0	6.30	265797.0	8.84	372959.60	26.84	28.08	40.32	372959.0	42189.0	0.280790	6.3
KOZAL.IS	8588.0	18.99	163086.12	22.14	190138.32	16.47	14.31	16.59	190138.0	8587.0	0.143149	18.99
AKFGY.IS	21828.0	1.75	38199.0	2.32	50640.96	3.86	3.81	32.57	50640.0	21827.0	0.038126	1.75
GUBRF.IS	232.0	172.60	40043.2	163.60	37955.20	4.04	2.86	-5.21	37955.0	231.0	0.028575	172.6
IPEKE.IS	623.0	29.82	18577.86	39.02	24309.46	1.88	1.83	30.85	24309.0	622.0	0.018302	29.82

```
['AHGAZ.IS',
 'TUKAS.IS',
 'KOZAL.IS',
 'GUBRF.IS',
 'AKFGY.IS',
 'IPEKE.IS',
 'TRY=X']
Starting Download of filtered 7 BIST30 assets
Downloading AHGAZ.IS
Downloading TUKAS.IS
Downloading KOZAL.IS
Downloading GUBRF.IS
Downloading AKFGY.IS
Downloading IPEKE.IS
Downloading TRY=X
DOWNLOADED 7 TICKERS from BIST30
```

CSV files merged

```
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
    avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
    ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
    base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
    vide
    c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
```

```
tiply
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiplv
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
 c *= np.true_divide(1, fact)
array([0.02953443, 0.23882175, 0.19423858, 0.21295719, 0.03065245,
       0.15411036, 0.13968524])
```

```
{'return': 0.0, 'risk': nan, 'sharpe': nan}
[0.0295 0.2388 0.1942 0.213 0.0307 0.1541 0.1397]
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
  avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
  avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
  avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
  avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
 c *= np.true divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
  avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
  avg = a.mean(axis, **keepdims_kw)
```

```
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiplv
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
```

```
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
  avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiplv
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
  c *= np.true divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
  avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
 ret = um.true divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
 avg = a.mean(axis, **keepdims kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
 base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
 c *= np.true divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
  avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
 c *= np.true_divide(1, fact)
% weights of BEST PF
{'return': 0.0, 'risk': nan, 'sharpe': nan}
TUKAS.IS
           317186.78
GUBRF.IS
            282917.85
KOZAL.IS
            257946.70
IPEKE.IS
            204683.76
TRY=X
            185556.92
AKFGY.IS
            40777.36
AHGAZ.IS
            39183.46
```

Name: Amount in 1328252.8299999998 TL, dtype: float64

```
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
  avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
  avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
c *= np.true_divide(1, fact)
making operation with Best_PF_For_bist30.csv
% weights of BEST PF
{'return': 0.0, 'risk': nan, 'sharpe': nan}
assets
ASELS.IS
            648984.33
AKBNK.IS
            404851.46
TCELL. IS
            212520.45
YKBNK.IS
             36526.95
FROTO.IS
             17931.41
Name: Amount in 1328252.8299999998 TL. dtvpe: float64
/usr/local/lib/python 3.10/dist-packages/numpy/lib/function\_base.py: 518: \ Runtime Warning: \ Mean \ of \ empty \ slice.
  avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
vide
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
  c *= np.true_divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:518: RuntimeWarning: Mean of empty slice.
  avg = a.mean(axis, **keepdims_kw)
/usr/local/lib/python3.10/dist-packages/numpy/core/_methods.py:182: RuntimeWarning: invalid value encountered in divide
  ret = um.true_divide(
/usr/local/lib/python3.10/dist-packages/pandas/core/frame.py:10474: RuntimeWarning: Degrees of freedom <= 0 for slice
  base_cov = np.cov(mat.T, ddof=ddof)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: divide by zero encountered in di
  c *= np.true divide(1, fact)
/usr/local/lib/python3.10/dist-packages/numpy/lib/function_base.py:2704: RuntimeWarning: invalid value encountered in mul
tiply
c *= np.true_divide(1, fact)
```

	Unnamed: 0	assets	%	Amount	buy_price	shares_to_buy	Portfolio_Weights	InitialPrices	FinalPrices	Portfolio_Amounts	Port
0	16	ASELS.IS	49.51	49510.0	44.18	1120.0	0.4951	41.44	44.18	49510.0	
1	6	AKBNK.IS	26.49	26490.0	38.04	696.0	0.2649	30.62	38.04	26490.0	
2	11	TCELL.IS	18.92	18920.0	53.00	356.0	0.1892	57.94	53.00	18920.0	
3	2	YKBNK.IS	2.42	2420.0	20.06	120.0	0.0242	16.27	20.06	2420.0	
4	21	FROTO.IS	1.87	1870.0	728.00	2.0	0.0187	858.71	728.00	1870.0	
5	4	BIMAS.IS	0.79	790.0	301.00	2.0	0.0079	267.35	301.00	790.0	

ASELS.IS 48.86 AKBNK.IS 30.48 TCELL. IS 16.00 YKBNK.IS 2.75

assets

FROTO.IS 1.35

Name: %, dtype: float64

% Amount in 1328252.8299999998 TL

ASELS.IS 48.86 648984.33 AKBNK.IS 30.48 404851.46 TCELL.IS 16.00 212520.45 YKBNK.IS 2.75 36526.95 FROTO.IS 1.35 17931.41

```
{'AHGAZ': -652249.31, 'TUKAS': -372959.58, 'KOZAL': -190138.33, 'GUBRF': -37955.22, 'AKFGY': -50640.97, 'IPEKE': -24309.4 2, 'ASELS': 648984.33, 'AKBNK': 404851.46, 'TCELL': 212520.45, 'YKBNK': 36526.95, 'FROTO': 17931.41}
Shopping List for persistent Markowitz portfolio, as for tomorrow:
        Buy/Sell
AHGAZ -652249.31
TUKAS -372959.58
KOZAL -190138.33
GUBRF
      -37955.22
AKFGY -50640.97
      -24309.42
IPEKE
ASELS 648984.33
AKBNK 404851.46
TCELL 212520.45
YKBNK
       36526.95
FR0T0
        17931.41
   Unnamed: 0
                 assets
                              %
                                  Amount buy_price shares_to_buy \
0
           16 ASELS.IS 49.51 49510.0
                                                44.18
                                                               1120.0
                                                38.04
1
            6 AKBNK.IS 26.49 26490.0
                                                                696.0
2
               TCELL.IS 18.92
                                  18920.0
                                                53.00
                                                                356.0
               YKBNK.IS
                           2.42
                                   2420.0
                                                20.06
                                                                120.0
3
           21 FROTO.IS
                           1.87
                                   1870.0
                                               728.00
4
                                                                  2.0
5
            4 BIMAS.IS
                           0.79
                                    790.0
                                               301.00
                                                                  2.0
   Portfolio_Weights InitialPrices FinalPrices Portfolio_Amounts
0
              0.4951
                               41.44
                                              44.18
                                                                49510.0
               0.2649
                                30.62
                                              38.04
                                                                26490.0
1
2
               0.1892
                                57.94
                                              53.00
                                                                18920.0
              0.0242
                               16.27
                                             20.06
                                                                 2420.0
3
4
               0.0187
                               858.71
                                             728.00
                                                                 1870.0
5
               0.0079
                               267.35
                                             301.00
                                                                  790.0
   Portfolio_Shares Purchased Value Market Value PnL % Start PF % \
0
               1194
                             49479.36
                                             52750.92
                                                        6.61
                                                                    49.72
                 865
                              26486.30
                                             32904.60 24.23
                                                                    26.62
1
                              18888.44
                 326
                                             17278.00 -8.53
2
                                                                    18.98
3
                 148
                               2407.96
                                              2968.88 23.29
                                                                     2.42
                               1717.42
                                              1456.00 -15.22
                                                                     1.73
                   2
                   2
                                534.70
                                               602.00 12.59
                                                                     0.54
5
   End PF % Final_Cost Rebalance Buy Price Rebalance Shares
0
      48.86
                 48860.0
                                         44.18
                                                            1120.0
                 30480.0
                                         38.04
      30.48
                                                             696.0
1
2
      16.00
                 16000.0
                                         53.00
                                                             356.0
3
       2.75
                  2750.0
                                         20.06
                                                             120.0
                                         728.00
                                                               2.0
4
       1.35
                  1350.0
```

2.0

Loading [MathJax]/jax/output/CommonHTML/fonts/TeX/fontdata.js

301.00

560.0

5