

SHIVAJI COLLEGE, UNIVERSITY OF DELHI

DEPARTMENT OF COMPUTER SCIENCE

INTERNAL TEST (Academic Year 2023-24)

SET A

Name of the Course : B.Sc APS

Semester : III

Name of the Paper : Python Programming for Data Handling Faculty Name : Abha Vasal

Duration : 1 Hour

Maximum Marks: 20

Date of Test : 30.11.2023

1. Write a Python program to count the number of vowels in a file and write the vowel: count in a dictionary (5)
2. Consider a tuple **T1 = (1, 2, 5, 7, 9, 3, 4, 6, 8, 10)**. Write a function **primes()** that accepts tuple **T1** as argument and creates a list **T2** having values that are prime numbers in the tuple **T1**. The function should return a dictionary **primeCubes** where keys are items of the list **T2** and the values are cubes of the keys. For example, when **T1** as passed as an argument, **T2** will be [2, 5, 7, 3] and **primeCubes** will be {2:8, 5:125, 7:343, 3:27}. (5)
3. What will be the output of the following (4)
 - 1) L=[a+b for a in range(1,5) for b in range(1,5)]
 - 2) list1=[1,2,3,4]
list2=list1*3
print(list2)
print(list1+list2)
 - 3) Write a single line code that sorts the list of elements in the ascending order of length of the elements (2)
 - 4) Differentiate between copy and deep copy functions (4)

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SET B

Name of the Course : B.Sc APS

Semester : III

Name of the Paper : Python Programming for Data Handling Faculty Name : Abha Vasal

Duration : 1 Hour

Maximum Marks: 20

Date of Test : 30.11.2023

1. Write a function that accepts the name of a file as an argument and returns the number of lines in the file. The function should return -1 if the specified file does not exist. (5)
2. Consider a tuple T1=(5,6,7,3,4,'Hockey', 'Anil',('a','b'),20,30) write python syntax to answer the following (5)
 - a) Display the first element of T1
 - b) Display the last element of T1
 - c) Display tuple T1 in reverse order
 - d) Display 'b' from tuple T1
 - e) Display 'Anil' from tuple T1
3. Write a function EvenAvg that accepts a list as input argument. The function should check that the list should not be empty and only consists of numbers. If the list is nonempty determine and return average of all even numbers present in the list. (5)
4. Consider the following two tuples showing games played by Ramesh and Suresh: (5)

gamesRamesh = ('lawn tennis', 'cricket')

gamesSuresh = ('cricket', 'hockey', 'badminton')

Write the statements to compute the following:

- games played by Suresh but not Ramesh
- games that are common to both of them
- all the games that are played by either of them
- games that are not common to both of them
- games played by Ramesh not Suresh



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SET C

Name of the Course : B.Sc APS

Semester : III

Name of the Paper : Python Programming for Data Handling Faculty Name : Abha Vasal

Duration : 1 Hour

Maximum Marks: 20

Date of Test : 30.11.2023

1. Write a Python program to count the number of times alphabet(t, s,n,h) occurs in a file and write the alphabet: count in a dictionary. (5)
2. Write a function **readData ()** that accepts three arguments, namely, name of an input text file, name of output file, and a character. It should read the text file and write alternate lines of this file to the output file. The function should also return the number of occurrences of the character (specified as argument) in the input file. (5)
3. What will be the output of
 - i. `lst = [x * y for x in range(3, 11, 2) for y in range(6, 1, -1) if x * y % 2 == 0]` (6)
`print(lst)`
 - ii. `import copy`
`lst1 = [13, 23, [38, 42], 52]`
`lst2 = copy.deepcopy(lst1)`
`lst3 = lst1`
`lst2[2][0] = 78`
`lst3[3] = 61`
`print(lst1, lst2, lst3)`

Consider the sets s1 and s2 defined below

(4)

S1= {"p1", "p2", "p3", "p4", "p5"}

S2={"p1", "p3", "p4"} what will be the output produced on execution of following statements

a) `set.symmetric_difference(s1, s2)`

b) `s1.union(s2)`

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INTERNAL TEST (Academic Year 2023-24)

SET D

Name of the Course : B.Sc aps

Semester : III

Name of the Paper : Python Programming for Data Handling Faculty Name : Abha Vasal

Duration : 1 Hour

Maximum Marks: 20

Date of Test : 30.11.2023

1. Use the given list L to find the output for the following. Write down updated content of List L after applying each (5)
L=[1,3,2,12,2,4,3]
 - i) L.append(10)
 - ii) L.count(2)
 - iii) L.index(12)
 - iv) L.insert(2,15)
 - v) L.remove(2)
2. Write a Python program to read a CSV file having student data: Roll_No, Enrollment No, Name, Course, Semester. (5)
3. Write a program to perform union, intersection and difference of 2 lists A and B (5)
4. Differentiate between Lists and sets (3)
5. Consider a tuple t=(1,2,3,4,5,6,7,8,9,10). Write command to display half elements in line 1 and other half on second line (2)

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