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**ROLL NUMBER: 546**

**COURSE: MSc CS**

**SUBJECT: BIOINFORMATICS**

**TOPIC: FINGERPRINT**

### Practical No: 9

Aim: Enter six protein sequence of different organism and write a program to find a fingerprint of sequence.

Code:

```
def solve_fingerprint(seq_list, no_of_col):
    seq_dict=dict()
    for colnum in range(no_of_col):
        counta,countc,countt,countg=0,0,0,0
        for colseq in seq_list:
            if colseq[colnum]=='A':
                counta+=1
            elif colseq[colnum]=='T':
                countt+=1
            elif colseq[colnum]=='C':
                countc+=1
            elif colseq[colnum]=='G':
                countg+=1
            seq_dict[colnum]=[counta,countc,countt,countg]
        display_results(seq_dict)

def display_results(seq_dict):
    print("\tA \tC \tT \tG")
    for key in seq_dict:
        print("\n",*seq_dict[key],sep="\t")

no_of_seq=int(input("Enter the number of sequence: "))
print("Enter all the sequences")
seq_list=[]

for _ in range(no_of_seq):
    seq_list.append(list(map(str, input("").split()))))
```

```
solve_fingerprint(seq_list,len(seq_list[0]))
```

OUTPUT:

```
Python 3.11.0 (main, Oct 24 2022, 18:26:48) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/asif/Desktop/Test.py =====
Enter the number of sequence: 4
Enter all the sequences
A C T G
... A C T G A A
... A T A G C A
... A G T T A G C
...
A C T G
0 0 0 1
A C T G
0 0 0 1
0 0 0 1
A C T G
0 0 0 1
A C T G
0 0 0 1
0 0 0 1
1 0 0 1
A C T G
0 0 0 1
1 0 0 1
0 0 0 1
A C T G
0 0 0 1
A C T G
0 0 0 1
1 0 0 1
A C T G
0 0 0 1
1 0 0 2
A C T G
0 0 0 1
```