

307 COOR LAB LIST

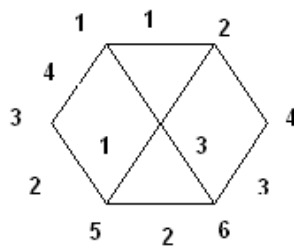
1. Design and develop a java program to implement Dijkstra's algorithm
2. Design and develop a java program to implement Prime's Algorithm
3. Design and develop a java program for Binary Search
4. Design and develop a java program for Matrix Representation Equations
5. Design and develop a java program for Probability of Random Variables

TCCE LAB LIST

1. Prepare different types of Resumes
2. Write a letter to applicants for the post of 'software engineer' fixing a date for an aptitude test, skill test and an interview
3. Write a letter to the HR Manager asking for a transfer to Chennai branch
4. Write a letter to your parents about your new experiences in s/w Company
5. Write an application asking for application form and other details regarding the post
6. Write a letter to the controller of examinations on the wrong spelling of your name in your certificate.
7. Give correct directions to a stranger coming Bangalore to go up to Tirumala.
8. Applications of computers for Industry and Society.(GD)
9. Someone approaches you he was lost money how do you act in the given situation.
10. Should India going for total privatisation.(Debate)

DCCN LAB LIST

- 11 Design & develop a java program for the implementation of data link layer framing methods
 - a. Character Stuffing
 - b. Bit Stuffing
- 12 Design & develop a java program for the implementation of CRC Polynomials
 - a) CRC12
 - b) CRC16
 - b. c) CRCCIT
 - d) Normal CRC
- 13 Design & develop java program to obtain routing table for each node using distance vector
 - a. routing algorithm for the following graph



1.

- 14 Design & develop a java program for the implementation of encryption and decryption using RSA Algorithm.
- 15 Design & develop a java program to simulate routing using flooding.

308 Software Engineering Lab Exercises

Use Rational Rose any other automated tools to do the following exercises

1. Design an SRS document for designing HTML help system (prepare in MS WORD)
2. Design a software tool to compute the function point values for a project with the following information domain characteristics:

Number of user inputs : 32
Number of user outputs : 60
Number of user inquiries : 24
Number of files : 8
Number of external interfaces : 2
Assume that all complexity adjustment values are average.
3. Design a software tool to use the COCOMO II model to estimate the effort require to build software for a simple ATM that produces 12 screens, 10 reports and will require approximately 80 software components. Assume average complexity and average.
4. Develop a software tool that will computer cyclomatic complexity for a programming language module.
5. A legacy system has 940 modules. The latest release required that 90 of these modules are changed. In addition 40 new modules were added and 12 old modules are removed. Design a software tool to compute software maturity index for a system.
6. Develop a spreadsheet model (EXCEL) that implements one or more of the estimation techniques.
7. Draw a context-level (0-level DFD) diagram for a simple invoicing system for a small business system.
8. Develop a Entity/Relationship diagram that describes data objects, relationships and attributes for “A web-based order-processing system for a computer store” (MSACCESS).
9. Design an UML class diagram for a telephone billing system. Possible classes in your diagram are Telephone Call, Telephone Number., etc.
10. Design an UML Use Case Diagram for ATM.
11. Design an UML Activity/State Diagram for Telephone call Receiving Scenario.

Problem Description:

In the exercises below, the context is a menu-driven , command-line interface based Banking Application of ABC Bank. The customers use it to view account balances in their chequeing and savings accounts and execute a monetary transaction which is – transferring money between chequeing and savings account. We assume that a customer at least has a chequeing account. No customer can have more than one account of the same type, for example, a customer John Doe cannot have two chequeing or two savings accounts. The bank also has a manager who has administration privileges. In the application, a customer or a manager is represented by a user profile that contains the user name, password and role. The role can be either “Customer” or “Manager”. The active user profile objects are stored in a database. When a customer tries to login through the command-line interface, the customer’s name and password are authenticated using the information stored in the database. The user profile of the manger (username, admin, password: admin, role “Manager”) is created in the database during the startup of the application. Only the manger of the bank has the authority to add or delete a customer profile. When the manger adds a profile for acustomer, she or he must create the accounts (chequeing, savings) of the customer as well with a minimum of 20 dollar balance for an account. When the manger deletes a customer profile, all the associated accounts should get deleted as well. It is assumed that no two users can have the same user name.

Please Note: A UML diagram might need to be revisited if required to fine-tune the information. For example, if you have finished the class diagram and currently doing a sequence diagram, it is possible that you would need to consider a new message in the sequence diagram and therefore you might have to go back to the class diagram to incorporate the method corresponding to the message.

12. Design an SRS document for the above problem.
 13. Create a UML Use Case Diagram that shows the following actors and use cases:
 - a) Customer communicates with Authenticate use case to login to the system
After valid authentication, a customer can communicate with the following use cases:
 - a. Enquire Balance use case to obtain balance of an account
 - b. Transfer
 - b) Manger communicates with Authenticate use case to login to the system as administrator:
After valid authentication, manger can communicate with the following use case:
 - a. Add a customer profile.
 - b. Delete a customer profile.
 14.
 1. Identify at least 6 classes and their attributes and methods.
 2. Create a UML Class Diagram containing those classes
 3. Show relationship among the classes where relevant.
 15. UML Activity Diagram
Create UML Activity diagrams for the following transactions:
 - Balance Inquiry Transaction
 - Transfer Money Transaction
 16. UML Sequence Diagram
Create UML Sequence diagrams illustrating the collaboration of objects to accomplish at least the following transactions:
 - Balance Inquiry Transaction
 - Transfer Money Transaction
- Problem Description**
- The Cinema Booking System
- “The cinema booking system should store seat booking for multiple theatres. Each theatre has seats arranged in rows. Customers can reserve seats and are given a row number and seat number. They may request bookings of several adjoining seats. Each booking is for a particular show (i.e ., the screening of a given movie at a certain time). Shows are at an assigned date and time, and scheduled in a theatre where they are screened. They system stores the customers telephone number”.*
17. Prepare SRS for above problem
 18. Design UML Use Case Diagrams
 19. Design UML Class Diagrams
 20. Design UML Activity Diagrams/Sequence Diagrams
 21. Design an UML package and deployment diagram for the above problem.
 22. Based on documents provided by your instructor, develop an abbreviated System specification for one of the following computer-based systems:
 - A) an electronic mail system
 - B) a University Registration system
 - C) an interactive hotel reservation system
 23. Design an UID for an Internet-based polling booth for public election.
 24. A program reads three integer values. The three values are interpreted as representing the lengths of the sides of a triangle. The program prints a message that states whether the triangle is scalene, isosceles or equilateral. Develop a set of test cases that you feel will adequately test this program.

309 COMPUTER GRAPHICS LAB PROGRAM LIST

1. To implement a java program to generate Bresenhman's Line Generating Algorithm.
2. To implement a java program to display a circle to find a midpoint of that circle
3. To implement a java program to display a Mid-Point of the Ellipse.
4. To implement a java program to display text to perform a 2D-Rotation
5. To implementa java program to display a wall clock using two dimensional rotation
6. To implement a java program to draw a triangle to perform three dimensional translation
7. To implement a java Program to draw a sphere to perform three dimensional rotational and scaling
8. To implement a java program to display a Cohen Sutherland line clipping algorithms
9. To implement a java Program to draw a cube to perform shearing transformations techniques
10. To implement a java program to fill a color for a circle using polygon rendering methods
11. To implement a java to bounce a ball using composite transformation
12. To implement a java to display a polygon to find a Back face using back face detection Algorithms
13. To implement a Java program to view a object in parallel projection
14. To implement a java program to display a object in perspective projection
15. To implement a java program to display a Bezier Curve.
16. To implement a java program to display a Hermite curve.