**Assignment 7**

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Implement any machine learning algorithm for BIG data

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package kmeans;

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\* @author Solaris lap

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public class Kmeans {

public static final int CLUSTERS = 3;

public static void main(String[] args) {

int[] data = {1,8,9,3,10,12,-16,-2,-1,0,1,-3};

int length = data.length;

int[][] sums = new int[CLUSTERS][length];

int[][] centroids = {{0, 0, 0}, {1, 8, 9}};

int[] count = new int[CLUSTERS];

int i, j, k;

long minimum, difference;

boolean converged = false;

do {

for(i = 0; i< CLUSTERS; i++) {

centroids[0][i] = centroids[1][i];

count[i] = 0;

centroids[1][i] = 0;

}

for(i = 0; i< length; i++) {

sums[0][i] = 0;

minimum = centroids[0][0] > data[i] ? centroids[0][0] - data[i] : data[i] - centroids[0][0];

k = 0;

for( j = 1; j < CLUSTERS; j++) {

sums[j][i] = 0;

difference = centroids[0][j] > data[i] ? centroids[0][j] - data[i] : data[i] - centroids[0][j];

if(difference < minimum) {

minimum = difference;

k = j;

}

}

sums[k][i] = data[i];

count[k]++;

}

converged = true;

for( i = 0; i< CLUSTERS; i++) {

difference = 0;

if(count[i] > 0) {

for( j = 0; j < length; j++) {

centroids[1][i] += sums[i][j] / count[i];

difference += sums[i][j] % count[i];

centroids[1][i] += difference / count[i];

difference %= count[i];

}

}

converged&= centroids[0][i] == centroids[1][i];

}

}while(!converged);

for( i = 0; i< CLUSTERS; i++) {

System.out.println(centroids[1][i]);

}

}

}

**Output:-**

