

Assignment 1

(deadline: Monday, 10th Sept.)

QUESTION 1:

Write a program which will find all such numbers which are divisible by 7 but are not a multiple of 5, between 2000 and 3200 (both included).

The numbers obtained should be printed in a comma-separated sequence on a single line.

Hints: Consider use range(begin, end) method

QUESTION 2:

With a given integral number n, write a program to generate a dictionary that contains (i, i*i) such that i is an integral number between 1 and n (both included). and then the program should print the dictionary.

Suppose the following input is supplied to the program:

8

Then, the **output** should be:

{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64}

Hints:

In case of input data being supplied to the question, it should be assumed to be a console input.

Consider use dict()

QUESTION 3:

Write a program which can compute the factorial of a given numbers.

The results should be printed in a comma-separated sequence on a single line.

Suppose the following input is supplied to the program:

8

Then, the **output** should be:

40320

Hints: In case of input data being supplied to the question, it should be assumed to be a console input.

QUESTION 4:

a = [5,7,9,3,2,1,4,2,6,3,0,9,8]

(i) Write a program that prints out all the elements of the list that are less than 5.

- (ii) Make a new list that consists of numbers less than 5 from this list in it and print out this new list.
- (iii) Use list comprehension
- (iv) Ask a number from the user and check whether the number is present in the list or not.

QUESTION 5:

Write a program that accepts sequence of lines as input and prints the lines after making all characters in the sentence capitalized.

Suppose the following input is supplied to the program:

Hello world
Practice makes perfect

Then, the **output** should be:

HELLO WORLD
PRACTICE MAKES PERFECT

Hints: In case of input data being supplied to the question, it should be assumed to be a console input.

QUESTION 6:

Given a decimal number (integer N), convert it into binary and print.

HINT: Print output as a string

NOTE: You CANNOT use inbuilt function

QUESTION 7:

Reverse the given string word wise. That is, the last word in given string should come at 1st place, last second word at 2nd place and so on. Individual words should remain as it is.

For Example Rinkiya ke papa should become papa ke Rinkiya

QUESTION 8:

Print the following pattern

Pattern for N = 4

1
23
345
4567

QUESTION 9:

Define a class named Circle which can be constructed by a radius. The Circle class has a method which can compute the area.

Hints: Use def methodName(self) to define a method.

QUESTION 10:

Define a class which has at least two methods:

getString: to get a string from console input

printString: to print the string in upper case.

Also please include simple test function to test the class methods.

Hints:

Use __init__ method to construct some parameters

QUESTION 11:

Write a program to compute the frequency of the words from the input. The output should output after sorting the key alphanumerically.

Suppose the following input is supplied to the program:

New to Python or choosing between Python 2 and Python 3? Read Python 2 or Python 3.

Then, the **output** should be:

```
2:2
3.:1
3?:1
New:1
Python:5
Read:1
and:1
between:1
choosing:1
or:2
to:1
```

Hints: In case of input data being supplied to the question, it should be assumed to be a console input.