

SSN COLLEGE OF ENGINEERING (Autonomous)
(Affiliated to Anna University, Chennai)
DEPARTMENT OF CSE

UCS 1211 PROGRAMMING IN C LABORATORY
A6: User Defined Data Types in C

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Learning Outcome :

To be proficient in using Structures in C by

- a) Representing data as structures
- b) Passing structures to functions by call by value and call by reference method
- c) Passing array of structures to functions

Write the algorithm to solve the following problems and implement them in C. Solving all the problems is mandatory.

1. Generate the salary slip of a single employee using structure and functions. Use separate functions for getting input, computing and displaying output. Pass the structure by reference. Display the pay slip with proper formatting. Use pointer notation. **(Hint: Take the required data from Ex. 1)**

2. Define a structure called ***Medicine*** which contains the attributes *Name, Vendor, Manufacture Date, Expiry Date, Cost and other required attributes*. Simulate the working of an online medical store. Write a method that automatically generates a message whenever any particular medicine is low in stock and also perform the following operations:

- i) Buy a new drug**
- ii) Sell a drug**
- iii) Check availability of a drug**
- iv) Display all drugs with details in table format**

Whenever a drug is bought or sold, update the available stock. Write required functions for the above operations and develop as an application.

3. Define a data type for ***Date*** having 3 members namely *day, month and year*. Define a data type for ***Student*** with members *rollnum, name, marks[5], totalMarks, rank, dateofbirth (of type Date), age, gender*. Use an enumerated data type for *gender* with values *MALE, FEMALE, TRANSGENDER*. Write a C program that gets data for *N* students and computes and display the rank of the students. Use array of structures. Write a C function that takes an array of structures of students and compute their rank. If total marks of *M* students are same and get the same rank *R*, then assign *R+M* as the rank for next student. Write another C function that prints the mark sheet of a particular student with all the details in a proper format designed by you.