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Class- MSc CS – I

Roll No.- 511

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:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL

PS E:\Python codes> python -u "e:\Python codes\fingerprint.py"
Enter the number of sequence: 4
Enter all the sequences
A C T G A T G
A T C A G A A
A T A A G C A
A G T T A G C
       A      C      T      G

       4      0      0      0

       0      1      2      1

       1      1      2      0

       2      0      1      1

       2      0      0      2

       1      1      1      1

       2      1      0      1
```