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Class- MSc CS – I

Roll No.- 511

Subject – Bioinformatics

Topic – Similarity Between Two Protein Sequence

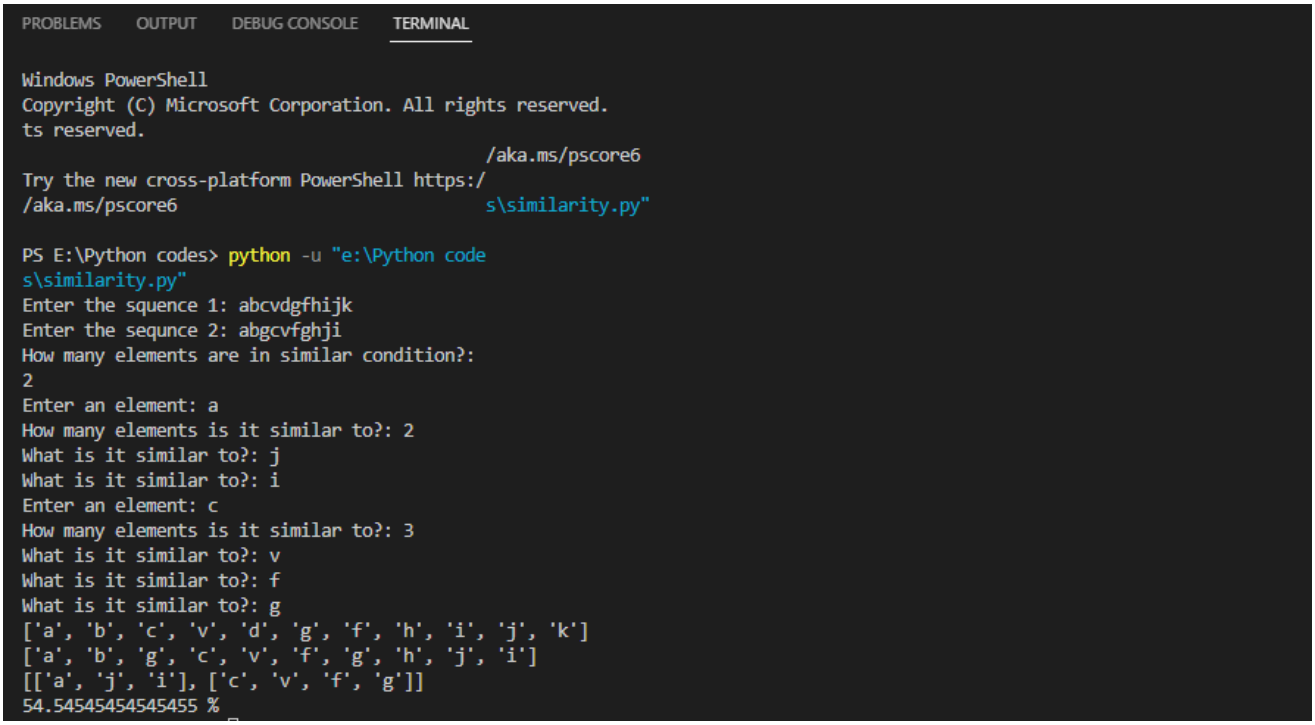
Practical No: 3

Aim: Write a Python/Java code to find the Similarity value of a given sequences. Take the sequence from user.

Code:

```
s1=input("Enter the squence 1: ")
s2=input("Enter the sequnce 2: ")
n=int(input("How many elements are in similar condition?: "))
similarities=[]
for i in range(0,n):
    a=input("Enter an element: ")
    c=int(input("How many elements is it similar to?: "))
    similarities.append([])
    similarities[i].append(a)

    for j in range(0,c):
        b=input("What is it similar to?: ")

        similarities[i].append(b)

def compare(o,t,s):
    print(o)
    print(t)
    print(s)
    score=0
    for i in range(len(o)):
        for j in range(len(s)):
            if o[i] in s[j] and t[i] in s[j] and o[i]!=t[i]:
                score+=1

    similarity=(score*100)/len(o)
    return similarity
print(compare(list(s1),list(s2),similarities),"%")
```

Output:


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
Windows PowerShell
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ts reserved.
/aka.ms/pscore6
Try the new cross-platform PowerShell https:/
/aka.ms/pscore6
s\similarity.py"
PS E:\Python codes> python -u "e:\Python code
s\similarity.py"
Enter the squence 1: abcvdgfhijk
Enter the sequnce 2: abgcvfghji
How many elements are in similar condition?:
2
Enter an element: a
How many elements is it similar to?: 2
What is it similar to?: j
What is it similar to?: i
Enter an element: c
How many elements is it similar to?: 3
What is it similar to?: v
What is it similar to?: f
What is it similar to?: g
['a', 'b', 'c', 'v', 'd', 'g', 'f', 'h', 'i', 'j', 'k']
['a', 'b', 'g', 'c', 'v', 'f', 'g', 'h', 'j', 'i']
[['a', 'j', 'i'], ['c', 'v', 'f', 'g']]
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