Stephen Terrio B00755443 Due: April 11th, 2021

1. a) Random Crawler, tiny - trials = 100 output...

```
→ desktop python3 randomCrawler.py
Enter the number of Trials: 100
Ranks:

[[0.01]

[0.92]

[0.01]

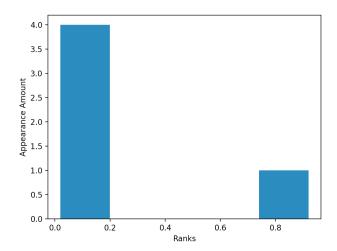
[0.05]

[0.01]]
```

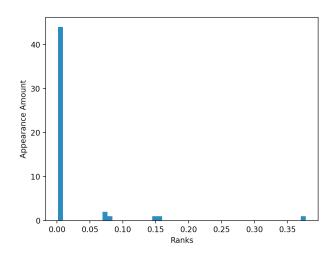
b) Markov Method, tiny - trials = 100 output...

```
→ desktop python3 pAMarkovChain.py
Enter the number of Trials: 100
Ranks:
  [[0.27302929]
  [0.26572636]
  [0.14618532]
  [0.24722828]
  [0.06783074]]
```

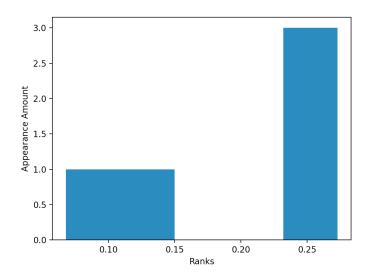
2. a) Histogram for Random Crawler, tiny - trials = 100 000



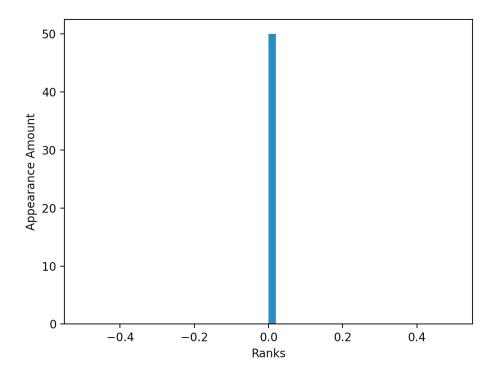
b) Histogram for Random Crawler, medium - trials = 100 000



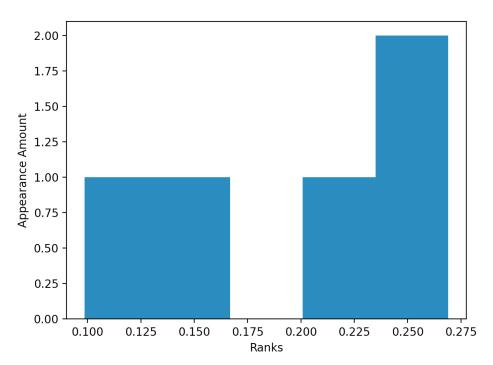
c) Histogram for Markov Method, tiny - trials = 100 000



d) Histogram for Markov Method, medium - trials = 100 000



3. Using modified version of graphs to compute for tiny & medium markov methods - a) tiny at 100 - no dupes



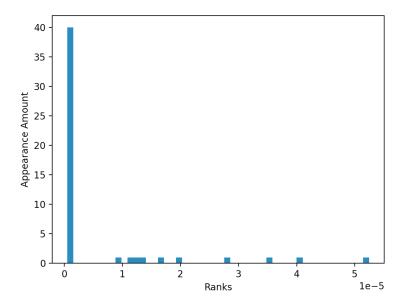
b) Medium at 100 000 - no dupes

```
desktop python3 pAMarkovChain.py
Enter the number of Trials: 100000
Ranks:
 [[9.e-323]
 [9.e-323]
 [9.e-323]
```

We can see that without duplicates, each rank is slightly more evenly dispersed

4. Modified version of medium.txt at 100 trials -

Not mod -



Mod -

