**OOP Questions**

1. Create a class Student that contains following data members

* static variable to create unique number
* A variable to store roll no
* A variable to store name
* An array to store marks of 5 subjects

This class should have following member functions:

A constructor with no-parameters that increments static variable and assign it to roll

number. Remaining data members should be initialized to zero or empty values.

Input() function to input name and marks of 5 subjects from user

Show() function to display roll number, name and marks of 5 subjects to the user

TotalStudents() function that should display the number of objects that has been

created so far. This function should be static.

TotalMarks() function that should calculate and return to total marks of a student

getHighest() function that returns highest marks of the student

getLowest() function that returns lowest marks of the student

getAverage() function that returns average marks of student

getPassCount() function that counts and returns total number of subjects in which the

student is passed. (A student is passed if he gets 50% or above marks)

In main function, create three objects, input their values and display them. For each student, display his total marks, highest, lowest, average marks and the number of subjects in which he is passed. Also display how many students have been registered so far.

2. Design and develop an interface for Vehicles Consider the example of vehicles like bicycle, car and bike. All Vehicles have common functionality such as Gear Change.. Bicycle, Bike, Car classes should implement functionality in their own class in their own way.

Bicycle: max gear is 2,

Bike: max gear is 5 and

Car: max gear is 7