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| **Practicum Case** |  |
| ISYS6197  Business Application Development |
| **Computer Science** | **O221-ISYS6197-DU01-04** |
| ***Valid on*** *Odd Semester Year 2021/2022* | **Revision 00** |

## Learning Outcomes

* Explain Object Oriented concept
* Solve the algorithm problem using Object Oriented concept

## Topic

* Session 04 - Polymorphism

## Subtopics

* Introduction to Polymorphism
* Final Method
* Ad hoc Polymorphism (Overloading)
* Overriding
* Abstract Class

## Soal

*Case*

**DeU’s Class**

You are asked to build an **object-oriented** application called **DeU’s Class** to manage their classroom’s students and lecturers. You are assigned to make a program with the description below:

* The program consists of 5 menus:
  1. **Add People**
  2. **View People**
  3. **Remove People**
  4. **Exit**
* Ask user to input menu choice between **1** and **4.**
* If the user chooses **Add People (Menu 1):**
  + - Ask user to input **name**. Validate **length** of **name** must be **between** **3** and **15** **characters**.
    - Ask user to input **age**. Validate **age** must be **numeric** and **minimum** of age is **16**.
    - Ask user to input **role**. Validate **role** must be **between ‘Student’ or ‘Lecturer’**.
    - If role is **‘Student’,** ask user to input **gpa**. Validate **gpa** must be **numeric** and **between 0 and 4.**
    - If role is ‘Lecturer’, ask user to input **salary.** Validate **salary** must be **numeric** and **minimum** of salary is 4000000.

A picture containing application

Description automatically generated

* If user chooses **View People (Menu 2):**
* Show **all students** and **lecturer**.
* If there is **no data,** then show **‘There are no peoples in classroom!’**.

A picture containing background pattern

Description automatically generated

* If user chooses **Employee Report (Menu 3):**
* Show **all students** and **lecturer**.
* If there is **no data,** then show **‘There are no peoples in classroom!’**.
* Ask user to input **people’s index,** validate **people’s index** must be **numeric and between 1 and total peoples in classroom.**
* Finally, display a message indicating the corresponding people has been removed and **remove** it from the list.

Graphical user interface

Description automatically generated with low confidence

* If user chooses **Exit (Menu 4)**, the program ends.

**Please ask your teaching assistant if there are any related questions.**