1. Write a program to count the numbers of characters in the given string and store them in a dictionary data structure.
2. Write a program to use split and join methods in the given string and trace a birthday with a dictionary data structure.
3. Write function to compute gcd and lcm of two numbers.
4. Write a function ball _collide that takes two balls as parameters and computes if they are colliding. Your function should return a Boolean representing whether or not the balls are colliding.   Represent a ball on a plane as a tuple of (x, y, r), r being the radius. If (distance between two balls centers) <= (sum of their radii) then (they are colliding)
5. Find mean, median, mode for the given set of numbers in a list.
6. Write a program to implement
   a. Bubble sort,
   b. Merge sort,
   c.   Selection sort and
   d. Insertion sort.

Execute these sorting algorithms using switch case.