

Assignments for 12-Dec-17

1. Write a program to accept two complex numbers from user and perform complex numbers operations (addition, subtraction and multiplication of complex numbers)
2. Write a program which takes 2 digits, v1, v2 as user input and generates/displays a 2-dimensional array. The element value in the i-th row and j-th column of the array should be $i*j$
Note: Ranges of i and j are 0,1, ..., v1 - 1 and 0, 1, ..., v2-1 respectively
3. Write a program in Python to find smallest factorial number containing given trailing zeros. Given a number num. The task is to find the smallest number whose factorial contains at least num trailing zeroes.

Examples:

Input : num = 1

Output : 5

1!, 2!, 3!, 4! does not contain trailing zero.

5! = 120, which contains one trailing zero.

Input : num = 6

Output : 25

25! = 15511210043330985984000000

4. Write a program in Python to implement the below functionalities using map, filter and reduce functions:
 - Generate a random number between 10 and 20
 - Using above generated random number build a list within range of -10 to 20
 - Print the above list
 - Process the numbers in the above list and retrieve only positive numbers, store in list and print them
 - Using above positive numbers find squares of numbers, store in list and print them
 - Using above square of numbers find sum of squares of numbers, store in list and print them
5. Write a program in Python to perform the following:
 - Accept a list from user
 - Accept a tuple from user
 - Form list comprehension of square of numbers using above list and print the result
 - Form tuple comprehension of square of numbers using above tuple and print the result
 - Form set comprehension of square of numbers using above list and print the result
 - Accept a list from user. If user enters one number then accept that as stop, if user enters two numbers then accept them as start and stop, if user enters 3 numbers then treat them as start, stop and step. If user enters invalid start, stop and step numbers or more than 3 numbers then take start as 0, step as 1 and stop as 10. Using start, stop and step form a list.
 - Using above list and comprehensions, form list of even multiples and display them.
 - Write sample code for nested comprehension.
 - Accept 3 numbers from user. Add the numbers and display the list using lambda functions.