

National University of Computer and Emerging Sciences



Lab Manual 04 Object Oriented Programming

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1.1 Objectives

After performing this lab, students shall be able to:

- ✓ Learn classes and objects creation. (Basics)
- ✓ Create Constructors (Default, Parameterized).
- ✓ Setters and Getters. (Creation and Use)

Note: Implement your main functionality in Driver.cpp

TASK 1:

Define your class in “Date.h” file, Implement all the functions of Date class in “Date.cpp” and Test your class in “Driver.cpp”.

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 [Parametrized Constructor]:

- Write a parametrized 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 independenceDay in main that is 14/08/2020
- Print independenceDay 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.cpp 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 25/12/2018 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:

As we already know that a class is simply a representation of a type of object. It is the blueprint/plan/template that describes the details of an object.

Now design a class named Citizen. You must take any 5 necessary data members as Name, Sur Name, CNIC, Designation and Address. Now implement and create all the required functions as you created in your above task i.e. members, constructors, getters, setters, input function, print function.

After you have created your class, now create an object of class Citizen in the main and show the functionality of all the functions.

NOTE: Make sure that you create 3 separate files, sample.h file to declare class and its members, sample.cpp file for implementation of member function of class. Driver.cpp file for main() function.