

# Practical No: 1

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PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
```

Code + - [ ] ^ x

```
PS E:\assignment\bioinformatic\Practicals> python -u "e:\assignment\bioinformatic\Practicals\tmpCodeRunnerFile.py"
Sequence 1 is>
['G','C','G','A','T','C','C','C','C','C','C','A','A','A','C','T','C','T','G','G','T','T','G','T','A','G','T','A','A','C','A','T','A',
'T','T','G','G','T','C','C','T','A','T']
Sequence 2 is>
['T','G','G','C','A','C','C','A','G','A','A','G','T','A','G','G','A','C','C','G','T','A','G','A','T','A','G','A','A','G','G','T',
'T']

Sequence 1 after adding gaps is>
['G','C','G','A','T','C','C','C','C','C','C','A','A','A','C','T','C','T','G','G','T','T','G','T','A','G','T','A','A','C','A','T','A',
'T','T','G','G','T','C','C','T','A','T']
Sequence 2 after adding gaps is>
['T','-','G','G','C','A','C','C','C','A','G','A','A','G','T','A','G','-','-','-','G','A','C','C','G','T','A','-','G','A','T','A','G',
'-','A','A','-', 'G','G','-','T','T']


Score list is>
[0,0,1,0,0,0,1,1,0,0,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0]
Score is 6
PS E:\assignment\bioinformatic\Practicals>
```

## Practical No:2

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL
```

Code

Windows PowerShell  
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Try the new cross-platform PowerShell <https://aka.ms/powershell>  
  
PS E:\assignment\bioinformatic\Practicals> python -u "e:\assignment\bioinformatic\Practicals\Practical2.py"  
Sequence 1 is>  
[ 'A', 'A', 'G', 'A', 'G', 'A', 'T', 'C', 'A', 'C' ]  
Sequence 2 is>  
[ 'A', 'C', 'T', 'T', 'C', 'T', 'A', 'T', 'A', 'C' ]  
  
Result matrix is>  
  
[1, 1, 0, 1, 0, 1, 0, 0, 1, 0]  
[0, 0, 0, 0, 0, 0, 0, 1, 0, 1]  
[0, 0, 0, 0, 0, 0, 1, 0, 0, 0]  
[0, 0, 0, 0, 0, 0, 1, 0, 0, 0]  
[0, 0, 0, 0, 0, 0, 0, 1, 0, 1]  
[0, 0, 0, 0, 0, 0, 1, 0, 0, 0]  
[1, 1, 0, 1, 0, 1, 0, 0, 1, 0]  
[0, 0, 0, 0, 0, 0, 1, 0, 0, 0]  
[1, 1, 0, 1, 0, 1, 0, 0, 1, 0]  
[0, 0, 0, 0, 0, 0, 0, 1, 0, 1]  
  
Identity is 25.0  
PS E:\assignment\bioinformatic\Practicals>

[illegible]

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
```

Windows PowerShell  
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Try the new cross-platform PowerShell <https://aka.ms/pscore6>

```
PS E:\assignment\bioinformatic\Practicals> python -u "e:\assignment\bioinformatic\Practicals\Practical4.py"
Multiple sequence alignment in Python 3.6+
Enter the number of input sequences> 5
Do you want the sequences to be randomly generated? [Yes]/No> yes
Sequences are as follows:
Sequence 1> ['B', 'D', 'A', 'A', 'A', 'D', 'B', 'B', 'E']
Sequence 2> ['C', 'A', 'D', 'B', 'B', 'B', 'E', 'C', 'B']
Sequence 3> ['A', 'D', 'A', 'E', 'E', 'D', 'D', 'C', 'A']
Sequence 4> ['D', 'E', 'E', 'E', 'B', 'E', 'E', 'D', 'D']
Sequence 5> ['C', 'C', 'B', 'A', 'C', 'E', 'D', 'C', 'B']
Multiple sequence alignment for given sequences is:
PS E:\assignment\bioinformatic\Practicals>
```

## Practical No:5

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
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PS E:\assignment\bioinformatic\Practicals> python -u "e:\assignment\bioinformatic\Practicals\Practical5.py"
{'A': 40347, 'T': 40672, 'C': 20472, 'G': 21707}
PS E:\assignment\bioinformatic\Practicals> █
```

## Practical No:6

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
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PS E:\assignment\bioinformatic\Practicals> python -u "e:\assignment\bioinformatic\Practicals\Practical6.py"
Enter a file name > Variola.txt

Motif generation successful.

Motif length: 4

Motif: ATCC
Enter a file name to be searched > █
```

## Practical No:7

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
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PS E:\assignment\bioinformatic\Practicals> python -u "e:\assignment\bioinformatic\Practicals\Practical7.py"
Use slashes ('/') in file path wherever necessary.

Enter a filename> Salmonella_Enterica.txt

BLAST search successful.
Test results:
File name: Salmonella_Enterica.txt
Genome length: 741720
Nucleotide count:
A : 170935
C : 187657
G : 207468
T : 175660
PS E:\assignment\bioinformatic\Practicals> █
```

## Practical No:8

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
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PS E:\assignment\bioinformatic\Practicals> python -u "e:\assignment\bioinformatic\Practicals\Practical8.py"
Regular Expression in Python 3.6+
Enter the number of input sequences> 4
Do you want the sequences to be randomly generated? [Yes]/No> yes
Sequences are as follows:
Sequence 1> ['F', 'B', 'A', 'E', 'D', 'B', 'D', 'B', 'F', 'B', 'D', 'A', 'F']
Sequence 2> ['B', 'D', 'D', 'F', 'F', 'F', 'A', 'D', 'C', 'F', 'E', 'D', 'E']
Sequence 3> ['D', 'E', 'A', 'B', 'B', 'C', 'D', 'F', 'C', 'F', 'B', 'E', 'C']
Sequence 4> ['E', 'E', 'F', 'C', 'E', 'B', 'E', 'E', 'C', 'C', 'D', 'C']
Regular expression for given sequences is: ['X', '[BDE]', '[FAD]', 'X', 'X', '[FBC]', '[ADE]', 'X', '[FCE]', '[FBC]', 'X', '[ADE]', '[FCE]']
PS E:\assignment\bioinformatic\Practicals>
```

## Practical No:9

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Sequence 8 is>
['A', 'A', 'G', 'A', 'T', 'A', 'C', 'C', 'T', 'C', 'G', 'A', 'A']

Sequence 9 is>
['A', 'T', 'A', 'T', 'C', 'C', 'T', 'T', 'A', 'C', 'G', 'A', 'T']

Sequence 10 is>
['A', 'T', 'G', 'G', 'C', 'G', 'G', 'C', 'C', 'G', 'T', 'G']

+-----+-----+-----+-----+
|Col|  A  |  C  |  G  |  T  |
+-----+-----+-----+-----+
| 1  |  3  |  2  |  2  |  3  |
| 2  |  4  |  1  |  2  |  3  |
| 3  |  4  |  2  |  3  |  1  |
| 4  |  3  |  1  |  3  |  3  |
| 5  |  2  |  2  |  2  |  4  |
| 6  |  3  |  2  |  5  |  0  |
| 7  |  1  |  2  |  5  |  2  |
| 8  |  3  |  2  |  3  |  2  |
| 9  |  3  |  3  |  1  |  3  |
|10  |  2  |  3  |  2  |  3  |
|11  |  1  |  3  |  4  |  2  |
|12  |  3  |  1  |  2  |  4  |
|13  |  3  |  2  |  4  |  1  |
+-----+-----+-----+-----+
```