Q. 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.

Q. 2) 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.

Q. 3) Write a program that calculates and prints the value according to the given formula:
Q = Square root of [(2 * C * D)/H]
Following are the fixed values of C and H:
C is 50. H is 30.
D is the variable whose values should be input to your program in a comma-separated sequence.
Example
Let us assume the following comma separated input sequence is given to the program:
100,150,180
The output of the program should be:
18,22,24
Hints:
If the output received is in decimal form, it should be rounded off to its nearest value (for example, if the output received is 26.0, it should be printed as 26)

Q. 4) Write a program that accepts a sentence and calculate the number of letters and digits.
Suppose the following input is supplied to the program:
hello world! 123
Then, the output should be:
LETTERS 10
DIGITS 3
Hint : use isdigit() and isalpha() function to calculate

Q. 5) Write a program that accepts a sentence and calculate the number of upper case letters and lower case letters.
Suppose the following input is supplied to the program:
Hello world!
Then, the output should be:
UPPER CASE 1
LOWER CASE 9
Hint : use isupper() and islower() function to calculate

Q. 6) Define a function which can compute the sum of two numbers.

Q. 7) Define a function which can generate and print a tuple where the value are square of numbers between 1 and 20 (both included).
Hints:

Use ** operator to get power of a number.
Use range() for loops.
Use list.append() to add values into a list.
Use tuple() to get a tuple from a list.

Q. 8) With a given tuple (1,2,3,4,5,6,7,8,9,10), write a program to print the first half values in one line and the last half values in one line.
Hints:
Use [n1:n2] notation to get a slice from a tuple.

Q. 9) Write a program to generate and print another tuple whose values are even numbers in the given tuple (1,2,3,4,5,6,7,8,9,10).
Hints:
Use "for" to iterate the tuple
Use tuple() to generate a tuple from a list.

Q. 10) Write a function to compute 5/0 and use try/except to catch the exceptions.

Q. 11) Define a class Person and its two child classes: Male and Female. All classes have a method "getGender" which can print "Male" for Male class and "Female" for Female class.

Q. 12) 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

Hints:
Use dict to store key/value pairs.
Use dict.get() method to lookup a key with default value.

Q. 13) Write a Python program to test whether a passed letter is a vowel or not.

Q. 14) Write a Python program to compute the greatest common divisor (GCD) of two positive integers.

Q. 15) Write a Python program to get the least common multiple (LCM) of two positive integers.

Q. 16) Write a Python program to sum of three given integers. However, if two values are equal sum will be zero.

Q. 17) Write a Python program that will return true if the two given integer values are equal or their sum or difference is 5.

Q.18) In python, Write a menu-driven program that allows a user to create a shopping list. The user should have the option to add an item, remove an item, sort and print the list and quit the program. If the user attempts to remove an item that is not on the list, the program should not crash (i.e., you should check if the item is in the list before attempting to remove it). If the user chooses to print the list, the printed list should be numbered. The program should keep displaying the menu until the user decides to quit. Do user validation to make sure the user enters a valid choice from the menu. The program should continue asking the user until the user quits. Here is an example of what your program's menu should resemble: a - Add an Item r - Remove an Item s - Sort Shopping List p - Print Shopping List q - Quit Please enter your choice: Here is an example of what your shopping list should look like when printed: Your Shopping List contains: 1. water 2. bread 3. pills 4. oil Here is an example of what your shopping list should look like when printed after sorted: Your Shopping List contains: 1. bread 2. oil 3. pills 4. water