

### Report Phase 3

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#### Part 1:

The classifier is similar to 0/1 Loss given in the simulator.

By getting the error and predicted probability performance, the performance can be chosen to decide the classifier.

As run for test, the probability is decided to 0.51 finally to get the best result.

#### Part 2:

```
$ python simulate_agents_phase3.py
```

#### SIMULATION RESULTS ON dataset1

Wealth (the larger the better)

Agent_bnb:	\$1,775,950.00
Agent_lr:	\$1,638,100.00
Agent_svc:	\$1,596,800.00
Agent_xqiu12:	\$1,775,950.00

Log-loss (the smaller the better)

Agent_bnb:	332.25
Agent_lr:	373.89
Agent_svc:	408.75
Agent_xqiu12:	332.25

0/1 Loss (the smaller the better)

Agent_bnb:	88
Agent_lr:	115
Agent_svc:	147
Agent_xqiu12:	88

#### SIMULATION RESULTS ON dataset2

Wealth (the larger the better)

Agent\_bnb: \$1,507,950.00  
Agent\_lr: \$1,717,100.00  
Agent\_svc: \$1,540,800.00  
Agent\_xqiu12: \$1,717,100.00

Log-loss (the smaller the better)

Agent\_bnb: 553.13  
Agent\_lr: 487.71  
Agent\_svc: 564.25  
Agent\_xqiu12: 487.71

0/1 Loss (the smaller the better)

Agent\_bnb: 250  
Agent\_lr: 223  
Agent\_svc: 293  
Agent\_xqiu12: 223

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SIMULATION RESULTS ON dataset3  
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Wealth (the larger the better)

Agent\_bnb: \$795,950.00  
Agent\_lr: \$810,100.00  
Agent\_svc: \$1,102,800.00  
Agent\_xqiu12: \$1,102,800.00

Log-loss (the smaller the better)

Agent\_bnb: 571.94  
Agent\_lr: 566.91  
Agent\_svc: 413.10  
Agent\_xqiu12: 413.10

0/1 Loss (the smaller the better)

Agent\_bnb: 250  
Agent\_lr: 255  
Agent\_svc: 165  
Agent\_xqiu12: 165