Question 6

import java.util.HashMap;

import java.util.Map;

import java.util.Scanner;

public class AffineCipherBreaker {

private static final String ALPHABET = "ABCDEFGHIJKLMNOPQRSTUVWXYZ";

public static void main(String[] args) {

Scanner read = new Scanner(System.in);

String ciphertext = read.nextLine();

Map<Character, Integer> frequencyMap = new HashMap<>();

for (char c : ciphertext.toCharArray()) {

frequencyMap.put(c, frequencyMap.getOrDefault(c, 0) + 1);

}

char mostFrequent = 'A';

char secondMostFrequent = 'A';

int highestFrequency = 0;

int secondHighestFrequency = 0;

for (char c : frequencyMap.keySet()) {

int frequency = frequencyMap.get(c);

if (frequency > highestFrequency) {

secondMostFrequent = mostFrequent;

secondHighestFrequency = highestFrequency;

mostFrequent = c;

highestFrequency = frequency;

} else if (frequency > secondHighestFrequency) {

secondMostFrequent = c;

secondHighestFrequency = frequency;

}

}

System.out.println("Most frequent letter: " + mostFrequent);

System.out.println("Second most frequent letter: " + secondMostFrequent);

}

}

Output:

saveethaaa

Most frequent letter: a

Second most frequent letter: e