

WIX1002 Fundamentals of Programming

Lab Report 3

1. Pokémon Generator

Pokémon is a famous game in console world. You are required to create a Pokémon Generator to generate a Pokémon. Define a class named Pokémon. Each Pokémon has the following attributes:

- A unique ID
- Pokémon Name
- Element Type
- Hit Point (HP)
- Attack
- Defense
- Speed
- Special
- Level

In the class, define a method to generate a random value for Hit Point (15-25), Attack (10-17), Defense (10-17), Speed (5-15) and Special (5-10) stat with the respective range for the Pokémon.

Create a method to update the attributes of Pokémon when the level is increased by 1. In the process of leveling up, the hit point of Pokémon will be increase in range of 2-5, and the other stat will increase by 1-3.

Test your class in a tester program by generating a Pokémon, show the initial stat, level it up by 3 level and show the stat after leveling.

2. Barbie Doll Generator

You are required to create a Barbie Doll Generator to generate a unique doll with different characteristic. Define a class Doll. Each doll has the following attributes:

- Name
- Hair color
- The doll can wear shirt, dress or jacket.
- The doll can have long or short hair.

In the class, define a method to randomize the characteristic of the doll.

Create a method to change the hair color.

Create a method to cut the hair of the doll to short if it is long.

Test your class in a tester program by generating a Barbie Doll, show the characteristic, change the color of the hair, cut the long hair if necessary.

Lab Report

Prepare a report to solve the above problems. The report should contain all the sections as below for each question:

No	Section	Description
1	Problem	Description on the problem
2	Solution	Explanation on how to solve the above problems
3	Sample Input & Output	A few sets of input and output (snapshot)
4	Source Code	Java Source Code

Requirements

1. Group Assignment (4-5 students per group)
2. Cover page that includes all student matric number and full name.
3. Font: Times New Roman 12, Line Spacing: 1 ½ Spacing
4. Due Date: 8/1/2021
5. The method of submission is based on your group lecturer.