


<b>Practicum Case</b>	
COMP6178   COMP6178003 Introduction to Programming	
<b>Computer Science</b>	<b>C1-COMP6178-SH01-09</b>
<i>Valid on Even Semester Year 2019/2020</i>	<b>Revision 00</b>

**Learning Outcomes**

- LO1 – Explain the kind of the algorithm in problem solving
- LO2 – Explain the usefulness of java syntax and OOPs
- LO3 – Explain the algorithm using java syntax
- LO4 – Explain the best algorithm in problem solving

**Topics**

- Session 09 - Methods

**Sub Topics**

- Method Declaration
- Method Definition
- Passing Arrays (Passing by Reference)
- Return Arrays
- Variable Scope

**Soal**  
Case**Ideal Body Weight Calculation**

As a programmer, you are asked by your project manager to create a program to calculate the ideal body weight. The program consists of **2 menus**:

**1. Login****2. Exit**

```

Ideal Body Weight Calculation
=====
1. Login
2. Exit
Choose : _
```

- If user chooses **menu 1(Login)**:

- The program will ask user to input:

- **Username** must be **between 5 and 30 characters**
- **Password** must be **same as username** and user can type “**cancel**” for cancelling login.

```
Input username [5..30]: shirley
Input password ["cancel" for cancel]: a
Invalid username and password!
```

```
Input username [5..30]: shirley
Input password ["cancel" for cancel]: shirley
```

- If the user has input correctly, the user will be asked to input:

- Age that **must between 1 and 60**
  - ✓ If the age is **less than or equals to 10**, the program will show the ideal body weight with the formula below.

$$\text{Ideal Weight} = (<\text{age}> * 2) + 8$$

```
Welcome, shirley
Input your age [1..60] years old : 1
Your ideal weight is : 10.0 kg
```

- ✓ If the age is **greater than 10 years old**, the program will asked the user to input **height** that **must be between 150 and 300 cm**. If the user has inputted correctly, the program will show the ideal body weight with the formula:

$$\text{Ideal Weight} = (<\text{height}> - 100) * 0.9$$

```
Welcome, shirley  
Input your age [1..60] years old : 17  
Input your height [150..300] cm : 150  
Your ideal weight is : 45.0 kg
```

- If user chooses **menu 2 (Exit)**, the program will be closed.

**Please run the EXE file to see the sample program.**