GROUP NUMBER: 028

GROUP MEMBERS: Farris Sara, Russo Christian Francesco, Spinato Matteo

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]	9579119	0.0238	0.3746	0.3743
[1,10000]	9055895	0.0200	0.5531	0.5531
[1,5000]	8620236	0.0155	0.4264	0.4262
[1,1000]	8105298	0.0186	0.6455	0.6455

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	0.0310	0.0380	0.1102
50	0.1173	0.1824	0.3034
20	0.2938	0.6158	0.5550
15	0.7206	0.5840	0.9119

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	0.0106	0.0026	0.0062
50	0.2010	0.0899	0.2774
100	0.6168	0.4286	0.7184
200	0.9296	0.9619	0.9514