Question 1

Write a Python program which will take N names from the user. Create a dictionary from the N names that will hold First_name, Middle_name and Last_name in separate keys. The inputs will take N at first and then take N names. You can assume that the names will contain less than or equal 3 words and there will be single space between each part of the name.

Sample Input:
4
Zubayer Ahmed
Sadia Nur Amin
Mehedi Hasan Shawon
Nafis

Sample Output: { "Fname" : [“Zubayer”, “Sadia”, “Mehedi”, “Nafis”] , "Mname" : [“Nur”, “Hasan”], "Lname" : [“Ahmed”, “Amin”, “Shawon”] }

Question 2

One of the important tasks in computational biology is to find short repeating patterns from DNA sequences. These patterns help the biologists to analyze the functionality of different parts in a living being. As a computer science student, you are asked to **write a program that will find all the patterns of a given length from a DNA sequence and their number of presence in that sequence**. This information will help to find the dominant pattern of a given length in the sequence. You will also **find the dominant pattern**. Dominant pattern is the sequence which has maximum occurrence. If there are multiple dominant pattern the program will print “No Dominant Pattern found.”

Sample Input:
ATTCGATCG
3
Sample Output:
ATT 1
TTC 1
TCG 2
CGA 1
GAT 1
ATC 1
Dominant Pattern: TCG

Sample Input:
ATTCGATCGATC
4
Sample Output:
ATTC 1
TTCG 1
TCGA 2
CGAT 2
GATC 2
ATCG 1
No Dominant Pattern found.

Question 3

Counter Strike Global Offensive is a first person shooting(FPS) game where in a match 2 teams each with 5 members play against each other in different maps. Let's say there are 2 teams, Team A and Team B. For the first half (15 **rounds**) Team A will play as terrorists and Team B members will play as counter terrorists. In the second half(15 **rounds**) Team B will play as terrorists and Team A will play as counter terrorists. The first team to reach 16 rounds will win the match. In order for the terrorist team to win a round they have to plant, defend and explode a bomb at a particular spot or eliminate all the members of the counter terrorist team. In order for the counter terrorist team to win a round, they have to eliminate all the members of the terrorist team or diffuse the bomb that was planted by the terrorist team. Unlike other games, the Most Valuable Player(MVP), can be from any of the two teams regardless of which team wins based on the points calculated from performance of the players. Now you will be given the status of a match between 2 teams as input that will contain performance(Kill, Death, Assist, Bomb Plant, Bomb Defuse, Teammate kill) of all 10 players of the 2 participating teams. Each performance category contains points based on following criteria:

- 2 points for a bomb plant.
- 2 points for a kill.
- 1 point for an assist.
- 3 points for defusing a bomb.
- -1 point for killing a teammate.

Now your task is to find the top 3 players based on the total point. For simplicity, you can consider that no 2 players will have the same point.

Input format:

Team Name	Player Name	Kills	Deaths	Assists	Bomb Plant	Bomb Defuse	Teammate Kills

Sample Input:

NaVi flamie 23 13 3 2 2 0
Fnatic Xizt 15 20 3 2 0 2
Fnatic KRIMZ 12 23 9 2 2 1
Navi electronic 24 13 5 2 2 0
Navi Zeus 14 22 12 2 2 0
Navi Edward 20 18 8 1 1 1
Fnatic JW 13 24 5 3 0 0
Navi s1mple 26 13 6 3 2 1
Fnatic twist 25 20 4 2 3 2
Fnatic Brollan 14 20 3 2 1 0

Sample Output:

First: s1mple
Second: twist
Third: electronic

Question 4

You will be given a String S which contains only two characters - A and B. Your task is to find some substring pattern P in that string. The pattern P is - a substring will contain an equal number of A and B in each side. For example, in AABAABBAA, we get AB, AABB, BA, BBAA. In this problem, you have to print each pattern P present in the string S along with their frequency. Finally, print the largest pattern P. If there are multiple largest patterns, print the one that came first.

Sample Input

AABAABBAA

Sample Output

AB - 2 times
BA - 2 times
AABB - 1 times
BBAA - 1 times
Longest Pattern - AABB

Question 5

Write a program that reads a long sequence of characters and a word of length 3 with unique characters from the user. Then print the number of times the given word can be written from the characters in the given sequence.

Sample input:
Enter Sequence of characters: that is a cat
given word: hat
Sample output:
Number of times ‘hat’ can be written from the given sequence: 1

Sample input:
Enter Sequence of characters: Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book.
given word: red
Sample output:
Number of times ‘red’ can be written: 6