C:\Users\ritwi\anaconda3\envs\RL\_Trading\lib\site-packages\gymnasium\envs\registration.py:694: UserWarning:

WARN: Overriding environment SingleStockLongOnly already in registry.

C:\Users\ritwi\anaconda3\envs\RL\_Trading\lib\site-packages\gymnasium\utils\passive\_env\_checker.py:168: DeprecationWarning:

WARN: Current gymnasium version requires that `Env.reset` can be passed a `seed` instead of using `Env.seed` for resetting the environment random number generator.

C:\Users\ritwi\anaconda3\envs\RL\_Trading\lib\site-packages\gymnasium\utils\passive\_env\_checker.py:181: DeprecationWarning:

WARN: Current gymnasium version requires that `Env.reset` can be passed `options` to allow the environment initialisation to be passed additional information.

C:\Users\ritwi\anaconda3\envs\RL\_Trading\lib\site-packages\gymnasium\utils\passive\_env\_checker.py:189: UserWarning:

WARN: The result returned by `env.reset()` was not a tuple of the form `(obs, info)`, where `obs` is a observation and `info` is a dictionary containing additional information. Actual type: `<class 'numpy.ndarray'>`

C:\Users\ritwi\anaconda3\envs\RL\_Trading\lib\site-packages\gymnasium\utils\passive\_env\_checker.py:213: DeprecationWarning:

WARN: Core environment is written in old step API which returns one bool instead of two. It is recommended to rewrite the environment with new step API.

The "test\_logs" directory already exists.

List of Stocks:

['APOLLOTYRE', 'AUROPHARMA', 'AXISBANK', 'BAJFINANCE', 'BHARATFORG', 'BHARTIARTL', 'CANBK', 'DIVISLAB', 'DLF', 'DRREDDY', 'GLENMARK', 'HCLTECH', 'HEROMOTOCO', 'HINDALCO', 'ICICIBANK', 'INFY', 'JSWSTEEL', 'JUBLFOOD', 'MARUTI', 'RELIANCE', 'SBIN', 'TATAMOTORS', 'TATASTEEL', 'TCS', 'WIPRO']

Observation Sample

Box(-inf, inf, (3, 10), float64)

Observation Sample

[[-0.12027745 0.86960935 1.04321939 0.05565386 -2.43236201 0.63894693

0.10228421 -0.14139724 0.59835273 0.16205024]

[ 1.45742846 0.94470498 -0.57171686 -0.13117922 -0.79716965 0.02099154

-1.12516386 0.18605835 0.54238969 -0.64075637]

[ 0.86227834 0.14941942 3.13468033 -0.9129402 0.27779453 0.64316732

-0.81325394 0.38973797 0.01219537 1.1337935 ]]

Action Sample

4

Reseting the Env...

The ramdomly selected stock for the episode: RELIANCE

The dataframe containing historical data of the selected stock:

open high low close volume

date

2023-06-23 12:35:00 2409.45 2410.75 2409.45 2410.40 11545

2023-06-23 12:40:00 2410.80 2410.80 2409.20 2410.60 11762

2023-06-23 12:45:00 2410.60 2411.60 2409.70 2410.60 19428

2023-06-23 12:50:00 2410.60 2410.65 2408.75 2409.50 9801

2023-06-23 12:55:00 2409.40 2410.45 2407.30 2409.70 14884

... ... ... ... ... ...

2023-08-30 12:00:00 2432.80 2433.00 2430.75 2430.80 25227

2023-08-30 12:05:00 2430.80 2432.80 2429.95 2431.65 78425

2023-08-30 12:10:00 2431.30 2432.00 2430.30 2431.75 15101

2023-08-30 12:15:00 2431.75 2432.00 2430.10 2431.90 17467

2023-08-30 12:20:00 2431.15 2433.00 2431.10 2432.45 22106

[3439 rows x 5 columns]

The episode end time: 2023-07-25 09:25:00

The start time at the reset: 2023-07-24 15:20:00

Int index of the df from where observation starts at reset: 1522

Int index of the df where observation end at reset: 1524

The Normalized Money Reserve: 1.0

The Normalized Stock Reserve: 0.0

The Normalized Net Worth: 1.0

The Money Reserve: 500000

The Effective Money Reserve: 498339.99999999994

The Stock Reserve in Numbers: 0

There is no Stock Reserve so Fund\_Status is: 1

The Normalized Money Reserve: 1.0

The Normalized Stock Reserve: 0.0

The Normalized Net Worth: 1.0

The Money Reserve: 500000

The Effective Money Reserve: 498539.99999999994

The Stock Reserve in Numbers: 0

There is no Stock Reserve so Fund\_Status is: 1

The Normalized Money Reserve: 1.0

The Normalized Stock Reserve: 0.0

The Normalized Net Worth: 1.0

The Money Reserve: 500000

The Effective Money Reserve: 497750.0

The Stock Reserve in Numbers: 0

There is no Stock Reserve so Fund\_Status is: 1

The Observation after the Reset:

[[2.49140e+03 2.49170e+03 2.48500e+03 2.49140e+03 2.20020e+05 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[2.48800e+03 2.49270e+03 2.48765e+03 2.48800e+03 2.23742e+05 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[2.48580e+03 2.48875e+03 2.48435e+03 2.48560e+03 3.10980e+05 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]]

Done Status after the reset: False

The test episode count: 1

The reset is completed

Observation after Reset: [[2.49140e+03 2.49170e+03 2.48500e+03 2.49140e+03 2.20020e+05 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[2.48800e+03 2.49270e+03 2.48765e+03 2.48800e+03 2.23742e+05 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[2.48580e+03 2.48875e+03 2.48435e+03 2.48560e+03 3.10980e+05 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]]

Action taken by the agent: 2

The action, applied to the env by the agent: 2

The actual action after scalling: 0

The execution price: 2487.4012437215038

Hold Action

Reward at the step: 0.0

The appended action list: [np.int64(0)]

The Normalized Money Reserve: 1.0

The Normalized Stock Reserve: 0.0

The Normalized Net Worth: 1.0

The Money Reserve: 500000

The Effective Money Reserve: 497580.0

The Stock Reserve in Numbers: 0

There is no Stock Reserve so Fund\_Status is: 1

Time and done status at the end of the step: 2023-07-24 15:25:00 False

The updated observation at the end of the step:

[[2.48800e+03 2.49270e+03 2.48765e+03 2.48800e+03 2.23742e+05 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[2.48580e+03 2.48875e+03 2.48435e+03 2.48560e+03 3.10980e+05 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[2.48615e+03 2.48790e+03 2.48405e+03 2.48610e+03 2.67540e+05 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]]

{'Time': Timestamp('2023-07-24 15:25:00')}

Info: {'Time': Timestamp('2023-07-24 15:25:00')}

Reward at the step: 0.0

Observation at the step: [[2.48800e+03 2.49270e+03 2.48765e+03 2.48800e+03 2.23742e+05 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[2.48580e+03 2.48875e+03 2.48435e+03 2.48560e+03 3.10980e+05 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[2.48615e+03 2.48790e+03 2.48405e+03 2.48610e+03 2.67540e+05 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]]

Action taken by the agent: 3

The action, applied to the env by the agent: 3

The actual action after scalling: 1

The execution price: 2486.335680528121

Buy Action

Target position to buy in money: 249980.0

Actual stock quantity bought: 100.0

The actual money spent to purchase stock: 248633.5680528121

The total fee to be paid 40

Reward at the step: 0.0002128412420716646

The appended action list: [np.int64(0), np.int64(1)]

The Normalized Money Reserve: 0.5026528638943758

The Normalized Stock Reserve: 0.49756000000000006

The Normalized Net Worth: 1.000212863894376

The Money Reserve: 251326.4319471879

The Effective Money Reserve: 248800.0

The Stock Reserve in Numbers: 100.0

Both Money and Stock Reserve Exists, so Fund\_Status is: 2

Time and done status at the end of the step: 2023-07-25 09:15:00 False

The updated observation at the end of the step:

[[2.48580000e+03 2.48875000e+03 2.48435000e+03 2.48560000e+03

3.10980000e+05 1.00000000e+00 0.00000000e+00 1.00000000e+00

1.00000000e+00 0.00000000e+00]

[2.48615000e+03 2.48790000e+03 2.48405000e+03 2.48610000e+03

2.67540000e+05 1.00000000e+00 0.00000000e+00 1.00000000e+00

1.00000000e+00 0.00000000e+00]

[2.49400000e+03 2.48800000e+03 2.48510000e+03 2.48780000e+03

2.26587000e+05 5.02652864e-01 4.97560000e-01 1.00021286e+00

2.00000000e+00 2.12841242e-04]]

{'Time': Timestamp('2023-07-25 09:15:00')}

Info: {'Time': Timestamp('2023-07-25 09:15:00')}

Reward at the step: 0.0002128412420716646

Observation at the step: [[2.48580000e+03 2.48875000e+03 2.48435000e+03 2.48560000e+03

3.10980000e+05 1.00000000e+00 0.00000000e+00 1.00000000e+00

1.00000000e+00 0.00000000e+00]

[2.48615000e+03 2.48790000e+03 2.48405000e+03 2.48610000e+03

2.67540000e+05 1.00000000e+00 0.00000000e+00 1.00000000e+00

1.00000000e+00 0.00000000e+00]

[2.49400000e+03 2.48800000e+03 2.48510000e+03 2.48780000e+03

2.26587000e+05 5.02652864e-01 4.97560000e-01 1.00021286e+00

2.00000000e+00 2.12841242e-04]]

Action taken by the agent: 1

The action, applied to the env by the agent: 1

The actual action after scalling: -1

The execution price: 2493.9261587680653

Sell Action

Stock Reserve 100.0

Actual stock quantity to be sold 50

Actual money earned in the stock selling: 124696.30793840326

The total fee to be paid 40

Reward at the step: 9.259187966536705e-05

The appended action list: [np.int64(0), np.int64(1), np.int64(-1)]

The Normalized Money Reserve: 0.7519654797711823

The Normalized Stock Reserve: 0.24834

The Normalized Net Worth: 1.0003054797711823

The Money Reserve: 375982.73988559115

The Effective Money Reserve: 374100.0

The Stock Reserve in Numbers: 50.0

Both Money and Stock Reserve Exists, so Fund\_Status is: 2

Time and done status at the end of the step: 2023-07-25 09:20:00 False

The updated observation at the end of the step:

[[2.48615000e+03 2.48790000e+03 2.48405000e+03 2.48610000e+03

2.67540000e+05 1.00000000e+00 0.00000000e+00 1.00000000e+00

1.00000000e+00 0.00000000e+00]

[2.49400000e+03 2.48800000e+03 2.48510000e+03 2.48780000e+03

2.26587000e+05 5.02652864e-01 4.97560000e-01 1.00021286e+00

2.00000000e+00 2.12841242e-04]

[2.48300000e+03 2.49400000e+03 2.48340000e+03 2.48340000e+03

2.69908000e+05 7.51965480e-01 2.48340000e-01 1.00030548e+00

2.00000000e+00 9.25918797e-05]]

{'Time': Timestamp('2023-07-25 09:20:00')}

Info: {'Time': Timestamp('2023-07-25 09:20:00')}

Reward at the step: 9.259187966536705e-05

Observation at the step: [[2.48615000e+03 2.48790000e+03 2.48405000e+03 2.48610000e+03

2.67540000e+05 1.00000000e+00 0.00000000e+00 1.00000000e+00

1.00000000e+00 0.00000000e+00]

[2.49400000e+03 2.48800000e+03 2.48510000e+03 2.48780000e+03

2.26587000e+05 5.02652864e-01 4.97560000e-01 1.00021286e+00

2.00000000e+00 2.12841242e-04]

[2.48300000e+03 2.49400000e+03 2.48340000e+03 2.48340000e+03

2.69908000e+05 7.51965480e-01 2.48340000e-01 1.00030548e+00

2.00000000e+00 9.25918797e-05]]

Action taken by the agent: 4

The action, applied to the env by the agent: 4

The actual action after scalling: 2

The execution price: 2483.1443570220863

Buy Action

Target position to buy in money: 375942.73988559115

Actual stock quantity bought: 151.0

The actual money spent to purchase stock: 374954.797910335

The total fee to be paid 40

Reward at the step: 9.766957196648633e-05

The appended action list: [np.int64(0), np.int64(1), np.int64(-1), np.int64(2)]

The Normalized Money Reserve: 0.0019758839505122743

The Normalized Stock Reserve: 0.9984273

The Normalized Net Worth: 1.0004031839505123

The Money Reserve: 987.9419752561371

The Effective Money Reserve: 0.0

The Stock Reserve in Numbers: 201.0

There is no Money Reserve so Fund\_Status is: 0

Time and done status at the end of the step: 2023-07-25 09:25:00 False

The updated observation at the end of the step:

[[2.49400000e+03 2.48800000e+03 2.48510000e+03 2.48780000e+03

2.26587000e+05 5.02652864e-01 4.97560000e-01 1.00021286e+00

2.00000000e+00 2.12841242e-04]

[2.48300000e+03 2.49400000e+03 2.48340000e+03 2.48340000e+03

2.69908000e+05 7.51965480e-01 2.48340000e-01 1.00030548e+00

2.00000000e+00 9.25918797e-05]

[2.48365000e+03 2.48500000e+03 2.48005000e+03 2.48365000e+03

1.85192000e+05 1.97588395e-03 9.98427300e-01 1.00040318e+00

0.00000000e+00 9.76695720e-05]]

{'Time': Timestamp('2023-07-25 09:25:00')}

Info: {'Time': Timestamp('2023-07-25 09:25:00')}

Reward at the step: 9.766957196648633e-05

Observation at the step: [[2.49400000e+03 2.48800000e+03 2.48510000e+03 2.48780000e+03

2.26587000e+05 5.02652864e-01 4.97560000e-01 1.00021286e+00

2.00000000e+00 2.12841242e-04]

[2.48300000e+03 2.49400000e+03 2.48340000e+03 2.48340000e+03

2.69908000e+05 7.51965480e-01 2.48340000e-01 1.00030548e+00

2.00000000e+00 9.25918797e-05]

[2.48365000e+03 2.48500000e+03 2.48005000e+03 2.48365000e+03

1.85192000e+05 1.97588395e-03 9.98427300e-01 1.00040318e+00

0.00000000e+00 9.76695720e-05]]

Action taken by the agent: 2

The action, applied to the env by the agent: 2

The actual action after scalling: 0

The execution price: 2484.6835316634492

Hold Action

Reward at the step: 0.0021876224285052787

The appended action list: [np.int64(0), np.int64(1), np.int64(-1), np.int64(2), np.int64(0)]

The net Worth at the end of the episode: 501297.0419752561

The episode length was: 4

A graph with blue bars

AI-generated content may be incorrect.

The Normalized Money Reserve: 0.0019758839505122743

The Normalized Stock Reserve: 1.0006182

The Normalized Net Worth: 1.002594083950512

The Money Reserve: 987.9419752561371

The Effective Money Reserve: 0.0

The Stock Reserve in Numbers: 201.0

There is no Money Reserve so Fund\_Status is: 0

Time and done status at the end of the step: 2023-07-25 09:30:00 True

The updated observation at the end of the step:

[[2.48300000e+03 2.49400000e+03 2.48340000e+03 2.48340000e+03

2.69908000e+05 7.51965480e-01 2.48340000e-01 1.00030548e+00

2.00000000e+00 9.25918797e-05]

[2.48365000e+03 2.48500000e+03 2.48005000e+03 2.48365000e+03

1.85192000e+05 1.97588395e-03 9.98427300e-01 1.00040318e+00

0.00000000e+00 9.76695720e-05]

[2.48915000e+03 2.48990000e+03 2.48345000e+03 2.48910000e+03

1.14136000e+05 1.97588395e-03 1.00061820e+00 1.00259408e+00

0.00000000e+00 2.18762243e-03]]

{'Time': Timestamp('2023-07-25 09:30:00')}

Info: {'Time': Timestamp('2023-07-25 09:30:00')}

Reward at the step: 0.0021876224285052787

Observation at the step: [[2.48300000e+03 2.49400000e+03 2.48340000e+03 2.48340000e+03

2.69908000e+05 7.51965480e-01 2.48340000e-01 1.00030548e+00

2.00000000e+00 9.25918797e-05]

[2.48365000e+03 2.48500000e+03 2.48005000e+03 2.48365000e+03

1.85192000e+05 1.97588395e-03 9.98427300e-01 1.00040318e+00

0.00000000e+00 9.76695720e-05]

[2.48915000e+03 2.48990000e+03 2.48345000e+03 2.48910000e+03

1.14136000e+05 1.97588395e-03 1.00061820e+00 1.00259408e+00

0.00000000e+00 2.18762243e-03]]

Time taken for the episode: 1428.620ms

Reseting the Env...

The ramdomly selected stock for the episode: DIVISLAB

The dataframe containing historical data of the selected stock:

open high low close volume

date

2023-06-23 13:10:00 3518.15 3520.90 3516.00 3517.05 1323

2023-06-23 13:15:00 3517.05 3519.10 3515.00 3515.00 2101

2023-06-23 13:20:00 3515.10 3518.55 3515.00 3515.15 2863

2023-06-23 13:25:00 3515.15 3518.10 3515.00 3516.35 3244

2023-06-23 13:30:00 3516.35 3516.50 3504.00 3504.90 6097

... ... ... ... ... ...

2023-08-30 11:50:00 3657.10 3658.60 3657.10 3657.50 1234

2023-08-30 11:55:00 3657.50 3661.95 3657.50 3661.95 1806

2023-08-30 12:00:00 3661.75 3665.35 3657.55 3663.20 53662

2023-08-30 12:05:00 3663.20 3665.30 3660.10 3660.10 2318

2023-08-30 12:10:00 3660.00 3662.00 3657.50 3658.90 1180

[3439 rows x 5 columns]

The episode end time: 2023-07-28 11:20:00

The start time at the reset: 2023-07-28 11:00:00

Int index of the df from where observation starts at reset: 1772

Int index of the df where observation end at reset: 1774

The Normalized Money Reserve: 1.0

The Normalized Stock Reserve: 0.0

The Normalized Net Worth: 1.0

The Money Reserve: 500000

The Effective Money Reserve: 498750.0

The Stock Reserve in Numbers: 0

There is no Stock Reserve so Fund\_Status is: 1

The Normalized Money Reserve: 1.0

The Normalized Stock Reserve: 0.0

The Normalized Net Worth: 1.0

The Money Reserve: 500000

The Effective Money Reserve: 498743.35

The Stock Reserve in Numbers: 0

There is no Stock Reserve so Fund\_Status is: 1

The Normalized Money Reserve: 1.0

The Normalized Stock Reserve: 0.0

The Normalized Net Worth: 1.0

The Money Reserve: 500000

The Effective Money Reserve: 498743.35

The Stock Reserve in Numbers: 0

There is no Stock Reserve so Fund\_Status is: 1

The Observation after the Reset:

[[3.74785e+03 3.75000e+03 3.74635e+03 3.74785e+03 2.55100e+03 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[3.74890e+03 3.74995e+03 3.74500e+03 3.74890e+03 1.38400e+03 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[3.74680e+03 3.74995e+03 3.74400e+03 3.74500e+03 1.05900e+03 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]]

Done Status after the reset: False

The test episode count: 2

The reset is completed

Observation after Reset: [[3.74785e+03 3.75000e+03 3.74635e+03 3.74785e+03 2.55100e+03 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[3.74890e+03 3.74995e+03 3.74500e+03 3.74890e+03 1.38400e+03 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[3.74680e+03 3.74995e+03 3.74400e+03 3.74500e+03 1.05900e+03 1.00000e+00

0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]]

Action taken by the agent: 1

The action, applied to the env by the agent: 1

The actual action after scalling: -1

Stock Holdings 0

Action: -1

Fund\_Status: 1

Episode is terminating due to wrong Sell Action

Penalty for Wrong Action: -10

The execution price: 3744.1740805712343

Sell Action

Stock Reserve 0

Actual stock quantity to be sold 0

Actual money earned in the stock selling: 0.0

The total fee to be paid 0.0

Reward at the step: -10.0

The appended action list: [np.int64(0), np.int64(1), np.int64(-1), np.int64(2), np.int64(0), np.int64(-1)]

The net Worth at the end of the episode: 500000.0

The episode length was: 0

A graph of a line graph

AI-generated content may be incorrect.

The Normalized Money Reserve: 1.0

The Normalized Stock Reserve: 0.0

The Normalized Net Worth: 1.0

The Money Reserve: 500000.0

The Effective Money Reserve: 498656.9

The Stock Reserve in Numbers: 0

There is no Stock Reserve so Fund\_Status is: 1

Time and done status at the end of the step: 2023-07-28 11:05:00 True

The updated observation at the end of the step:

[[ 3.74890e+03 3.74995e+03 3.74500e+03 3.74890e+03 1.38400e+03

1.00000e+00 0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[ 3.74680e+03 3.74995e+03 3.74400e+03 3.74500e+03 1.05900e+03

1.00000e+00 0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[ 3.74375e+03 3.74930e+03 3.74150e+03 3.74375e+03 1.46500e+03

1.00000e+00 0.00000e+00 1.00000e+00 1.00000e+00 -1.00000e+01]]

{'Time': Timestamp('2023-07-28 11:05:00')}

Info: {'Time': Timestamp('2023-07-28 11:05:00')}

Reward at the step: -10.0

Observation at the step: [[ 3.74890e+03 3.74995e+03 3.74500e+03 3.74890e+03 1.38400e+03

1.00000e+00 0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[ 3.74680e+03 3.74995e+03 3.74400e+03 3.74500e+03 1.05900e+03

1.00000e+00 0.00000e+00 1.00000e+00 1.00000e+00 0.00000e+00]

[ 3.74375e+03 3.74930e+03 3.74150e+03 3.74375e+03 1.46500e+03

1.00000e+00 0.00000e+00 1.00000e+00 1.00000e+00 -1.00000e+01]]

Time taken for the episode: 848.039ms

Reseting the Env...

The ramdomly selected stock for the episode: WIPRO

The dataframe containing historical data of the selected stock:

open high low close volume

date

2023-06-23 13:15:00 382.15 382.40 382.05 382.40 21020

2023-06-23 13:20:00 382.40 382.45 381.95 382.20 47742

2023-06-23 13:25:00 382.20 382.25 381.85 382.05 13982

2023-06-23 13:30:00 382.05 382.05 381.75 381.90 12619

2023-06-23 13:35:00 381.90 382.30 381.90 382.20 18301

... ... ... ... ... ...

2023-08-30 11:55:00 408.95 408.95 408.70 408.95 7767

2023-08-30 12:00:00 408.90 409.00 408.90 409.00 22276

2023-08-30 12:05:00 408.95 409.00 408.90 409.00 9964

2023-08-30 12:10:00 408.95 409.15 408.90 409.15 18227

2023-08-30 12:15:00 409.15 409.15 409.00 409.10 6550

[3439 rows x 5 columns]

The episode end time: 2023-07-26 12:40:00

The start time at the reset: 2023-07-26 12:20:00

Int index of the df from where observation starts at reset: 1637

Int index of the df where observation end at reset: 1639

The Normalized Money Reserve: 1.0

The Normalized Stock Reserve: 0.0

The Normalized Net Worth: 1.0

The Money Reserve: 500000

The Effective Money Reserve: 499720.0

The Stock Reserve in Numbers: 0

There is no Stock Reserve so Fund\_Status is: 1

The Normalized Money Reserve: 1.0

The Normalized Stock Reserve: 0.0

The Normalized Net Worth: 1.0

The Money Reserve: 500000

The Effective Money Reserve: 499720.0

The Stock Reserve in Numbers: 0

There is no Stock Reserve so Fund\_Status is: 1

The Normalized Money Reserve: 1.0

The Normalized Stock Reserve: 0.0

The Normalized Net Worth: 1.0

The Money Reserve: 500000

The Effective Money Reserve: 499720.0

The Stock Reserve in Numbers: 0

There is no Stock Reserve so Fund\_Status is: 1

The Observation after the Reset:

[[4.0295e+02 4.0300e+02 4.0250e+02 4.0295e+02 2.6675e+04 1.0000e+00

0.0000e+00 1.0000e+00 1.0000e+00 0.0000e+00]

[4.0300e+02 4.0300e+02 4.0265e+02 4.0300e+02 1.5000e+04 1.0000e+00

0.0000e+00 1.0000e+00 1.0000e+00 0.0000e+00]

[4.0285e+02 4.0300e+02 4.0270e+02 4.0285e+02 1.5815e+04 1.0000e+00

0.0000e+00 1.0000e+00 1.0000e+00 0.0000e+00]]

Done Status after the reset: False

The test episode count: 3

The reset is completed

Observation after Reset: [[4.0295e+02 4.0300e+02 4.0250e+02 4.0295e+02 2.6675e+04 1.0000e+00

0.0000e+00 1.0000e+00 1.0000e+00 0.0000e+00]

[4.0300e+02 4.0300e+02 4.0265e+02 4.0300e+02 1.5000e+04 1.0000e+00

0.0000e+00 1.0000e+00 1.0000e+00 0.0000e+00]

[4.0285e+02 4.0300e+02 4.0270e+02 4.0285e+02 1.5815e+04 1.0000e+00

0.0000e+00 1.0000e+00 1.0000e+00 0.0000e+00]]

Action taken by the agent: 4

The action, applied to the env by the agent: 4

The actual action after scalling: 2

The execution price: 402.87743672143426

Buy Action

Target position to buy in money: 499960.0

Actual stock quantity bought: 1240.0

The actual money spent to purchase stock: 499568.02153457847

The total fee to be paid 40

Reward at the step: -0.0002720800795851349

The appended action list: [np.int64(0), np.int64(1), np.int64(-1), np.int64(2), np.int64(0), np.int64(-1), np.int64(2)]

The Normalized Money Reserve: 0.0007839569308430655

The Normalized Stock Reserve: 0.998944

The Normalized Net Worth: 0.9997279569308432

The Money Reserve: 391.97846542153275

The Effective Money Reserve: 0.0

The Stock Reserve in Numbers: 1240.0

There is no Money Reserve so Fund\_Status is: 0

Time and done status at the end of the step: 2023-07-26 12:25:00 False

The updated observation at the end of the step:

[[ 4.03000000e+02 4.03000000e+02 4.02650000e+02 4.03000000e+02

1.50000000e+04 1.00000000e+00 0.00000000e+00 1.00000000e+00

1.00000000e+00 0.00000000e+00]

[ 4.02850000e+02 4.03000000e+02 4.02700000e+02 4.02850000e+02

1.58150000e+04 1.00000000e+00 0.00000000e+00 1.00000000e+00

1.00000000e+00 0.00000000e+00]

[ 4.02900000e+02 4.03000000e+02 4.02700000e+02 4.02800000e+02

2.77350000e+04 7.83956931e-04 9.98944000e-01 9.99727957e-01

0.00000000e+00 -2.72080080e-04]]

{'Time': Timestamp('2023-07-26 12:25:00')}

Info: {'Time': Timestamp('2023-07-26 12:25:00')}

Reward at the step: -0.0002720800795851349

Observation at the step: [[ 4.03000000e+02 4.03000000e+02 4.02650000e+02 4.03000000e+02

1.50000000e+04 1.00000000e+00 0.00000000e+00 1.00000000e+00

1.00000000e+00 0.00000000e+00]

[ 4.02850000e+02 4.03000000e+02 4.02700000e+02 4.02850000e+02

1.58150000e+04 1.00000000e+00 0.00000000e+00 1.00000000e+00

1.00000000e+00 0.00000000e+00]

[ 4.02900000e+02 4.03000000e+02 4.02700000e+02 4.02800000e+02

2.77350000e+04 7.83956931e-04 9.98944000e-01 9.99727957e-01

0.00000000e+00 -2.72080080e-04]]

Action taken by the agent: 2

The action, applied to the env by the agent: 2

The actual action after scalling: 0

The execution price: 402.8580173871449

Hold Action

Reward at the step: 0.00037203201506698987

The appended action list: [np.int64(0), np.int64(1), np.int64(-1), np.int64(2), np.int64(0), np.int64(-1), np.int64(2), np.int64(0)]

The Normalized Money Reserve: 0.0007839569308430655

The Normalized Stock Reserve: 0.999316

The Normalized Net Worth: 1.000099956930843

The Money Reserve: 391.97846542153275

The Effective Money Reserve: 0.0

The Stock Reserve in Numbers: 1240.0

There is no Money Reserve so Fund\_Status is: 0

Time and done status at the end of the step: 2023-07-26 12:30:00 False

The updated observation at the end of the step:

[[ 4.02850000e+02 4.03000000e+02 4.02700000e+02 4.02850000e+02

1.58150000e+04 1.00000000e+00 0.00000000e+00 1.00000000e+00

1.00000000e+00 0.00000000e+00]

[ 4.02900000e+02 4.03000000e+02 4.02700000e+02 4.02800000e+02

2.77350000e+04 7.83956931e-04 9.98944000e-01 9.99727957e-01

0.00000000e+00 -2.72080080e-04]

[ 4.02950000e+02 4.03000000e+02 4.02800000e+02 4.02950000e+02

9.63200000e+03 7.83956931e-04 9.99316000e-01 1.00009996e+00

0.00000000e+00 3.72032015e-04]]

{'Time': Timestamp('2023-07-26 12:30:00')}

Info: {'Time': Timestamp('2023-07-26 12:30:00')}

Reward at the step: 0.00037203201506698987

Observation at the step: [[ 4.02850000e+02 4.03000000e+02 4.02700000e+02 4.02850000e+02

1.58150000e+04 1.00000000e+00 0.00000000e+00 1.00000000e+00

1.00000000e+00 0.00000000e+00]

[ 4.02900000e+02 4.03000000e+02 4.02700000e+02 4.02800000e+02

2.77350000e+04 7.83956931e-04 9.98944000e-01 9.99727957e-01

0.00000000e+00 -2.72080080e-04]

[ 4.02950000e+02 4.03000000e+02 4.02800000e+02 4.02950000e+02

9.63200000e+03 7.83956931e-04 9.99316000e-01 1.00009996e+00

0.00000000e+00 3.72032015e-04]]

Action taken by the agent: 1

The action, applied to the env by the agent: 1

The actual action after scalling: -1

The execution price: 402.5219667190801

Sell Action

Stock Reserve 1240.0

Actual stock quantity to be sold 620

Actual money earned in the stock selling: 249563.61936582968

The total fee to be paid 40

Reward at the step: -0.0007969991539553898

The appended action list: [np.int64(0), np.int64(1), np.int64(-1), np.int64(2), np.int64(0), np.int64(-1), np.int64(2), np.int64(0), np.int64(-1)]

The Normalized Money Reserve: 0.49983119566250245

The Normalized Stock Reserve: 0.499472

The Normalized Net Worth: 0.9993031956625025

The Money Reserve: 249915.59783125122

The Effective Money Reserve: 249829.0

The Stock Reserve in Numbers: 620.0

Both Money and Stock Reserve Exists, so Fund\_Status is: 2

Time and done status at the end of the step: 2023-07-26 12:35:00 False

The updated observation at the end of the step:

[[ 4.02900000e+02 4.03000000e+02 4.02700000e+02 4.02800000e+02

2.77350000e+04 7.83956931e-04 9.98944000e-01 9.99727957e-01

0.00000000e+00 -2.72080080e-04]

[ 4.02950000e+02 4.03000000e+02 4.02800000e+02 4.02950000e+02

9.63200000e+03 7.83956931e-04 9.99316000e-01 1.00009996e+00

0.00000000e+00 3.72032015e-04]

[ 4.02800000e+02 4.02950000e+02 4.02500000e+02 4.02800000e+02

1.66490000e+04 4.99831196e-01 4.99472000e-01 9.99303196e-01

2.00000000e+00 -7.96999154e-04]]

{'Time': Timestamp('2023-07-26 12:35:00')}

Info: {'Time': Timestamp('2023-07-26 12:35:00')}

Reward at the step: -0.0007969991539553898

Observation at the step: [[ 4.02900000e+02 4.03000000e+02 4.02700000e+02 4.02800000e+02

2.77350000e+04 7.83956931e-04 9.98944000e-01 9.99727957e-01

0.00000000e+00 -2.72080080e-04]

[ 4.02950000e+02 4.03000000e+02 4.02800000e+02 4.02950000e+02

9.63200000e+03 7.83956931e-04 9.99316000e-01 1.00009996e+00

0.00000000e+00 3.72032015e-04]

[ 4.02800000e+02 4.02950000e+02 4.02500000e+02 4.02800000e+02

1.66490000e+04 4.99831196e-01 4.99472000e-01 9.99303196e-01

2.00000000e+00 -7.96999154e-04]]

Action taken by the agent: 4

The action, applied to the env by the agent: 4

The actual action after scalling: 2

The execution price: 402.7017470017182

Buy Action

Target position to buy in money: 249875.59783125122

Actual stock quantity bought: 620.0

The actual money spent to purchase stock: 249675.0831410653

The total fee to be paid 40

Reward at the step: -0.0007029028741612451

The appended action list: [np.int64(0), np.int64(1), np.int64(-1), np.int64(2), np.int64(0), np.int64(-1), np.int64(2), np.int64(0), np.int64(-1), np.int64(2)]

The Normalized Money Reserve: 0.0004010293803718523

The Normalized Stock Reserve: 0.9982

The Normalized Net Worth: 0.9986010293803719

The Money Reserve: 200.51469018592616

The Effective Money Reserve: 0.0

The Stock Reserve in Numbers: 1240.0

There is no Money Reserve so Fund\_Status is: 0

Time and done status at the end of the step: 2023-07-26 12:40:00 False

The updated observation at the end of the step:

[[ 4.02950000e+02 4.03000000e+02 4.02800000e+02 4.02950000e+02

9.63200000e+03 7.83956931e-04 9.99316000e-01 1.00009996e+00

0.00000000e+00 3.72032015e-04]

[ 4.02800000e+02 4.02950000e+02 4.02500000e+02 4.02800000e+02

1.66490000e+04 4.99831196e-01 4.99472000e-01 9.99303196e-01

2.00000000e+00 -7.96999154e-04]

[ 4.02500000e+02 4.02800000e+02 4.02450000e+02 4.02500000e+02

1.23280000e+04 4.01029380e-04 9.98200000e-01 9.98601029e-01

0.00000000e+00 -7.02902874e-04]]

{'Time': Timestamp('2023-07-26 12:40:00')}

Info: {'Time': Timestamp('2023-07-26 12:40:00')}

Reward at the step: -0.0007029028741612451

Observation at the step: [[ 4.02950000e+02 4.03000000e+02 4.02800000e+02 4.02950000e+02

9.63200000e+03 7.83956931e-04 9.99316000e-01 1.00009996e+00

0.00000000e+00 3.72032015e-04]

[ 4.02800000e+02 4.02950000e+02 4.02500000e+02 4.02800000e+02

1.66490000e+04 4.99831196e-01 4.99472000e-01 9.99303196e-01

2.00000000e+00 -7.96999154e-04]

[ 4.02500000e+02 4.02800000e+02 4.02450000e+02 4.02500000e+02

1.23280000e+04 4.01029380e-04 9.98200000e-01 9.98601029e-01

0.00000000e+00 -7.02902874e-04]]

Action taken by the agent: 4

The action, applied to the env by the agent: 4

The actual action after scalling: 2

Money Reserve 200.51469018592616

Effective Money Reserve 0.0

Action: 2

Fund\_Status: 0

Episode is terminating due to wrong Buy Action

Penalty for Wrong Action: -10

The execution price: 402.47481399089

Buy Action

Target position to buy in money: 160.51469018592616

Actual stock quantity bought: 0.0

The actual money spent to purchase stock: 0.0

The total fee to be paid 0.0

Reward at the step: -10.000124181425573

The appended action list: [np.int64(0), np.int64(1), np.int64(-1), np.int64(2), np.int64(0), np.int64(-1), np.int64(2), np.int64(0), np.int64(-1), np.int64(2), np.int64(2)]

The net Worth at the end of the episode: 499238.5146901859

The episode length was: 4

A graph with blue bars

AI-generated content may be incorrect.

The Normalized Money Reserve: 0.0004010293803718523

The Normalized Stock Reserve: 0.998076

The Normalized Net Worth: 0.9984770293803719

The Money Reserve: 200.51469018592616

The Effective Money Reserve: 0.0

The Stock Reserve in Numbers: 1240.0

There is no Money Reserve so Fund\_Status is: 0

Time and done status at the end of the step: 2023-07-26 12:45:00 True

The updated observation at the end of the step:

[[ 4.02800000e+02 4.02950000e+02 4.02500000e+02 4.02800000e+02

1.66490000e+04 4.99831196e-01 4.99472000e-01 9.99303196e-01

2.00000000e+00 -7.96999154e-04]

[ 4.02500000e+02 4.02800000e+02 4.02450000e+02 4.02500000e+02

1.23280000e+04 4.01029380e-04 9.98200000e-01 9.98601029e-01

0.00000000e+00 -7.02902874e-04]

[ 4.02450000e+02 4.02600000e+02 4.02250000e+02 4.02450000e+02

2.23680000e+04 4.01029380e-04 9.98076000e-01 9.98477029e-01

0.00000000e+00 -1.00001242e+01]]

{'Time': Timestamp('2023-07-26 12:45:00')}

Info: {'Time': Timestamp('2023-07-26 12:45:00')}

Reward at the step: -10.000124181425573

Observation at the step: [[ 4.02800000e+02 4.02950000e+02 4.02500000e+02 4.02800000e+02

1.66490000e+04 4.99831196e-01 4.99472000e-01 9.99303196e-01

2.00000000e+00 -7.96999154e-04]

[ 4.02500000e+02 4.02800000e+02 4.02450000e+02 4.02500000e+02

1.23280000e+04 4.01029380e-04 9.98200000e-01 9.98601029e-01

0.00000000e+00 -7.02902874e-04]

[ 4.02450000e+02 4.02600000e+02 4.02250000e+02 4.02450000e+02

2.23680000e+04 4.01029380e-04 9.98076000e-01 9.98477029e-01

0.00000000e+00 -1.00001242e+01]]

Time taken for the episode: 1114.454ms

A graph with a blue bar

AI-generated content may be incorrect.