**Object Oriented Paradigm**



# Session: Spring 2017

Faculty of Information Technology

UCP Lahore, Pakistan

Lab 2: Introduction to Classes and objects

Instructions**:**

* Draw a sketch of the problem on paper
* Indent your code
* Comment your code
* Use meaningful variable names
* Plan your code carefully on a piece of paper before you implement it.
* Name of the program should be same as the task name. Lab Tasks:

## Lab Task 1:

A class called “Employee” holds information like employee code, name, date of joining, and status. It contains a function “set\_status” to change the status of an employee. If the employee has recently joined, “set\_status” changes the status to joined, and if the employee has left the organization, this function sets the status to left.

## Lab Task 2:

Write the definition of a class, swimming Pool, to implement the properties of a swimming pool. Your class should have the instance variables to store the length (in feet), width (in feet), depth (in feet), the rate (in gallons per minute) at which the water is filling the pool, and the rate (in gallons per minute) at which the water is draining from the pool. Also add member functions to do the following: determine the amount of water needed to fill an empty or partially filled pool; determine the time needed to completely or partially fill or empty the pool; add or drain water for a specific amount of time.

## Lab Task 3:

Design and implement a class dayType that implements the day of the week in a program. The class dayType should store the day, such as Sun for Sunday. The program should be able to perform the following operations on an object of type dayType:

a) Print the day.

c) Return the day.

d) Return the next day.

e) Return the previous day.

f) Calculate and return the day by adding certain days to the current day. For example, if the current day is Monday and we add 4 days, the day to be returned is Friday. Similarly, if today is Tuesday and we add 13 days, the day to be returned is Monday.

## Lab Task 4:

Write a C++ program to represent a bank account using class and objects. Display the details such as name, account number, account type and balance in the given account number. User can deposit and withdrawn money from the account.

## Lab Task 5:

An automobile company has serial number for engine parts starting from AA0 to FF9. The other characteristics of parts to be specified as attributes are: Year of manufacture, material and quantity manufactured.

Define and implement a class “Parts” which stores all above attributes. It shall also provide the functions “add” and “remove” to add/remove the newly created/sold parts in the attribute “quantity”.