Que 1) Consider a Multiplex with 5 movie screens. The amenities provided by the multiplex are inherited by the theaters (Ex : AC venting system, Parking area, Booking area). But movie halls also have their own unique features (3d screens, premium seating, etc). Write methods to tell the user about these features when the movie hall is selected. Each hall has a different movie playing on it. Different prices are allocated to the seats for different halls.

- Create classes each for Multiplex, movie hall and movie.
- Fill the necessary data (either hardcoded or as user input).
- Then ask the user which movie he/she wants to select and display the proper movie information to the user.
- Then if the user selects a movie display the amenities provided by the hall assigned to that movie.
- If the user wants to watch that movie display the ticket price.

Que 2) Create a program where user can select a smartphone depending on his/her needs. Consider a mobile company which has a series of smart-phones with each new phone having some more features in addition to its predecessor. Create at-least 5 classes to denote these smartphone models. Each with different features and prices.

- Ask the user for his/her budget to buy a smartphone. Then display the names of the models of the smartphone that fit the criteria.
- When the user selects the model display its properties.
- If the user wants to buy that model also display the successor model's features (if the previously selected wasn't the last one in hierarchy) and ask if the user wants to change his/her choice. Repeat this until the user selects one or the last model is reached.
- Finally display the price of the phone user selected.

Que 3) Consider an example of different employees of a hotel. Types of such employees are Cook, Waiter, Parking valet, Manager and Cleaner. There are multiple employees of each type except manager. Create such a structure with each employee's details and their job description. Create a base class from each of the other class will inherit and also add their own properties. Fit other types of employees in this hierarchy if possible.

Finally create an interface for the hotel owner where he/she can enter the id or name of the employee and then display their details to the owner.

Que 4) Create a program to demonstrate the state of a traffic. There are different types of vehicles linked to each other (one after the other) on the road. Create classes for each type of vehicle and create a hierarchy which originates from a base class. There are multiple vehicles of each type. Create a linked list of these objects.

- Initially display the vehicles in the traffic in the order first selected by you.
- Then a ambulance enters the traffic and overtakes each vehicle one by one. Display this progression in the order it happens until the ambulance is at the first position.
- Then take id of the vehicle as input from the user and display the type, features (color, 2/4/8 wheeler, brand, etc) and the details of the drivers.

Que 5) Consider example of an engineering student. He/She has 4 years as a student. Where each year adds the subjects learned by the student to his resume. Then ask the user to enter his/her accomplishments per year.

- Create this structure using multilevel inheritance (1st year as top level then 2nd year as its child and 3rd year as child of 2nd year and so on) and save this data of subjects and accomplishments entered by the user.
- Ask the user to enter the average marks earned by him/her per subject and save it to a proper data structure.
- When user enters a particular year display all the details of that year.
- Also calculate the total average of the user year-wise and then for all 4 years and display when user asks for it.