Practice Lab Assignment 10

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For this Practice Lab Assignment, you will write programs in C implementing the concepts of Structures and Dynamic Memory Allocation.

Instructions

- There are 10 questions in this assignment.
- Any discussion with neighbor/or any other student is strictly not allowed.
- Mobile phones are not allowed. If found, disciplinary action may be taken.

Due Date: This is only a Practice Lab so no submission is required.

Grading Criteria

No Grading Criteria.

Programming Questions

1. Write a C program to read a one-dimensional array, print sum of all elements along with inputted array elements using Dynamic Memory Allocation.

2. Write a C program to read and display text (string) using Dynamic Memory Allocation.

3. Write a C program to read and display a two-dimensional array elements using Dynamic Memory Allocation.

4. Write a C program to read and print the details of only one student using structure and Dynamic Memory Allocation.

5. Write a C program to read and print the details of 'n' students using structure and Dynamic Memory Allocation.

6. Create a structure to specify data of students given below: Roll number, Name, Department, Course, and Year of joining.

Assume that there are not more than 450 students in the college.
(a) Write a function to print names of all students who joined in a particular year.
(b) Write a function to print the data of a student whose roll number is given.

7. Create a structure to specify data of customers in a bank. The data to be stored is: Account number, Name, Balance in account.

Assume maximum of 200 customers in the bank.

(a) Write a function to print the Account number and name of each customer with balance below Rs. 100.

(b) If a customer request for withdrawal or deposit, it is given in the form: Acct. no, amount, code (1 for deposit, 0 for withdrawal)

Write a program to give a message, “The balance is insufficient for the specified withdrawal”.

8. There is a structure called **employee** that holds information like employee code, name, date of joining. Write a program to create an array of the structure and enter some data into it. Then ask the user to enter current date. Display the names of those employees whose tenure is 3 or more than 3 years according to the given current date.

9. Write a program that compares two given dates. To store date use structure say **date** that contains three members namely date, month and year. If the dates are equal then display message as "Equal" otherwise "Unequal".

10. Write a menu driven program that depicts the working of a library. The menu options should be:

    1. Add book information
    2. Display book information
    3. List all books of given author
    4. List the title of specified book
    5. List the count of books in the library
    6. List the books in the order of accession number
    7. Exit

Create a structure called **library** to hold accession number, title of the book, author name, price of the book, and flag indicating whether book is issued or not.