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## Sheet 6 - Structs

### Q1

Write a program used to manage a cinema system with 3 halls.

Each hall capacity is 50. One film is displayed in each hall. For each hall, keep the information about the hall number, movie and number of reserved seats.

The user enters the movie name and the number of required tickets. The program checks if the reservation can be made. If ok, it displays the hall number and the number of its empty seats. If not, the system displays a "Reservation cannot be made" message.

Sample Run:

```
C:\WINDOWS\system32\cmd.exe
Enter Hall Number: 1
Enter movie: Avengers
Enter Hall Number: 2
Enter movie: Superman
Enter Hall Number: 3
Enter movie: Frozen
Enter your designated movie: Superman
How many tickets? 5
Movie at Hall number: 2
Number of empty seats: 45
Press any key to continue . . .
```

### Q2

Write a C++ program that represents a house as a structure. Each house is specified by its address, number of rooms, area, and price. Each room is specified by its dimensions. Collect data for one house, compute and display its data and price. Assume the price for one square meter is \$200. Create separate functions for the input, calculation and display processes.

```
C:\WINDOWS\system32\cmd.exe
Address: Heliopolis
Number of rooms: 2
Dimensions of room 1 :3 2
Dimensions of room 2 :4
5
The house is in Heliopolis. It has 2 rooms,
with a total area of 26 square meters.
It costs $5200
Press any key to continue . . .
```

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### Q3

Write C++ program that reads data about 4 students (ID, FirstName and Grade) and sets his status according to his grade (pass if greater than 60) using a function. Statuses should be kept.

```
C:\WINDOWS\system32\cmd.exe
enter Student 1 ID: 100
enter Student 1 FirstName: Ahmed
enter Student 1 Grade: 34

enter Student 2 ID: 101
enter Student 2 FirstName: Ghada
enter Student 2 Grade: 88

enter Student 3 ID: 102
enter Student 3 FirstName: Ola
enter Student 3 Grade: 55

enter Student 4 ID: 104
enter Student 4 FirstName: Joe
enter Student 4 Grade: 60

Student Ahmed status is: F
Student Ghada status is: P
Student Ola status is: F
Student Joe status is: F
Press any key to continue . . .
```

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