

## **UE20CS152:**

### **PROBLEM SOLVING WITH C LABORATORY (0-0-2-0-1)**

#### **Project Title List**

##### **1) Railway Reservation System**

Develop a console application using appropriate data structures.

- a) Login module: To login to the system. View available trains.
- b) Booking module: To book tickets. Display the ticket on confirmation with travel details or appropriate message in case of tickets not available.
- c) Cancellation module: To cancel the booked tickets.
- d) May also implement Reservation Against Cancellation (RAC) and Waiting List (WL).

##### **2) Customer Billing System**

Develop as a console application using appropriate data structures.

- a) Add customer details
- b) View existing customer details
- c) Billing module: to add, edit, remove items. Consider the price, tax, discount etc.  
Display the bill.

##### **3) College information system**

It has mainly two section which describe below

1.1 Student Section:- This section include the all information about collage, teachers, bus schedule, subject list and class routine student can only able to search the above information but they can't alter with the information.

1.2 Admin Section:-This section is password protected. It includes several menus like add info, search info, edit info, delete info. These menu have different functions like add info adds the more information, edit info edits the previous information, search includes searching specific information and delete deletes the information. Here authorized person can change the information, edit them & update them. Only the authorized person can alter with the data provided. Administrator can login from the main menu.

Project Features:

- Password Protection
- Add record
- List Record
- Search Record
- Modify Record
- Delete Record.

#### **4) Phone book management**

The phone book application provides features like storing a room/phone number into a database, sorting finding the room number/phone number etc.

#### **5) Plasma Donation Management**

This project mainly uses file handling to perform basic operations like how to add, edit, search and delete record using file. 1. Add new donor record 2. Search or edit donor record 3. List record of donor 4. Delete donor records

#### **6) Quiz Game (Any type of quiz)**

In this project, a number of questions are asked, and the user is awarded points for each correct answer given.

#### **7) IPL players Booking**

Display all player details and team details. Players are recruited to the team after bidding. Later, should be able to display players team wise and players who havent been recruited by any team yet.

#### **8) Real estate , Plots management**

Display all the plots details including dimensions, price per square feet.

- Alloted plot's owner details.
- Plots which are for sale.
- Plots which are for resale.

#### **9) Grocery Management Project**

As a admin you can add new products of your grocery store in this application can also modify or remove any product in this application As a buyer one can see the list of available products in this store and Buyer can search any items using item code . Then after buying some products one can calculate total bill from calculate bill option in this application.

#### **10) Currency Converter**

Given currency of any nationality. It needs to convert the currency to the specified origin. Like example we give currency in INR as input the system need to ask which country currency it need to convert to say America INR must be converted to USD and displayed.

#### **11) Examination Management System**

The file handling method is used to store the records of the students in a particular file. This file is used as a database for this project where you can perform the operations such as add/delete the details of the students, monitoring the students attendance, set/edit eligibility criteria for exams, check eligible students for exams, room allotment for the eligible students based on branch/semester, display all the records of the students.

## **12) Simple Result system**

This is a simple result system where students can see their updated marks by teachers. This system also stores academic information like roll no, name, semester, branch, course code, course title, ISA marks, ESA marks, Total marks, Grade, Result. Each student result should be displayed in the marks card form. The data is stored in a text file using file handling concept.

## **13) Cricket Score Generator**

For a player it will generate, his score card specially strike rate by considering the various parameters like no of test, one day and T20 matches played, total no of overs played, no of 4's and 6's hits, highest partnership etc. can also include toughest ball faced based on the speed and pace of the bowler

## **14) C-Calendar**

Displays calendar from January to December including national, regional, festive and bank holidays. Also can include reminder for any events like birthday, meeting or any other schedule with appropriate greeting messages.

## **15) Create Phonebook**

Phonebook application in C can help students understand the basic concepts of functions, file handling and data structure. This application will require them to add, list, modify, edit, search and delete data to/from the file.

## **16) Student Record System**

Application to add, delete, modify, search records of students. Record includes mark-sheet, address, contact, section information etc.

## **17) Calendar Application**

This Calendar application can perform mainly three operations those are finding the day corresponding to a given date, month and the year which were asked. ex:12/05/2021 should give Wednesday. After executing the code you can navigate using the arrow keys of the keyboard. For next you should press the key 'n' and for previous just press the 'p' key. If particular year or month is given it should give total number of days in particular year or month

## **18) Tourism Management system**

You must sign in to the system. Then you can see the packages of tourist places with its description. Tourist places that include national and international places. Description should include number of days(stay like 3days) and price file should contain minimum 50 places It will clear concepts like functions and file handling.

## **19) Cricket score display**

It consists of the runs made by batsman, wickets and number of balls played which will display on the screen. Along with this, it also displays the name of the batsman and bowler. It also displays the date and time of the game.

## **20) Base Conversion**

Given any number, converting to all formats - using basic GUI in C Title - 3 (if Required) chatbot (client - server ) - sending messages and receiving through socket programming.

## **21) Typing Tutor Project in C**

Typing is the basic command to run a computer and your typing speed plays vital role while working in computer to save time. Here I have presented a Typing Tutor Project in C to measure user's typing speed and to enhance their typing speed.

## **22) Pacman Game in C**

Pacman Game in C is a simple console application or a mini clip game designed for the purpose of entertainment. It resembles the snake game to some extent in which the Pacman should be driven in such a way that it moves along the predefined blue path so that the path is erased or eaten by Pacman.

## **23) Traffic control system**

Purpose is to control the traffic problem.

## **24) Search Engine**

Purpose is to search academic information and records in school, colleges and universities based on keywords and titles provided for search.

## **25) Pharmacy Management System**

The system should provide the following functionalities: 1. Show the stock of all items 2. Allow updates to the stock - insert items to stock, delete stock items

## **26) Designing of scientific calculator**

Students can make use of inbuilt c functions to design a scientific calculator.

## **27) Inventory management system**

Inventory management system can be built for any type of store. Students can use file operation functions in C.

## **28) Organic store billing system**

It can hold any number of accounts and account can be added to the program at any time. The programming of simple calculations such as calculation of due amount, balance etc. have been embed in the code of project.the facility of searching the account by two ways, either by name of the customer or by the number of customer. The due amount to be paid is shown as negative balance.

## **29) Personal contacts application**

In this console application, you can add, view, edit and delete records. Records can be added with many information such as duration of task, name, address, time and date. File handling has been effectively used to keep the records.

### **30) ATM Simulator**

This has to simulate most of the activities which happen at an ATM. It is assumed that the account details of all the account holders would be stored in a file which gets used by this simulator.

- i) Log in using a username and a password.
- ii) Look at the balance statement
- iii) Withdraw money - the balance should be checked and updated.
- iv) Allow the user to change the password (PIN)
- v) Deposit money
- vi) Keep track of the total amount present in the ATM in terms of denominations.

### **31) To enable simple banking mechanism using files.**

The transactions have to be secured by using file level encryption-decryption.

Expected self learning: Encryption and decryption at files.

Following are the details to be stored in an account:

- Customer name
- Bank account number
- IFSC code
- Balance(savings account)
- UPI handler
- UPI password

Following transactions are required:

Withdraw money(UPI)

- NEFT
- (debit+credit)
- Balance enquiry
- Register for UPI handler/change UPI password

### **32) Design a shuffle text game to perform shuffle on Individual characters in text**

- Word to word shuffling.
- Replace the stop words with # tag.
- Paragraph to paragraph shuffling.
- Create GUI for creating sounds for each options using allegro library.

### **33) To design and implement a play fair cipher.**

- i) Generate a key square of 5x5 unique alphabets.
- ii) Encrypt as per algorithm description. Decrypt the same with decryption algorithm