1.Tujuan

- Mengidentifikasi bagian dasar dari program java
- Membedakan mana yang termasuk ke dalam java literals, tipe data dasar, tipe variabel, pengidentifikasian dan operator.
- Mengembangkan program java sederhana menggunakan konsep pembelajaran pada bab ini.
- Menganalisa program java pertama

2. Latar Belakang

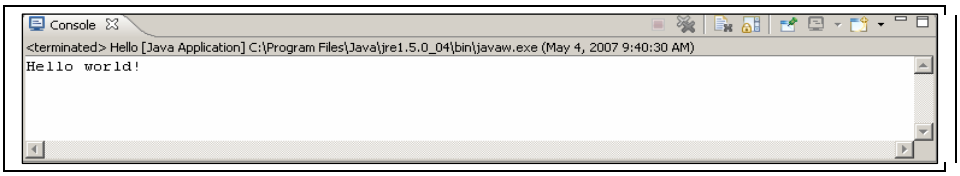
Pada bagian ini, kita akan mendiskusikan mengenai bagian dasar pemrograman java. Kita akan memulai dengan mencoba menjelaskan bagian dasar dari program Hello.java yang telah diperkenalkan pada bab sebelumnya. Kita juga akan mendiskusikan beberapa pedoman cara menulis script atau petunjuk penulisan kode dalam penulisan program lebih efektif dan mudah dibaca.

3. Percobaan

Percobaan 1 Menampilkan Data Variabel :

```
public class OutputVariable
{
    public static void main( String[] args ){
        int value = 10;
        char x;
        x = 'A';

        System.out.println( value );
        System.out.println("The value of x=" + x );
    }
}
```

Output :



Percobaan 2 Penggunaan Operator Aritmatika :

```
public class aritmatikaDemo
{
    public static void main(String[] args)
   {

        //sedikit angka
        int i = 37;
        int j = 42;
        double x = 27.475;
        double y = 7.22;
        System.out.println("Variable values...");
        System.out.println("    i = " + i);
        System.out.println("    j = " + j);
        System.out.println("    x = " + x);
        System.out.println("    y = " + y);

        //penjumlahan angka
        System.out.println("Adding...");
        System.out.println("    i + j = " + (i + j));
        System.out.println("    x + y = " + (x + y));

        //pengurangan angka
        System.out.println("Subtracting...");
        System.out.println("    i - j = " + (i - j));
        System.out.println("    x - y = " + (x - y));

        //perkalian angka
        System.out.println("Multiplying...");
        System.out.println("    i * j = " + (i * j));
        System.out.println("    x * y = " + (x * y));
        //pembagian angka
        System.out.println("Dividing...");
        System.out.println("    i / j = " + (i / j));
        System.out.println("    x / y = " + (x / y));

        //menghitung hasil modulus dari pembagian
        System.out.println("Computing the remainder...");
```

```
        System.out.println("    i % j = " + (i % j));
        System.out.println("    x % y = " + (x % y));

        //tipe penggabungan
        System.out.println("Mixing tipes...");
        System.out.println("    j + y = " + (j + y));
        System.out.println("    i * x = " + (i * x));
    }
}
```

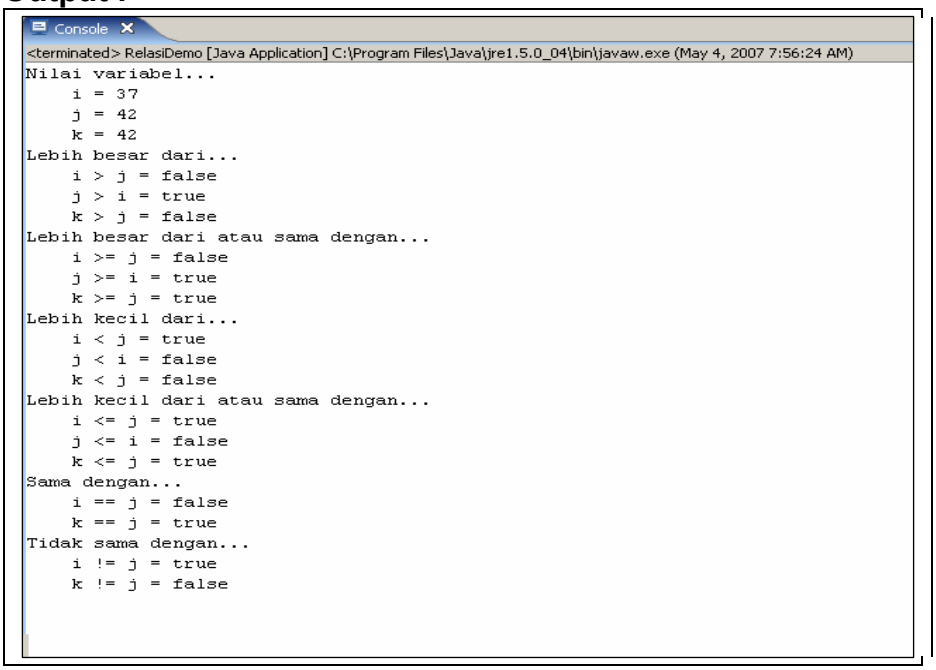
Output:

```
Console
<terminated> aritmatikaDemo [Java Application] C:\Program Files\Java\jre1.5.0_04\bin\javaw.exe (May 4, 2007 5:57:46 AM)
Variable values...
    i = 37
    j = 42
    x = 27.475
    y = 7.22
Adding...
    i + j = 79
    x + y = 34.695
Subtracting...
    i - j = -5
    x - y = 20.255000000000003
Multiplying...
    i * j = 1554
    x * y = 198.36950000000002
Dividing...
    i / j = 0
    x / y = 3.805401662049862
Computing the remainder...
    i % j = 37
    x % y = 5.815000000000002
Mixing tipes...
    j + y = 49.22
    i * x = 1016.575
```

Percobaan 3 Penggunaan Operator Relasi:

```
public class RelasiDemo
{
    public static void main(String[] args) {
    //beberapa nilai
        int i = 37;
        int j = 42;
        int k = 42;
        System.out.println("Nilai variabel...");
        System.out.println("    i = " + i);
        System.out.println("    j = " + j);
        System.out.println("    k = " + k);

   //lebih besar dari
        System.out.println("Lebih besar dari...");
        System.out.println("    i > j = " + (i > j)); //false
        System.out.println("    j > i = " + (j > i)); //true
        System.out.println("    k > j = " + (k > j)); //false

   //lebih besar atau sama dengan
        System.out.println("Lebih besar dari atau sama dengan...");
        System.out.println("    i >= j = " + (i >= j)); //false
        System.out.println("    j >= i = " + (j >= i)); //true
        System.out.println("    k >= j = " + (k >= j)); //true

   //lebih kecil dari
        System.out.println("Lebih kecil dari...");
        System.out.println("    i < j = " + (i < j)); //true
        System.out.println("    j < i = " + (j < i)); //false
        System.out.println("    k < j = " + (k < j)); //false
   //lebih kecil atau sama dengan
        System.out.println("Lebih kecil dari atau sama dengan...");
        System.out.println("    i <= j = " + (i <= j)); //true
        System.out.println("    j <= i = " + (j <= i)); //false
        System.out.println("    k <= j = " + (k <= j)); //true

   //sama dengan
        System.out.println("Sama dengan...");
        System.out.println("    i == j = " + (i == j)); //false
        System.out.println("    k == j = " + (k == j)); //true

   //tidak sama dengan
        System.out.println("Tidak sama dengan...");
        System.out.println("    i != j = " + (i != j)); //true
        System.out.println("    k != j = " + (k != j)); //false

    }
}
```

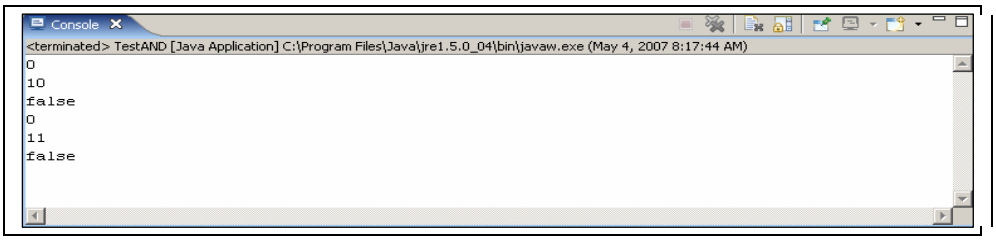
Output :



Percobaan 4 Penggunaan Operator Logika dan Boolean AND:

```
public class TestAND
{
	public static void main( String[] args ){

		int   i      = 0;
		int   j      = 10;
		boolean test= false;

		//demonstrasi &&
		test = (i > 10) && (j++ > 9);
		System.out.println(i);
		System.out.println(j);
		System.out.println(test);

		//demonstrasi &
		test = (i > 10) & (j++ > 9);
		System.out.println(i);
		System.out.println(j);
		System.out.println(test);
	}
}
```

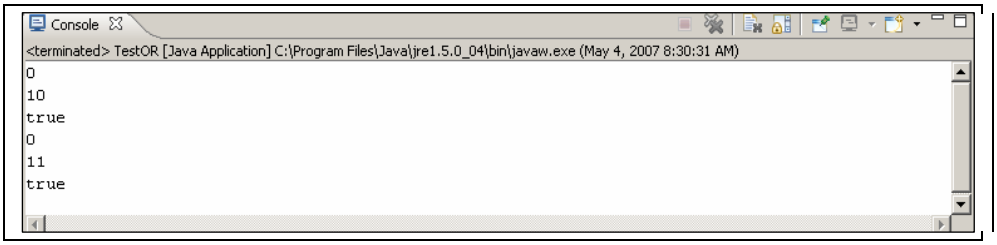
Output :



Percobaan 5 Penggunaan Operator Logika dan Boolean OR:

```
public class TestOR
{
	public static void main( String[] args ){

		int	i	= 0;
		int	j	= 10;
		boolean test = false;

		//demonstrasi ||
		test = (i < 10) || (j++ > 9);
		System.out.println(i);
		System.out.println(j);
		System.out.println(test);

		//demonstrasi |
		test = (i < 10) | (j++ > 9);
		System.out.println(i);
		System.out.println(j);
		System.out.println(test);
	}
}
```

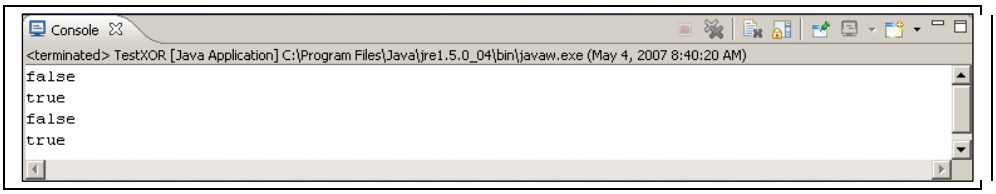
Output:



Percobaan 6 Penggunaan Operator Logika Eksklusive OR:

```
public class TestXOR
{
	public static void main( String[] args ){

		boolean val1 = true;
		boolean val2 = true;
		System.out.println(val1 ^ val2);

		val1 = false;
		val2 = true;
		System.out.println(val1 ^ val2);

		val1 = false;
		val2 = false;
		System.out.println(val1 ^ val2);

		val1 = true;
		val2 = false;
		System.out.println(val1 ^ val2);
	}
}
```

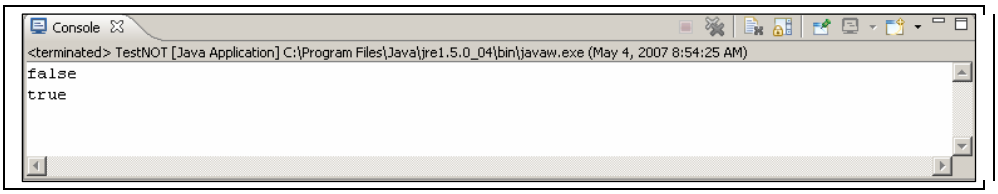
Output:



Percobaan 7 Penggunaan Operator Logika NOT:

```
public class TestNOT
{
	public static void main( String[] args ){

		boolean val1 = true;
		boolean val2 = false;
		System.out.println(!val1);
		System.out.println(!val2);
	}
}
```

Output:



Percobaan 8 Penggunaan Operator Kondisi (?:):

Contoh 1 :

```
public class kondisiOperator
{
	public static void main( String[] args ){

		String	status = "";
		int	grade = 80;

		//mendapatkan status pelajar
		status = (grade >= 60)?"Passed":"Fail";

		//print status
		System.out.println( status );
	}
}
```

Output:

Contoh 2 :

```
class kondisiOperator
{
	public static void main( String[] args ){

		int    score = 0;
		char   answer = 'a';

		score = (answer == 'a') ? 10 : 0;
		System.out.println("Score = " + score );
	}
}
```

Output: