ASSIGNMENT – 12

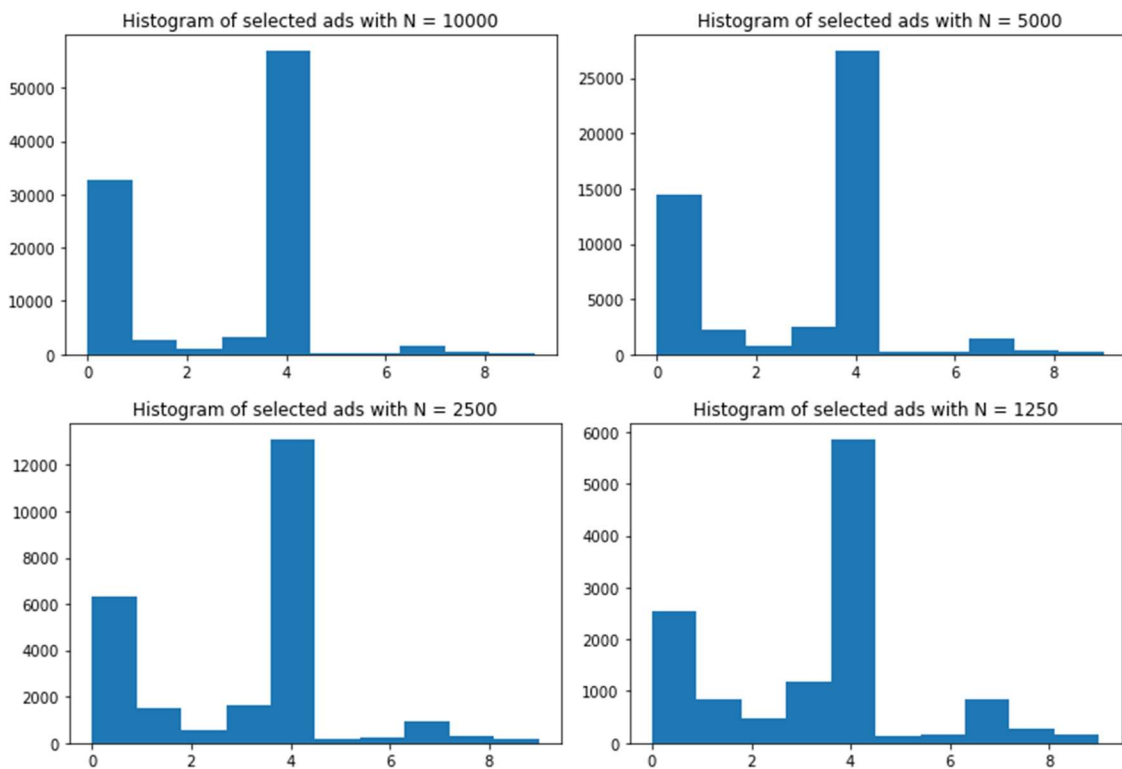## TOPIC: <u>REINFORCEMENT LEARNING</u>

Q.1. Experiment with N and try to figure out the minimum number of rounds it took to select the 5th ad(index 4 in the graph) for every change in N make a histogram for it in our original code we used N = 10000, is to reduce the number of N and try to figure in what minimum no. of rounds was our UCB able to identify the most selected ad.
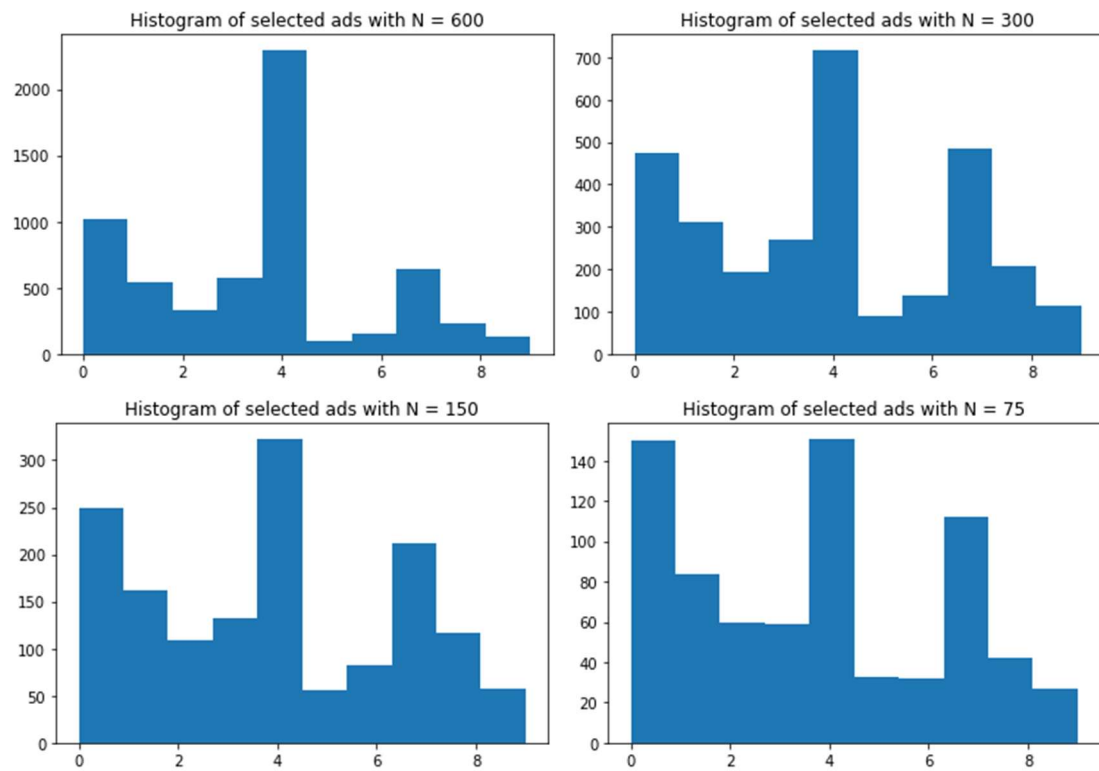
Do not do this N = 9000 N = 8000 N = 7000 YOU CAN DO THIS N = 5000 N = 2500 N = 1250 N = 600 N = 300

Ans. 1) By plotting a histogram for different values of N i.e.,

- **10000**
- **5000**
- **1250**
- **600**
- **300**
- **150**
- **75**

We can identify at what minimum rounds was our UCB able to identify the 5th ad(index 4 in the graph) as the most selected ad.

We see that till 150 rounds our UCB was able to identify the 5th ad (index 4 in the graph) as the most selected ad. And Also at 75 rounds it identifies ad 1 ad and 4 as equally selected.