National University of Computer and Emerging Sciences



Lab Manual 05

Object Oriented Programming

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| Course Instructor | Ms. Noshaba Nasir |
| Lab Instructor (s) | Saif Ali  Siddiqua Nayyer |
| Section | BDS-2A |
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Department of Computer Science

FAST-NU, Lahore, Pakistan

## Objectives

After performing this lab, students shall be able to:

* Create overloaded constructors
* Create destructors
* Handle dynamic memory for class data members as well as declaring objects.

**TASK:**

In this task, we are going to create a small scale **Event Management System**.

1. Create a **class Event** with following variables: **char\* event\_name**, **char\* event\_venue**, **char event\_date[11]** and **char event\_time[9]**.

* Input format for event\_date: dd-mm-yyyy
* Input format for event\_time: hh:mm am/pm
* Event\_name and even\_venue will be dynamic arrays, size should not be more than number of characters +1 for null character.

1. Implement default constructor and overloaded constructor. Print “Default Constructor Called” and “Overloaded Constructor Called” in the respective constructors. The declaration for overloaded constructor is as follows:

* **Event(char event\_name[20], char event\_venue[50], char event\_date[11],char event\_time[9]);**
* **This constructor will deep copy the input cstrings to member variables.**

1. Implement all setters and getters for class Event. You can create a helper function **userInput()** to input event details.
   1. All setter functions should take input from user to change the value.
   2. When every new name is set for dynamic cstring member variables, old space should be deleted and new space should be allocated.
2. Implement the destructor **~Event()** for class **Event**. Print “Destructor Called” in the destructor. Deallocate all the dynamically allocated memory of class data members.

In main, create event with following details.

*event name: OOP LAB-05*

*event venue: Google Classroom*

*event date: 18-04-2021*

*event time: 02:00 PM*

*Call setEventName function to change the name to CP LAB-09*

**Note:**

* Deallocate all dynamically allocated memory.
* Do not use strcpy() function. Copy the character array manually where needed based on ending ‘\0’ character.
* Follow all the code indentation, naming conventions and code commenting guidelines.