

**CSE 1122 Structured and Object-Oriented Programming Sessional**  
**Week 11 (Lab 8)**  
**Date 04.03.2024**

Topic: Class, Object, Constructor, Destructor and Function overloading

- Programming Together (Write, observe, and Execute)
- 1. Write a C++ program Illustrating Class Declarations, Definition, and Accessing Class Members.
- 2. Write a C++ Program to illustrate default constructor, parameterized constructor, and copy constructors.
- 3. Write a C++ Program to demonstrate function overloading

- **Lab Exercise**

1. **Write a Program to Implement a Class STUDENT having following members:**

**Data members**

Member	Description
sname	Name of the student
Marks array	Marks of the student
total	Total marks obtained
Tmax	Total maximum marks

**Member functions**

Member	Description
getdata()	Assign Initial Values
compute()	to Compute Total, Percentage
display()	to Display the Data

2. **Write a C++ program to create a class called Point.**

- This class should have 2 integers (x, y coordinates) as private data members.
- The constructor should set the values for x and y through parameters.
- The class should have a public method called getDistance (x2, y2). That takes 1 parameter a Point and returns the distance between the 2 points.

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

- **Overload getDistance( x2, y2) method to accept both inter and float type variables.**
3. Write C++ program to Swap variables (i.e., integers, floats, characters) using Function Overloading.

4. Create a class called '**EMPLOYEE**' that has EMPCODE and EMPNAME as data members, member function getdata( ) to input data, member function display( ) to output data. Write a main function to create EMP, an array of EMPLOYEE objects. Accept and display the details of at least 6 employees.
5. Write a C++ program to implement a class called **Date** that has private member variables for day, month, and year. Include member functions to set and get these variables, as well as to validate if the date is valid.