

Financial AI

Homework 1

Due at 06:00 pm (Korea Standard Time) on Saturday

Problem 1. Udacity, Intermediate Python

- (a) Submit Chapter 2 - Lesson 6. Project.ipynb

Problem 2. Make an agent to buy and sell stocks in python. For this problem, you need the FBA_agent.ipynb source code file.

- (a) Make the 'agent' class with 'credit'(\$1000) and 'holdings' as object variables.
- (b) Make the 'check' method to print the 'credit' and 'holdings'.
- (c) Make the 'buy' method with 'ticker', 'price' and 'quantity' as object variables. It is impossible to purchase if the total price exceeds the credit. The 'credit' must change at the time of purchase. The format of 'holding' must be list.
- (d) Create a 'sell' method with 'ticker', 'price' and 'quantity' as object variables. It is impossible to sell if the agent doesn't have the stock and the selling quantity exceeds the holding quantity. The 'holdings' and 'credit' must change at the time of selling.
- (e) Create the 'FBA_agent' object, buy 5 AAPL for \$135, buy 1 GOOGL for \$2300, sell 3 AAPL for \$140 and check the credit and holdings.

```
FBA_agent = Agent()
```

The agent is created.

```
FBA_agent.buy(['AAPL', 135, 5])
```

The agent buys 5 AAPL for 135.

```
FBA_agent.check()
```

credit : 325
holding : [['AAPL', 135, 5]]

```
FBA_agent.buy(['GOOGL', 2300, 1])
```

The agent can't buy.

```
FBA_agent.sell(['AAPL', 140, 3])
```

The agent sells 3 AAPL for 140.

```
FBA_agent.check()
```

credit : 745
holding : [['AAPL', 135, 2]]

Result of Problem 2