Module 2: Sequences and File Operations

Case Study II

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Case Study

1. What is the output of the following code?

   nums = set([1,1,2,3,3,3,4,4])
   print(len(nums))

Hint: Set consists unique element.
Answer: 4

2. What will be the output?

   d = {"john":40, "peter":45}
   print(list(d.keys()))

Hint: d.keys() is the function which will show keys.
 Answer: ["john","peter"]

3. A website requires a user to input username and password to register. Write a program to check the validity of password given by user. Following are the criteria for checking password:

   1. At least 1 letter between [a-z]
   2. At least 1 number between [0-9]
   1. At least 1 letter between [A-Z]
   3. At least 1 character from [$#@]
   4. Minimum length of transaction password: 6
   5. Maximum length of transaction password: 12

Hint: In case of input data being supplied to the question, it should be assumed to be a console input.
Answer: Check the 'Question#3.ipynb' file

4. Write a for loop that prints all elements of a list and their position in the list.

   a = [4,7,3,2,5,9]

   Hint: Use Loop to iterate through list elements.
Answer: Check the 'Question#4.ipynb' file

5. Please write a program which accepts a string from console and print the characters that have even indexes.

Example: If the following string is given as input to the program:

H1e2l3l4o5w6o7r8l9d

Then, the output of the program should be:

Helloworld

6. Please write a program which accepts a string from console and print it in reverse order.

Example: If the following string is given as input to the program:

rise to vote sir

Then, the output of the program should be:

ris etov ot esir

7. Please write a program which count and print the numbers of each character in a string input by console.

Example: If the following string is given as input to the program:

abcdefgabc

Then, the output of the program should be:

a,2

c,2

b,2

e,1

d,1

g,1

f,1

8. With two given lists [1,3,6,78,35,55] and [12,24,35,24,88,120,155], write a program to make a list whose elements are intersection of the above given lists.

9. By using list comprehension, please write a program to print the list after removing the value 24 in [12,24,35,24,88,120,155].

Answer: Check the 'Question#9.ipynb' file

10. By using list comprehension, please write a program to print the list after removing the 0th,4th,5th numbers in [12,24,35,70,88,120,155].

Answer: Check the 'Question#10.ipynb' file

11. By using list comprehension, please write a program to print the list after removing delete numbers which are divisible by 5 and 7 in [12,24,35,70,88,120,155].

Answer: Check the 'Question#11.ipynb' file

12. Write a program to compute 1/2+2/3+3/4+...+n/n+1 with a given n input by console (n>0).

Example:

If the following n is given as input to the program:

5

Then, the output of the program should be:

3.55

Answer: Check the 'Question#12.ipynb' file