**CPP Lab Record**

All the exercises must have **Title, Objectives, Code** and **Output.**

1. Perform summary statistics using arrays.
   1. Basic arithmetic calculations using functions.
   2. Functions for average, standard deviation, max, min.
2. Answer the following using functions.
   1. Simple and complex interest
   2. Sales revenue, cost, profit calculations
   3. Breakeven point
3. Answer the following using functions.
   1. Wordcount
   2. Line count
   3. Word frequencies
4. Perform one sample T Test and two sample T Test using C++ functions.
5. Answer the following
   1. Create a csv file with few numeric variables
   2. Read the data to C++ editor
   3. Perform summary calculations (mean, max, min)
6. Answer the following
   1. Write functions for arithmetic average, max, min
   2. Perform summary calculations using arrays.
   3. Write the output to a text file.
7. Data conversions
   1. Take certain dummy numeric data arrays for age, salary and convert them into categories.
   2. Take certain non-numeric data arrays and covert them to categories.
8. Demonstrate transactions such as debit, credit, status of account, current account balance using functions in C++.
9. Demonstrate basic and premium customer accounts based on amount of purchase using functions.
10. Demonstrate sales forecasting using a regression equation (ex: y=0.5+0.05\*x).

**CPP Projects**

1. Answer the following
   1. Define base class for Person with the below fields and methods
      1. [fields] Fname, lname, age, gender, contact number
      2. [methods] full name, Information (incl. full name, contact number)
   2. Define sub-class for Employee with following fields
      1. [fields] Basic, DA, HRA,
      2. [methods] full name, email, Gross salary, Information

Demonstrate inheritance and polymorphism using above classes.

1. Answer the following
   1. Define base class for Customer with the below fields and methods
      1. [fields] Fname, lname, age, gender, contact number
      2. [methods] full name, Information (incl. full name, contact number)
   2. Define sub-class for Premium Customer
      1. [fields] amount;
      2. [methods] premium/non-premium based on purchasing amount.

Demonstrate inheritance and polymorphism using above classes.

1. Answer the following
   1. Define base class for Account with the below fields and methods
      1. [fields] Fname, lname, age, gender, contact number, type\_of\_account, opening balance.
      2. [methods] Information (incl. full name, contact number) , add\_balance,
   2. Define sub-class for Savings Account
      * 1. [methods] Interest 6% if saving account or 7% if current account.

Demonstrate inheritance and polymorphism using above classes.

1. Answer the following
   1. Define base class for Customer with the below fields and methods
      1. [fields] Fname, lname, age, gender, contact number, amount of purchase.
      2. [methods] Information (incl. full name, contact number), buy\_goods(float amout)
   2. Define sub-class for Return Eligibility Status
      1. [fields] type, wallet\_money
      2. [methods] (will be **basic** if purchase amount is >= 10000/- or or **premium** if wallet amount of 1000/- )
      3. [methods] Return eligibility if purchase worth is more than 10000/- and basic or premium.

Demonstrate inheritance and polymorphism using above classes.

1. Answer the following
   1. Define base class for Data with the below fields and methods
      1. [fields] variable.
      2. [methods] imports univariate data variable and saves in one-dimensional arrays.
   2. Define sub-class for Analysis
      1. Arithmetic mean, standard deviation, min, max
      2. Skewness and kurtosis

Demonstrate inheritance and polymorphism using above classes.