1. Develop a GUI based application for the calculation of **nPr** and **nCr**. Use GUIs for entering value of n and r. Display the results also in GUI. Use an RMI set up for the factorial solver portion alone.

2. Implement a database system for storing the employee details. (name, employee number, designation, salary). Develop an interface program (GUI / menu based choice through terminal) that can provide insertion (provide all details) and retrieval (provide employee number) to the database using JDBC connectivity.

NB: Usage of GUI instead of menu based system from terminal will be given more credit.

3. Develop a data entry form in HTML for entering the details of 3 students working in a project. (single form for entering the details of all the three students). The minimum details needed for student is name, date of birth, roll number, mark\_s1s2, mark\_s3, mark\_s4, mark\_s5. Give a radio button for the display type. Write a perl program that will accept the entered details and print the consolidated details of each student in the order of their (a) date of birth (b) total marks (c) name in alphabetical (This choice is given via radio button). Make the GUI most user friendly.

4. Implement a mark query system for a set of teachers and students. The client terminal will have text fields to enter login id, password and a button. In the server the details of a set of users are stored statically in arrays. . The details include name, user id, password and role (teacher/ student) of that user. The mark of each student is stored in a text file. In the client terminal, upon user request, based on user authentication the marks should be displayed. Teachers should view marks of all students in the file and student can view only his marks.

5. Develop a webpage for Dr. A.P.J. Abdul Kalam from the data given to you in the allotted PC. A word file containing his brief biography is given. Read the content and extract necessary features and provide appropriate sub pages to organize the data meaningfully. A photo gallery (give appropriate caption for pictures) and a downloadable resource file are mandatory in the webpage. Marks are awarded for design, content and layout.

6. There are 3 files viz: a.txt, b.txt, c.txt and 3 operations viz: sort numbers, list odd numbers, find sum. Each of these file contains 5 integer numbers. Implement a menu based client-server number processing system that accepts a file name and an operation name from the client. The details entered in the client are passed to the server, and the server will perform the specified operation on the requested file and store the result in a new file (d.txt). Once the operation is over server acknowledges the client appropriately.

7. Implement a database system for storing the stock details of consumer electronics product. (name, product code, price, manufacturer). Develop an interface program (GUI / menu based choice through terminal) that can provide insertion (provide all details) to the database and retrieval of details [(a) based on product name/code (b) based on price above/below an amount] from the database using JDBC connectivity. NB: client side with GUI carries more marks.

8. Implement a client server based movie seat reservation system for a cine house with three screens. The details of the booking (booking number, show time, seats) are saved in the server as text file/ array / database (you can choose among this based on your comfort level). Only booking for the current day is allowed. Develop a GUI based client program that can be used in the reservation counter of the cine house. After booking the details of the ticket (booking number, seat number, movie name and screen name) should be displayed in the client screen.

9. Develop an RMI set up for a word processing system for text files. The client will enter the name of text file, word1, word2, operation. If the operation is ‘count’ list out the number of times word1 and word2 occur in the text file. If the operation is ‘replace’, replace all the occurrences of word1 with word2 in the text file. The operation is processed by server using the RMI and the result status is passed to client to display in the client screen.

10. Develop a webpage for Dr. A.P.J. Abdul Kalam from the data given to you in the allotted PC. A word file containing his brief biography is given. Read the content and extract necessary features and provide appropriate sub pages to organize the data meaningfully. A photo gallery (give appropriate caption for pictures) and a downloadable resource file are mandatory in the webpage. Marks are awarded for design, contents, layout, presence of sub links, quality of picture gallery, and file download option.