**GROUP NUMBER:** fill in your group number

**GROUP MEMBERS:** fill in your group members

**TEST 1:** The goal is to assess the accuracy of the count-sketch estimations as the number of distinct items (regulated by the interval [left,right]) varies. The values D, W, and K are fixed. You must fill in the following table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ACCURACY WITH RESPECT TO NUMBER OF DISTINCT ITEMS, USING D=9, W=30, K=10**  Use 4 decimal digits for floating points | | | | |
| **[left,right]** | **Number of received distinct items in [left,right]** | **Average relative error for items with top-K frequencies** | **True normalized F2** | **Approximate normalized F2** |
| [1,15000] | 15000 | 0.5170 | 0.3840 | 0.3737 |
| [1,10000] | 10000 | 0.0140 | 0.4944 | 0.4943 |
| [1,5000] | 5000 | 0.0464 | 0.4790 | 0.4790 |
| [1,1000] | 1000 | 0.0380 | 0.3956 | 0.3950 |

**TEST 2:** The goal is to assess the accuracy of the count-sketch estimations as the number W of columns of the sketch varies. The values D, K and the interval are fixed. Repeat each experiment 3 times. You must fill in the following table.

|  |  |  |  |
| --- | --- | --- | --- |
| **ACCURACY WITH RESPECT TO NUMBER OF COLUMNS W, USING D=9, K=30, [left,right]=[1,10000]**  Use 4 decimal digits for floating points and report averages over 3 runs | | | |
| **W** | **Average relative error for items with top-K frequencies. RUN 1** | **Average relative error for items with top-K frequencies. RUN 2** | **Average relative error for items with top-K frequencies. RUN 3** |
| 100 | 0.0774 | 0.0442 | 0.0839 |
| 50 | 81.1094 | 32.3166 | 0.0473 |
| 20 | 370.2280 | 157.6261 | 47.8690 |
| 15 | 127.9808 | 2.0368 | 71.9126 |

**TEST 3:** The goal is to assess the accuracy of the count-sketch estimations as K varies. The values D, W and the interval are fixed. Repeat each experiment 3 times. You must fill in the following table.

|  |  |  |  |
| --- | --- | --- | --- |
| **ACCURACY WITH RESPECT TO K, USING D=9, W=100, [left,right]=[1,10000]**  Use 4 decimal digits for floating points and report averages over 3 runs | | | |
| **K** | **Average relative error for items with top-K frequencies. RUN 1** | **Average relative error for items with top-K frequencies. RUN 2** | **Average relative error for items with top-K frequencies. RUN 3** |
| 10 | 0.0027 | 0.0019 | 0.0015 |
| 50 | 0.0638 | 25.8095 | 194.3566 |
| 100 | 88.7441 | 77.0581 | 88.6378 |
| 200 | 288.6922 | 330.6545 | 147.9970 |