

Computer Science and Engineering Department
Object Oriented Concepts and Programming
Module 2 - Assignment 1

Problem 1:

Imagine a tollbooth at a bridge. Vehicles passing by the booth are expected to pay a 50 Rs. toll. Mostly they do, but sometimes a vehicle goes by without paying. The tollbooth keeps track of the number of vehicles (only two types of vehicles "CAR" and "TRUCK" are allowed to pass) that have gone by, and of the total amount of money collected.

Model this tollbooth with a class called tollBooth. The two data items are a type int to hold the total number of vehicles, and a type double to hold the total amount of money collected. Another data items like vehicle number, type_of_vehicle (either "CAR" or "TRUCK") are require to represents the vehicle details. A constructor initializes instance and class variables with either given values or with 0.

A member function called payingVehicle() increments the vehicle total and adds 50Rs to the cash total. Another function, called nopayVehicle(), increments the vehicle total but adds nothing to the cash total. Define a member function called get_count_nonpay_vehicle() which returns the count of nonpaying cars and nonpaying trucks. Create another member function vehicle_info() which display the information of specific vehicle, for example, vehicle number, type of vehicle and whether it belongs to paying or non paying vehicles. Finally, a member function called display() displays the total number of vehicles passed and total amount of money collected. Define appropriate variables require to count the vehicles.