**GROUP NUMBER:** 97

**GROUP MEMBERS:** Umberto Bianchin, Massimo Vettorello

**TEST 1:** The goal is to assess the accuracy of the CM and CS estimations for the top-K heavy hitters for varying K and **fixed D=9, W=100, T=100000, and port 8886.** You must fill in the following table (3 runs per configuration).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **k** | **Average Relative Error of frequency estimations for top-K heavy hitters with CM** | | | **Average Relative Error of frequency estimations for top-K heavy hitters with CS** | | |
| **RUN 1** | **RUN 2** | **RUN 3** | **RUN 1** | **RUN 2** | **RUN 3** |
| 10 | 0.023147933885290718 | 0.022922731855954538 | 0.023722548943437994 | 0.00026383085525751775 | 0.0009444859610545003 | 0.0005832810144408343 |
| 20 | 95.98894025401553 | 145.0244395463865 | 71.1366882989729 | 3.208582239619119 | 3.683512448857168 | 2.2753985115351254 |
| 50 | 509.6578127978228 | 480.68953131314527 | 509.7325836054333 | 43.25298675619818 | 36.59914878212488 | 45.98411051869409 |
| 100 | 507.568302584566 | 239.95257730086198 | 440.42300192259785 | 42.58656773543035 | 21.364640848169575 | 35.528136195054415 |

**TEST 2:** The goal is to assess the accuracy of the CM and CS estimations for the top-K heavy hitters for varying columns W and **fixed D=9, K=10, T=100000, and port 8886.** You must fill in the following table (3 runs per configuration).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **W** | **Average Relative Error of frequency estimations for top-K heavy hitters with CM** | | | **Average Relative Error of frequency estimations for top-K heavy hitters with CS** | | |
| **RUN 1** | **RUN 2** | **RUN 3** | **RUN 1** | **RUN 2** | **RUN 3** |
| 5 | 0.5987492453747231 | 1.0012653921725652 | 1.0009353802996197 | 0.4692816704449414 | 0.49674941232413533 | 0.17616331714133263 |
| 10 | 0.24779272026205304 | 0.3449467973457473 | 0.24756648796514455 | 0.10233351597084384 | 0.10218796904763619 | 0.004653914143106815 |
| 20 | 0.1228605113921121 | 0.12328694661990007 | 0.1227950117749371 | 0.0011131268314038536 | 0.001352434795731666 | 0.0021802034866074955 |
| 50 | 0.04843653640378962 | 0.04767760818156978 | 0.0479444225054976 | 0.0008265346786909088 | 0.0015862776496867992 | 0.0007370859329936889 |