**Web Engineering Lab-02 Dated: 20-10-2017**

Total Duration: 3 Hours **Note:**

* Student collaboration is not allowed.
* Copying from or looking at solutions from other sources is strictly prohibited.
* Violations will not be excused and may result in an F in the course.
* Understanding the Problem is part of the lab.
* Stay honest.

# Task#1:

Create the following output using jagged Array:

0

1 2

2 3 4

3 4 5 6

# Task#2:

**(a)**​ Write a program in which you will create a class named as “**B**​**ox**”​. This class will have data members width, height and depth.

You need to do this for class “​**BOX**​”

* Overload constructor ​**when all dimensions specified**
* Overload constructor for cloning an object of type “**B**​**OX**​”

**Hint:**

Box(Box obj)

{

//Here will be the code you write

}

* Overload constructor when​ **no dimensions specified**
* Overload constructor when ​**Cube** is created
* Compute and return ​**volume**

**(b)**​ Now in the Main class you need to check the **volume of Box.**

**Hint:**​ Object creation of **Box** a​nd compute the volume of the box.

# Task#3:

Write a Java class called **Student** which contains three data members **name, rollNo** and **shared** variable of **UniversityName**.

* Write a **static** method called **changeUni()** and name university as **PUCIT**
* Now in Main class create objects of **Student** and display with their university name.

**Task#4:**

Write a java class called **Result** which contains two data members **totalMarks** and **marksObtained**

* Make a menu that will prompt the user in the following manner:

Press 1 to see total marks

Press 2 to see marks obtained

Press 3 to modify marks obtained

* **BUT** Make your program smart enough not to modify the obtained marks as it is **ILLEGAL☺**

# Task#5:

Write an overridden **getNumberOfTeamMembers** method in class **Soccer** that prints the same statement as the superclass **Sports**' **getNumberOfTeamMembers** method, except that it replaces **n** with **11** (the number of players on a Soccer team).

* In main method call the **getNumberOfTeamMembers()** of **Soccer** class without using the statement

Soccer object;

# Task#6:

Create a class called Book to represent a book. A Book should include four pieces of information as instance variables-a book name, an ISBN number, an author name and a publisher. Your class should have a constructor that initializes the four instance variables. Provide a mutator method and accessor method (query method) for each instance variable. In addition, provide a method named getBookInfo that returns the description of the book as a String (the description should include all the information about the book). You should use this keyword in member methods and constructor. Write a test application named BookTest to create an array of object for 13 elements for class Book to demonstrate the class Book's capabilities.

Public class Book {

//Data Members

//Member Functions

}

Public class Book Test { public static void main(String[] args)

{

Book test [] = new Book [13]; test[1] = new Book();

test [1].getBookInfo();

}

}