

Object Oriented Programming

Midterm Exam



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Class: 2I

No: 05

Major: Information Technology

Study Program: Informatic Engineering

1. Screenshot run java

```
1 package semester3.uts;
2 public class ClassA {
3     float f1 = 0.15f;
4
5     float hitung() {
6         float x = 2f * f1;
7         return x;
8     }
9 }
```

Yes, there is an issue in the provided code. The `hitung()` method is declared to return a float, but it doesn't actually return any value. In Java, when a method is declared to return a value (in this case, float), it must have a return statement that returns a value of the specified type. To fix the code, you should add a return statement to return the float value `x` from the `hitung()` method.

2. Screenshot program code

```
1 package semester3.uts;
2 public class SoalArray1 {
3     Run | Debug
4     public static void main(String[] args) {
5         int[][] arrayInt = {{1, 1, 4}, {2, 1, 2}, {3, 2, 1}};
6
7         int rowCount = arrayInt.length;
8         int columnCount = arrayInt[0].length;
9         int totalElements = rowCount * columnCount;
10
11         System.out.println("Jumlah elemen dalam array: " + totalElements);
12     }
13 }
```

Screenshot run java

```
Jumlah elemen dalam array: 9
```

3. Screenshot program code

```
1 package semester3.uts;
2 public class Class {
3     int a = 2;
4     int x = 0;
5
6     int hitung() {
7         x = x + 5 * a;
8         return x;
9     }
10 }
```

```

1  package semester3.uts;
2  public class ClassY extends Class{
3      int b = 5;
4      int y = 0;
5
6      int hitungY() {
7          y = hitung() * b;
8          return y;
9      }
10
11      Run | Debug
12      public static void main(String[] args) {
13          ClassY cy = new ClassY();
14          System.out.println(cy.hitungY());
15      }

```

Screenshot run java

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- Attributes inherited:
 - int a: The attribute a is inherited from the parent class Class. ClassY has access to this attribute, and it is initialized to 2 in the parent class.
- Methods inherited:
 - int hitung(): The hitung() method is inherited from the parent class Class. ClassY can call and use this method. It calculates the value of x as $x = x + 5 * a$ and returns the updated value of x.
- Output
 - An instance of ClassY (cy) is created.
 - When you call cy.hitungY(), it invokes the hitungY() method in ClassY.
 - Inside hitungY(), it calls the hitung() method from the parent class Class. This, in turn, updates the value of x based on the formula $x = x + 5 * a$.
 - In the hitungY() method, it multiplies the result of hitung() by b and returns it. So, y is calculated as $y = \text{hitung}() * b$.
- The calculation steps can be broken down as follows:
 - hitung() is called, and it updates x to $x = x + 5 * a = 0 + 5 * 2 = 10$.
 - y is calculated in hitungY() as $y = \text{hitung}() * b = 10 * 5 = 50$.
 - So, the final value that is printed using System.out.println(cy.hitungY()) is 50, and this is the output of the code.

4. Screenshot program code

```
1  package semester3.uts;
2  public class Mahasiswa {
3      String nim, nama, alamat;
4      char jenisKelamin;
5
6      //a. tambahkan constructor
7      public Mahasiswa(String nim, String nama, String alamat, char jenisKelamin) {
8          this.nim = nim;
9          this.nama = nama;
10         this.alamat = alamat;
11         this.jenisKelamin = jenisKelamin;
12     }
13
14     Run | Debug
15     public static void main(String[] args) {
16         //b. buat objek mahasiswa
17         Mahasiswa mahasiswa1 = new Mahasiswa(nim:"123", nama:"Cello", alamat:"Jl.Neverland 1", jenisKelamin:'L');
18         Mahasiswa mahasiswa2 = new Mahasiswa(nim:"456", nama:"Helga", alamat:"Jl.Neverland 2", jenisKelamin:'P');
19
20         System.out.println(x:"Mahasiswa 1:");
21         System.out.println("NIM: " + mahasiswa1.nim);
22         System.out.println("Nama: " + mahasiswa1.nama);
23         System.out.println("Alamat: " + mahasiswa1.alamat);
24         System.out.println("Jenis Kelamin: " + mahasiswa1.jenisKelamin);
25
26         System.out.println(x:"\nMahasiswa 2:");
27         System.out.println("NIM: " + mahasiswa2.nim);
28         System.out.println("Nama: " + mahasiswa2.nama);
29         System.out.println("Alamat: " + mahasiswa2.alamat);
30         System.out.println("Jenis Kelamin: " + mahasiswa2.jenisKelamin);
31     }
```

Screenshot run java

```
Mahasiswa 1:
NIM: 123
Nama: Cello
Alamat: Jl.Neverland 1
Jenis Kelamin: L

Mahasiswa 2:
NIM: 456
Nama: Helga
Alamat: Jl.Neverland 2
Jenis Kelamin: P
```

5. Screenshot program code

```
1  package semester3.uts;
2  public class MainBuku {
    Run | Debug
3      public static void main(String[] args) {
4          Penulis penulis1 = new Penulis();
5          penulis1.nama = "Leila S. Chudori";
6          penulis1.alamat = "Jakarta";
7
8          Buku buku1 = new Buku();
9          buku1.judul = "Laut Bercerita";
10         buku1.ISBN = "9786024246945";
11         buku1.harga = 109000;
12         buku1.setPenulis(penulis1);
13
14         Penulis penulis2 = new Penulis();
15         penulis2.nama = "Dian Purnomo";
16         penulis2.alamat = "Salatiga";
17
18         Buku buku2 = new Buku();
19         buku2.judul = "Perempuan yang Menangis kepada Bulan Hitam";
20         buku2.ISBN = "9786020648453";
21         buku2.harga = 99000;
22         buku2.setPenulis(penulis2);
23
24         // Print information for buku1
25         System.out.println(x:"Informasi Buku 1:");
26         System.out.println("Judul: " + buku1.getJudul());
27         System.out.println("ISBN: " + buku1.getISBN());
28         System.out.println("Harga: " + buku1.getHarga());
29         System.out.println("Penulis: " + buku1.getPenulis().getNama());
30         System.out.println("Alamat Penulis: " + buku1.getPenulis().getAlamat());
31
32         // Print information for buku2
33         System.out.println(x:"\nInformasi Buku 2:");
34         System.out.println("Judul: " + buku2.getJudul());
35         System.out.println("ISBN: " + buku2.getISBN());
36         System.out.println("Harga: " + buku2.getHarga());
37         System.out.println("Penulis: " + buku2.getPenulis().getNama());
38         System.out.println("Alamat Penulis: " + buku2.getPenulis().getAlamat());
39     }
40 }
```

Screenshot run java

```
Informasi Buku 1:  
Judul: Laut Bercerita  
ISBN: 9786024246945  
Harga: 109000  
Penulis: Leila S. Chudori  
Alamat Penulis: Jakarta  
  
Informasi Buku 2:  
Judul: Perempuan yang Menangis kepada Bulan Hitam  
ISBN: 9786020648453  
Harga: 99000  
Penulis: Dian Purnomo  
Alamat Penulis: Salatiga
```