

Assignments on C/C++ Lab

1. An electricity board charges the following rates to domestic users to discourage large consumption of energy:
For the first 100 units - 60P per unit
For next 200 units - 80P per unit
Beyond 300 units - 90P per unit
All users are charged a minimum of Rs.50.00. If the total amount is more than Rs.300.00 then an additional surcharge of 15% is added. Write a C program to read the names of users and number of units consumed and print out the charges with names.
2. Write a C program to take two strings as input and perform the following operations:
 - a) Find the length of the strings using pointers.
 - b) Compare the two strings using pointers to determine whether both are same or not.
 - c) Concatenate the two strings using pointers.
3. Create a Structure called employee with the following details as variables within it.
 - a) Employee Id
 - b) Name of the employee
 - c) Age
 - d) Designation
 - e) SalaryWrite a C program to create array of 5 objects for the structure to access these and print the employee id, name, age, designation and salary.
4. Create a C++ class "Student" having following data members:
studid, name, marks (of 5 subject), percentage.
 - a) Use *getdata* and *show* functions to input and display student data.
 - b) Create a private function to calculate percentage.
 - c) Create N number of students using array of object.
 - d) Display detail of student who secured highest percentage.
5. Assume that a bank maintains two kinds of accounts for customers, one called as *savings account* and the other as *current account*. The savings account provides compound interest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed.
Now, create a C++ class called **account** that stores *customer name*, *account number* and *type of account*. From this derive the classes **current_account** and **savings_account** to make them more specific to their requirements. Include necessary member functions in order to achieve the following tasks:
 - a) Accept deposit from a customer and update the balance.
 - b) Display the balance.
 - c) Permit withdrawal and update the balance.
 - d) Check the minimum balance, impose necessary penalty.