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Class- MSc CS – I

Roll No.- 536

Subject – Bioinformatics

Topic – Similarity of Two sequences

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:

IDLE Shell 3.10.5

File Edit Shell Debug Options Window Help

```
Python 3.10.5 (tags/v3.10.5:f377153, Jun  6 2022, 16:14:13) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/DELL/Desktop/neha folders/p3.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']]
54.54545454545455 %
>>>
```

Ln: 21 Col: 0