

CS540 Section 3 HW3 02/24/2015

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P1.

Underscore indicates to which center this city is belonged.

First iteration:

Cities\Centers	(38.9, 77.0)	(41.9, 87.7)	(37.8, 122.4)
BOS	<u>6.86</u>	16.6	51.5
NY	<u>4.1</u>	13.7	48.6
DC	<u>0</u>	11.1	45.4
MIA	<u>13.5</u>	17.8	43.9
CHI	11.1	<u>0</u>	34.9
SEA	46.1	35.1	<u>9.8</u>
SF	45.4	34.9	<u>0</u>
LA	41.5	31.5	<u>5.60</u>
DEN	28.0	<u>17.4</u>	17.5

Cluster 1: BOS, NY, DC, MIA; Cluster 2: CHI, DEN; Cluster 3: SEA, SF, LA

New centers are: (37.2, 75.6) (40.8, 96.4) (39.8, 121.0)

Second iteration:

Cities\Centers	(37.2, 75.6)	(40.8, 96.4)	(39.8, 121.0)
BOS	<u>6.86</u>	25.3	49.9
NY	<u>4.77</u>	22.4	47.0
DC	<u>2.22</u>	19.4	44.0
MIA	<u>12.3</u>	22.0	43.1
CHI	13.0	<u>8.72</u>	33.3
SEA	47.9	26.8	<u>7.88</u>
SF	46.8	26.2	<u>2.48</u>
LA	42.7	22.9	<u>6.36</u>
DEN	29.5	<u>8.72</u>	16.0

Cluster 1: BOS, NY, DC, MIA; Cluster 2: CHI, DEN; Cluster 3: SEA, SF, LA

New centers are: (37.2, 75.6) (40.8, 96.4) (39.8, 121.0)