National University of Computer and Emerging Sciences



Lab Manual 05

Object Oriented Programming

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## Objectives

After performing this lab, students shall be able to:

* Understand the basics of Classes and object creation
* Implement constructors (Default + Parameterized)
* Create member functions.
* Do structure based problem solving.

**TASK 1:**

Exercise 1:

* Create a class Date having following private data members:

Int Day

Int Month

Int Year

* Create an object of Date “date1” and run your program

Exercise 2 [Default Constructor]:

* Write a default Constructor of Date that initializes the object to 1st January 1926 and prints “Default Constructor Called” in start.
* Now run your program and test what does date1 prints?

Exercise 3 [Print Function]:

* Implement a function Print in Date class which prints a date in following format: dd/mm/yyyy (e.g. 1/1/1926 for date1)
* Print object date1 in your main function and run the program.
* What does it print and how can we initialize the data of date1 at the time of creation?

Exercise 4 [Overloaded Constructor]:

* Write an overloaded Constructor of Date class that initializes the date object to date, month and year provided as parameter and prints “Overloaded Function Called”
* Now create another object independanceDay in main that is 14/08/2020
* Print independanceDay by calling Print function of Date class and run your program

Exercise 5 [Input Function]:

* Write a function Input in your Date class that takes input from user to populate a Date object.
* Call “date1.Input()” and “date1.Print()” in your driver program and test it.

Exercise 6 [Setters]:

* Create an object xmasDay using default constructor.
* Print xmasDay and see what it prints.
* Write Setters i.e. SetDay, SetMonth and SetYear in your class.
* Now set xmasDay to 25/12/2020 using Setters in main.

Exercise 7 [Getters]:

* Write Getters i.e. GetDay, GetMonth and GetYear in your date class.
* Now print xmasDay using Getters in your Driver program.

**TASK 2:**

Create a class **BOOK** with three data members (identify the data types yourself):

1. Book Id
2. Pages
3. Price

It also contains the following member function:

1. getters
2. setters
3. Print Details
4. constructor (both default and parameter)

**Create more than one objects (three or more) and display the most costly book.**

**TASK 3:**

Create a class **MyDate** having following private data members:

1. int Day
2. int Month
3. int Year

Having following Member Functions:

1. Default Constructor of Date
2. Input Function
3. Print
4. Getters
5. Setters
6. Find Age of a person. (take DOB as parameter).

<https://www.w3resource.com/cpp-exercises/basic/cpp-basic-exercise-34.php> might help you to get current date.