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Started on Tuesday, 13 May 2025, 8:26 PM

State Finished

Completed on Tuesday, 13 May 2025, 8:30 PM

Time taken 3 mins 35 secs

Grade 300.00 out of 300.00 (100%)

Question 1

Correct

Mark 100.00 out of 100.00

Time limit	1 s
Memory limit	64 MB

## **Purry Levelling (Lagi ?!?!?)**

Setelah berhasil menyelesaikan tugas besar pertama dengan membuat game *Purry Levelling* dalam bahasa C++, kini Anda akan beralih ke tugas berikutnya menggunakan bahasa pemrograman Java. Implementasikan kelas-kelas berikut dengan menerapkan konsep *inheritance* dan *interface* sederhana.

### **Spesifikasi**

### Interface Damageable

Memiliki satu method abstrak:

```
void takeDamage(int damage);
```

### **Interface Interactable**

Memiliki satu method abstrak:

```
void interact();
```

#### Kelas abstrak Unit

- Atribut: name (String), health (int)
- Constructor: Unit(String name, int health)
- **Getter / Setter**: getName(), setName(String), getHealth(), setHealth(int)
- Method abstrak: String toString();

Kelas Character (subclass Unit, mengimplementasikan Damageable)

- Atribut tambahan: score (int, default 0)
- Constructors:
  - Default: Character() → name="Player1", health=100, score=0
  - User-defined: Character(String name, int health, int score)
- Method tambahan:
  - Getter / Setter: getScore(), setScore(int)
  - o takeDamage(int) mengurangi health; jika ≤ 0, cetak {name} has been defeated
  - increaseScore(int points) menambah score
- Override toString(): {name} [Health: {health}, Score: {score}]

**Kelas NPC** (subclass Unit, mengimplementasikan Interactable)

- Atribut tambahan: dialogue (String, default "Hello there!")
- Constructors:
  - $\circ \ \textit{Default} : \texttt{NPC()} \to \texttt{name="NPC1"}, \ \texttt{health=100}, \ \texttt{dialogue="Hello there!"}$
  - User-defined: NPC(String name, int health, String dialogue)
- Method tambahan:
  - Getter / Setter: getDialogue(), setDialogue(String)
  - interact() mencetak dialogue
- Override toString():

```
{name} [Health: {health}, Dialogue: "{dialogue}"]
```

# **Contoh Penggunaan**

```
public class Main {
    public static void main(String[] args) {
        Character p1 = new Character();
        Character p2 = new Character("Alice", 50, 120);

        System.out.println(p1);
        System.out.println(p2);

        p2.takeDamage(30);
        p2.increaseScore(20);
        System.out.println(p2);

        p2.takeDamage(100);

        NPC npc = new NPC("Gandalf", 200, "You shall not pass!");
        System.out.println(npc);
        npc.interact();
    }
}
```

### **Output yang diharapkan**

```
Player1 [Health: 100, Score: 0]
Alice [Health: 50, Score: 120]
Alice [Health: 20, Score: 140]
Alice has been defeated
Gandalf [Health: 200, Dialogue: You shall not pass!]
You shall not pass!
```

## Pengumpulan

Kumpulkan berkas-berkas berikut dalam satu berkas .zip bernama PurryLevellingV2.zip:

- Damageable.java
- Interactable.java
- Unit.java
- Character.java
- NPC.java

Java 8 ♦

PurryLevellingV2.zip

Score: 100

Blackbox

Score: 100

Verdict: Accepted

Evaluator: Exact

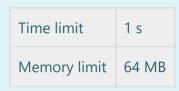
No	Score	Verdict	Description
1	10	Accepted	0.30 sec, 28.11 MB
2	10	Accepted	0.12 sec, 27.87 MB
3	10	Accepted	0.13 sec, 28.80 MB
4	10	Accepted	0.11 sec, 28.14 MB
5	10	Accepted	0.10 sec, 27.91 MB
6	10	Accepted	0.10 sec, 28.96 MB
7	10	Accepted	0.10 sec, 28.28 MB
8	10	Accepted	0.09 sec, 29.09 MB

No	Score	Verdict	Description
9	10	Accepted	0.12 sec, 27.96 MB
10	10	Accepted	0.14 sec, 30.63 MB

Question **2** 

Correct

Mark 100.00 out of 100.00



## **Find My**

Pak Asep kehilangan di kantor pusat (HQ) O.W.C.A, bantu Pak Asep untuk mengimplementasikan hape beliau dengan file bernama **IPhone.java**, diberikan juga interface **Trackable.java** dan **Device.java** yang masing-masing merupakan interface dan kelas abstrak dari **IPhone.java**, nama dari kelas iPhone tentunya "**IPhone**" tanpa tanda petik.

Berikut templatenya <u>IPhone.java</u>. Kumpulkan IPhone.javanya saja

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IPhone.java

Score: 100

Blackbox Score: 100

Verdict: Accepted

Evaluator: Exact

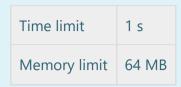
No	Score	Verdict	Description
1	12.5	Accepted	0.05 sec, 27.86 MB
2	12.5	Accepted	0.06 sec, 28.31 MB
3	12.5	Accepted	0.05 sec, 28.47 MB
4	12.5	Accepted	0.06 sec, 28.43 MB
5	12.5	Accepted	0.05 sec, 28.83 MB
6	12.5	Accepted	0.06 sec, 28.40 MB
7	12.5	Accepted	0.06 sec, 26.17 MB
8	12.5	Accepted	0.06 sec, 28.77 MB

7/20/25, 10:46 AM Praktikum 4 (Latihan)

 ${\hbox{Question}}~3$ 

Correct

Mark 100.00 out of 100.00



Implementasikan kelas **SmartDoorLock** yang akan menjadi bagian dari sistem rumah pintar. Kelas ini harus menggunakan *inheritance* dan *interface* yang telah disediakan.

Sistem ini menggunakan beberapa komponen:

- 1. Controllable.java Interface yang mendefinisikan kemampuan perangkat untuk dikendalikan (dihidupkan/dimatikan)
- 2. <u>EnergyMonitored.java</u> Interface untuk memantau konsumsi energi perangkat
- 3. <u>SecureDevice.java</u> Interface yang mendefinisikan fitur keamanan perangkat
- 4. <u>SmartDevice.java</u> Kelas abstrak dasar untuk semua perangkat pintar
- 5. <u>SecurityDevice.java</u> Kelas abstrak untuk perangkat keamanan

Anda harus mengimplementasikan kelas SmartDoorLock yang mewarisi SecurityDevice dan mengimplementasikan EnergyMonitored.

Kumpulkan **SmartDoorLock.java** (ini ada templatenya)

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SmartDoorLock.java

Score: 100

Blackbox

Score: 100

Verdict: Accepted Evaluator: Exact

No	Score	Verdict	Description
1	30	Accepted	0.33 sec, 28.03 MB
2	30	Accepted	0.31 sec, 28.74 MB
3	10	Accepted	0.35 sec, 28.00 MB
4	10	Accepted	0.34 sec, 29.08 MB
5	10	Accepted	0.30 sec, 28.42 MB
6	10	Accepted	0.29 sec, 28.54 MB

### → Praktikum 4

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