Course Code	**:**	**MCSL-216**
Course Title	**:**	**DAA and Web Design Lab**
Assignment Number	**:**	**MCA_NEW(I)/L-216/Assign/2026**
Maximum Marks	**:**	**100**
Weightage	**:**	**30%**
Last Dates for Submission	**:**	**30th April 2026 (for January session)** **31st October 2026 (for July session)**

This assignment has two sections. Answer all questions in each section. Each Section is of 20 marks. Your Lab Records will carry 40 Marks (20 Marks for each section). Rest 20 marks are for viva voce. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the programme guide for the format of presentation.

Note: You must execute the program and submit the program logic, sample input and output along with the necessary documentation. Assumptions can be made wherever necessary.

Section-1

Q1: Implement the task scheduling algorithm on your system to minimize the total amount of time spent in the system for the following problem: **(10 Marks)**

• Job	*1*	*5*	*2*	*10*
• Service Time	3	7	4	8

Q2: Implement a recursive binary search algorithm on your system to search for a number 100 in the following array of integers: **(10 Marks)**

10 35 40 45 50 55 60 65 70 100

Show the processes step by step. Also, Draw recursive calls to be made in this problem

Section-2

Q1: Design a form for booking a room in the Hostel through an institutional website

The form should have the following fields:

First Name

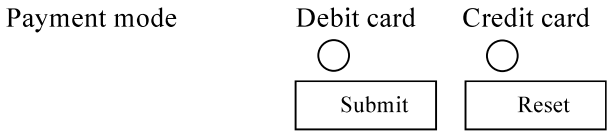
Last Name

email

Arrival Date

Departure Date

Country Select



- Use Java script to validate all the fields.
- Submit button should enter all the fields 'data to the database.
- Error message should be shown if a text field is left blank.
- Reset button resets all the fields to the blank.
- Design a check box for selecting payment mode.
- Design a drop down list for selecting a country field.

Section-1

Q1: Implement the task scheduling algorithm on your system to minimize the total amount of time spent in the system for the following problem: (10 Marks)

Job	1	5	2	10
Service Time	3	7	4	8

Answer

Program logic

To minimize the total time spent by all jobs in the system when all jobs are available at the same time, the jobs are processed in non-decreasing order of service time. This is the Shortest Processing Time (SPT) rule. A shorter job placed earlier contributes its service time to fewer later completion times, so the sum of completion times is minimized.

1. Store each job number together with its service time.
2. Sort the jobs in ascending order of service time.
3. Traverse the sorted list. The completion time of a job is the sum of service times of all jobs scheduled up to that point.
4. Add all completion times to obtain the total amount of time spent in the system. Divide by the number of jobs to obtain the average time.

Scheduling calculation

Order	Job	Service Time	Completion / Time in System
1	1	3	3
2	2	4	3 + 4 = 7
3	5	7	7 + 7 = 14
4	10	8	14 + 8 = 22

Total time spent in the system = 3 + 7 + 14 + 22 = 46 time units.

Average time spent in the system = 46 / 4 = 11.50 time units.