School of Systems and Technology
Department of Computer Science
Program: BS (CS)
Lab Manual 2

Lab Task 1

"Write a C++ program that defines a structure called 'rectangle' with members for 'length' and 'width'. The program should then prompt the user to enter the dimensions of two rectangles and store them in variables of type 'rectangle'. Finally, display the area and perimeter of each rectangle, and determine which rectangle has the larger area."

Lab Task 2:

"Define a C++ structure called 'book' with members for 'title', 'author', 'publisher', and 'year of publication'. Then, write a program that prompts the user to enter data for three books and stores it in an array of 'book' structures. Finally, display the data for all three books in a formatted way that includes all four members, and sort the books in alphabetical order by title."

Lab Task 3:

"Write a C++ program that defines a structure called 'employee' with members for 'name', 'ID number', 'hourly wage', and 'hours worked'. The program should then prompt the user to enter data for five employees and store it in an array of 'employee' structures. Finally, display the total pay for each employee (hourly wage * hours worked) and the total pay for all employees combined."

Lab Task 4:

"Define a C++ structure called 'address' with members for 'street', 'city', 'state', and 'zip code'. Then, write a program that prompts the user to enter their address and stores it in a variable of type 'address'. Finally, display the address in a formatted way that includes all four members."

Lab Task 5:

"Write a C++ program that defines a structure named 'student' with the following members: 'name', 'roll number', 'marks in physics', 'marks in chemistry', and 'marks in mathematics'. Prompt the user to enter the data for three students and store it in an array of 'student' structures. Then, display the data for all three students in tabular format, including their total marks and average marks. Finally, display the name of the student with the highest marks."

Lab Task 6:

"Write a C++ program (one or more) that defines a structure on your interested programming example and demonstrate the following in that program.

- Use array in structure
- Use the concept of Pointers with structure
- Pass the structure variable to function and demonstrate the call by value and call by
- function with structure.