**Student Name: Student Id:**

**Lab Instructions:**Please show your work to the instructor present in the lab before submitting.

**Submission Due**: End of laboratory class, submit the file on Moodle at least 10 minutes before the end of laboratory class.

**Total Marks** = 10 marks

Marks will be given only to students who attend and participate during 2-hour laboratory class. Submission on Moodle is mandatory as an evidence of participation.

**Learning Outcomes:**

|  |  |
| --- | --- |
| LO1 | Use classes and instances to develop programs as a collection of communicating components. |
| LO5 | Develop computer programs to solve real world problems. |

**Marking Criteria:**

|  |  |  |
| --- | --- | --- |
| **Task Details** | **Submission Requirements** | **Marks** |
| **Task 1:** Create a **Dependent** class as per the requirements stated in the provided **Dependent.java** file | Same **Word file** containing the transcript of the answer.  Also submit **Source Code** files along with. | 3 |
| **Task 2:** Complete the **Employee.java** class provided below by implementing the missing details as required in the code. | Same **Word file** containing the transcript of the answer.  Also submit **Source Code** files along with. | 5 |
| **Task 3:** Use the **TestEmployee.java** class provided with the lab material to test the program. | Same **Word file** containing the transcript of the answer.  Also submit **Source Code** files along with. | 2 |

**Lab 3 – Association in OOP, Array of Objects, and Passing Object to Methods**

**Problem:** To implement a program to store and display employee and dependents information.

**Lab Task 1:**

Create a **Dependent** class as per the requirements stated in the provided **Dependent.java** file.

**Student Code:**

**Lab Task 2:**

Complete the **Employee.java** class provided below by implementing the missing details as required in the code.

**Code:**

/\*

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\* To change this template file, choose Tools | Templates

\* and open the template in the editor.

\*/

/\*\*

\*

\* @author eaus317

\*/

import java.util.Scanner;

public class Employee {

private String empname, empdept, empid;

private int depcount = 0; //used to maintain number of dependents added for an employee object

**//1. Create an array of dependent class objects (Size of array should be 5).**

Scanner input = new Scanner(System.in);

Employee(String eid, String ename, String edept)

{

empname = ename;

empdept = edept;

empid = eid;

}

public void addDependents**(//2. Accept dependent object as argument here**)

{

**//3. Add dependent object accepted as argument, to the array of dependent objects in this class**

depcount++;

}

public void printEmpDetails()

{

System.out.println("Employee Name: " + empname);

System.out.println("Employee ID: " + empid);

System.out.println("Employee Department: " + empdept);

}

public void printEmpDependents()

{

if(depcount==0)

{

System.out.println("No Dependents for this Employee");

}

else

{

**//4. If dependents present, print all dependents' details using printDependent() method of Dependent class.**

}

}

}

**Student Code:**

**Lab Task 3:**

Use the **TestEmployee.java** class provided with the lab material to test the program.

**Student Code:**

**Dependent.java:**

**Employee.java:**

**TestEmployee.java:**

**Student Output:**

**Submission Instructions:**

1. Submit your answers in this word file by renaming it in the format **“OOP\_CSC1020\_Lab3\_01\_10\_2020\_StudentID”** and uploading on **Moodle** in the appropriate submission link.
2. Also submit source code (.java) files for all lab tasks along with this word file.
3. Additionally, submit source code files (.java files) for Lab Tasks on **codePost.**

**Please conform to the naming convention of the file.**

**END OF LABORATORY**