Laporan Kuis Praktikum

Pemrograman Berbasis Objek

Disusun oleh :

Singgih Wahyu Permana

TI 2D

244107020102

Program Studi D-IV Teknik Informatika

Jurusan Teknologi Informasi

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Struktur Kode

Class Karakter

```java
public class Character {

  private String name;
  private int health;
  private int attackPower;

  public Character(String name, int health, int attackPower) {
    this.name = name;
    this.health = health;
    this.attackPower = attackPower;
  }

  public String getName() {
    return this.name;
  }

  public int getHealth() {
    return this.health;
  }

  public int getAttackPower() {
    return this.attackPower;
  }

  public void setHealth(int health) {
    this.health = health;
  }

  public void takeDamage(int damage) {
    health -= damage;
    if (health < 0) {
      health = 0;
    }
    System.out.println(name + " took " + damage + " damage! Remaining health: " + health);
  }

  public void attack(Character target) {}
}
```

Class Player

```java
public class Player extends Character {
  private int level;

  public Player(String name, int health, int attackPower, int level) {
    super(name, health, attackPower);
    this.level = level;
  }

  public void healing(){
    this.setHealth(this.getHealth() + 5);
  }

  @Override
  public void attack(Character target) {
    int damage = (int) (super.getHealth() * 0.1) + level;
    System.out.println(getName() + " attacks with sword! Damage: " + damage);
    target.takeDamage(damage);
  }
}
```

Class Monster

```java
public class Monster extends Character {
  private String type;

  public Monster(String name, int health, int attackPower, String type) {
    super(name, health, attackPower);
    this.type = type;
  }

  @Override
  public void attack(Character target) {
    int damage = (int) (Math.random() * 10) + 5;
    System.out.println(getName() + " (" + type + ") attacks ferociously! Damage: " + damage);
    target.takeDamage(damage);
  }
}
```

Class BossMonster

```java
public class BossMonster extends Character {
  public BossMonster(String name, int health, int attackPower) {
    super(name, health, attackPower);
  }

  @Override
  public void attack(Character target) {
    int damage = (int) (getAttackPower() * 2);
    System.out.println(getName() + " ( Boss Monster ) attacks ferociously! Damage: " + damage);
    target.takeDamage(damage);
  }
}
```

Class GameTest

```java
public class GameTest {
  public static void main(String[] args) {
    Player singgih = new Player("Singgih", 100, 20, 5);
    Monster goblin = new Monster("Goblin", 80, 15, "Goblin");
    BossMonster dragon = new BossMonster("Dragon", 200, 20);

    Character[] enemies = {goblin, dragon};

    System.out.println("=== Battle Start ===");

    int turn = 1;
    while (singgih.getHealth() > 0 && (goblin.getHealth() > 0 || dragon.getHealth() > 0)) {
      System.out.println("\n--- Turn " + turn + " ---");

      for (Character enemy : enemies) {
        if (enemy.getHealth() > 0) {
          singgih.attack(enemy);
          break;
        }
      }

      for (Character enemy : enemies) {
        if (enemy.getHealth() > 0) {
          enemy.attack(singgih);
        }
      }

      if (turn % 3 == 0) {
        singgih.healing();
        System.out.println(singgih.getName() + " uses healing! Health: " + singgih.getHealth());
      }

      turn++;
    }

    System.out.println("\n=== Battle End ===");
    if (singgih.getHealth() <= 0) {
      System.out.println(singgih.getName() + " has been defeated...");
    } else {
      System.out.println(singgih.getName() + " wins the battle!");
    }
  }
}
```

Hasil Running Program

```
) java GameTest
≡ Battle Start ≡

--- Turn 1 ---
Singgih attacks with sword! Damage: 15
Goblin took 15 damage! Remaining health: 65
Goblin (Goblin) attacks ferociously! Damage: 5
Singgih took 5 damage! Remaining health: 95
Dragon ( Boss Monster ) attacks ferociously! Damage: 40
Singgih took 40 damage! Remaining health: 55

--- Turn 2 ---
Singgih attacks with sword! Damage: 10
Goblin took 10 damage! Remaining health: 55
Goblin (Goblin) attacks ferociously! Damage: 8
Singgih took 8 damage! Remaining health: 47
Dragon ( Boss Monster ) attacks ferociously! Damage: 40
Singgih took 40 damage! Remaining health: 7

--- Turn 3 ---
Singgih attacks with sword! Damage: 5
Goblin took 5 damage! Remaining health: 50
Goblin (Goblin) attacks ferociously! Damage: 9
Singgih took 9 damage! Remaining health: 0
Dragon ( Boss Monster ) attacks ferociously! Damage: 40
Singgih took 40 damage! Remaining health: 0
Singgih uses healing! Health: 5

--- Turn 4 ---
Singgih attacks with sword! Damage: 5
Goblin took 5 damage! Remaining health: 45
Goblin (Goblin) attacks ferociously! Damage: 14
Singgih took 14 damage! Remaining health: 0
Dragon ( Boss Monster ) attacks ferociously! Damage: 40
Singgih took 40 damage! Remaining health: 0

≡ Battle End ≡
Singgih has been defeated...
```