1. Experiment with multiplying strings or lists with integers and see what happens. Having seen that, create a variable which holds value ‘xyzxyzxyzxyzxyzxyzxyzxyzxyzxyz’

2. Using list comprehension ,list related functions or otherwise, create following list:
[[1, 2, 3, 4, 5, 6, 7], [1, 4, 9, 16, 25, 36, 49], [1, 8, 27, 64, 125, 216,343]]

3. Write a function which takes input as list and returns a list which contains a sequence of 10 equally spaced numbers between min and max of the string if minimum and maximum value of lists is same then it returns a list with 10 zeroes.
example:
input list : [20, 2, 6, 7, 10]
output list : [2,4,6,8,10,12,14,16,18,20]

4. Show by example how to sort a dictionary by its values

5. Write a function which takes input 3 dictionaries and returns a new dictionary which has all key value pairs from those three dictionaries

6. Write a function which takes input a string and returns reversed string example
input : “string”
output : “gnirts”

7. Consider this dictionary of addresses :
{“home” : [“Hyderabad”,“Lingampally”,“Ph:1234567890”],
“office”:[“Maharashtra”,“Mumbai”,“Ghatkopar”,“Ph : 5432167809”,“Pin :400043”],
“OOI” : [“Singapore”,“Ph : 09876345”]}
Write a program to extract phone numbers for each location

8. Write a Python function to find the greatest common divisor (gcd) of two integers.

9. Write a function which takes input n and q and returns sum of qth powers of first n natural numbers

10. Find out all numbers between 1 to 100 which are divisible by either 3 or 5 but not by both.[Hint : use sets]

11. Write a function which takes input n and produces first n elements of a fibonacci series (use both: normal method and recursive functions. Why are recursive functions better?)

12. Write a program to: take two numbers from the user. Ask the user whether he wants to add/subtract/multiply/divide the numbers. Depending upon his selection, the program must do the operation and give the result. Once this is done, ask the user whether he wants to do some other operation with the same two numbers? If yes, the program should go back to asking him

which operation; if not, then the program should ask him does he want to run the program again with two different numbers? If yes, the program must ask him to input the two numbers; if not, the program must exit.

13. Write a program that returns a list that contains only the elements that are common between the lists (without duplicates). Make sure your program works on two lists of different sizes.