**Department of Computer Science and Engineering**

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| **Course Code: CSE110** | **Credits: 1.5** |
| **Course Name: Programming Language 1** | **Semester: Sum’18** |

**Lab 11  
Review**

1. **Topic Overview:**

The students will solve problems to familiarize and assess themselves with all the topics covered in the lab throughout the course.

1. **Lesson Fit:**

All the topics covered in the previous labs are the prerequisite for this lab. In this lab, all the students will be assessed based on their problem solving skill using the concepts they have adopted in the previous labs.

1. **Learning Outcome:**

After this lab, the students will be able to:

* 1. Use data type, variables
  2. Use control flow
  3. Use loops
  4. Use array
  5. Implement basic object oriented concept

1. **Anticipated Challenges and Possible Solutions**
   1. Task 3 : Students will make mistake for computing circles formula e.g. r^2

**Solutions:**

* + 1. Area = pi \* r \* r
  1. Task 7 : Students think that the first input is always larger

**Solutions:**

* + 1. Check both numbers in order to find the larger value

1. **Acceptance and Evaluation**

Students will show their progress as they complete each problem. They will be marked according to their class performance. Their maybe students who might not be able to finish all the tasks, they will submit them later and give a viva to get their performance mark.

1. **Activity Detail**
   1. **Hour: 1  
      Discussion:**Explain all the shapes of a flowchart. Use Task 1 as an example to help students understand better. **Problem Task:**
      1. Task 1 to 4 (Page 3)
   2. **Hour: 2**

**Discussion:**

Check task 1 to 4 while the students continues with the rest.

**Problem Task:**

* + 1. Task 5 to 8 (Page 3 to 4)
  1. **Hour: 3**

**Discussion:**

Check task 5 to 9 while the students continues with the rest.

**Problem Task:**

* + 1. Task 9 to 12 (Page 4)

1. **Home tasks**
   1. Task 13
   2. Unfinished tasks

**Lab 11 Activity List**

**Task 1**

Write a Flowchart for the following: Ask the user to enter ten numbers then display ONLY the total and the average of the odd numbers among those ten numbers.

**Task 2**

Draw flowchart of a program that prints all prime numbers between 40 and 50.

**Task 3**

Write a Java program to add two binary numbers.

**Task 4**

Write a Java program to print numbers between 1 to 100 which are divisible by 3, 5 and by both.

**Task 5**

Two numbers are relatively prime if there is no other common factors between these two number except 1. For example, factors of 21 are 1,3,7,21 and factors of 20 are 1,2,4,5,10,20. There are no common factors except 1. So, 20 and 21 are relatively prime. Write a java program which takes two input from user and prints if they are relatively prime or not.

**Task 6**

Write a Java program to find the index of the largest number in an array.

**Task 7**

Write a Java program to add two matrices of the same size.

**Task 8**

Write a java program to draw the following pattern of Pascal’s triangle -

1  
 1 1  
 1 2 1  
 1 3 3 1  
 1 4 6 4 1  
 1 5 10 10 5 1

**Task 9**

Write a java program to draw the following pattern of Floyd’s triangle -

1  
2 3  
4 5 6  
7 8 9 10

**Task 10**

Consider the following class:  
public class Human{  
 public int age;  
 public double height;  
}

Find the output of the following sequence of statements. Then verify the output by writing a HumanTester class with following codes inside the main method.

