جامعة التنمية البشرية
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COMPUTER PROGRAMMING CONCEPTS

CS&IT 1101
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LECTURE 8: JAVA IF-ELSE STATEMENTS

OUTLINES

- Relation operator
- Logical operator
- Miscellaneous Operators
- Nested if statement in java
- Java if else statement (double selection)

RELATION OPERATORS (1/2)

- The following table shows all relation operators supported by Java.

Operator	Description
==	Check if two operand are equal
!=	Check if two operand are not equal.
>	Check if operand on the left is greater than operand on the right
<	Check operand on the left is smaller than right operand
>=	check left operand is greater than or equal to right operand
<=	Check if operand on left is smaller than or equal to right operand

RELATION OPERATORS (2/2)

- Which can be used to check the Condition, it always return true or false. Lets suppose variable **A=8** and **B=3**.

Operators	Example (int A=8, B=3)	Result
<	A<B	False
<=	A<=10	True
>	A>B	True
>=	A<=B	False
==	A== B	False
!=	A!=(-4)	True

LOGICAL OPERATORS

- Java supports following 3 logical operator. Suppose a=1 and b=0;

Operator	Description	Example
&&	Logical AND	(a && b) is false
||	Logical OR	(a || b) is true
!	Logical NOT	(!a) is false

MISCELLANEOUS OPERATORS

- There are few other operators supported by Java Language
- **Conditional Operator (? :)**
- Conditional operator is also known as the ternary operator. This operator consists of three operands and is used to evaluate Boolean expressions. The goal of the operator is to decide, which value should be assigned to the variable. The operator is written as :

```
variable x = (expression) ? value if true : value if false
```

EXAMPLE (1/2)

```
public class JavaApplication1 {

    public static void main(String[] args) {
      int a, b;
      a = 10;
      b = (a == 1) ? 20: 30;
      System.out.println( "Value of b is : " +  b );

      b = (a == 10) ? 20: 30;
      System.out.println( "Value of b is : " + b );

    }
}
```

Condition .Checking if Condition is true Print 20 if false print 30

Here Condition is true because value of a is 10

EXAMPLE(2/2)

```
public class JavaApplication1 {

    public static void main(String[] args) {
      int a, b;
      a = 10;
      b = (a == 1) ? 20: 30;
      System.out.println( "Value of b is : " +  b );

      b = (a == 10) ? 20: 30;
      System.out.println( "Value of b is : " + b );

    }
}
```

Condition is False

Condition is true

Output is :

Value of b is : 30

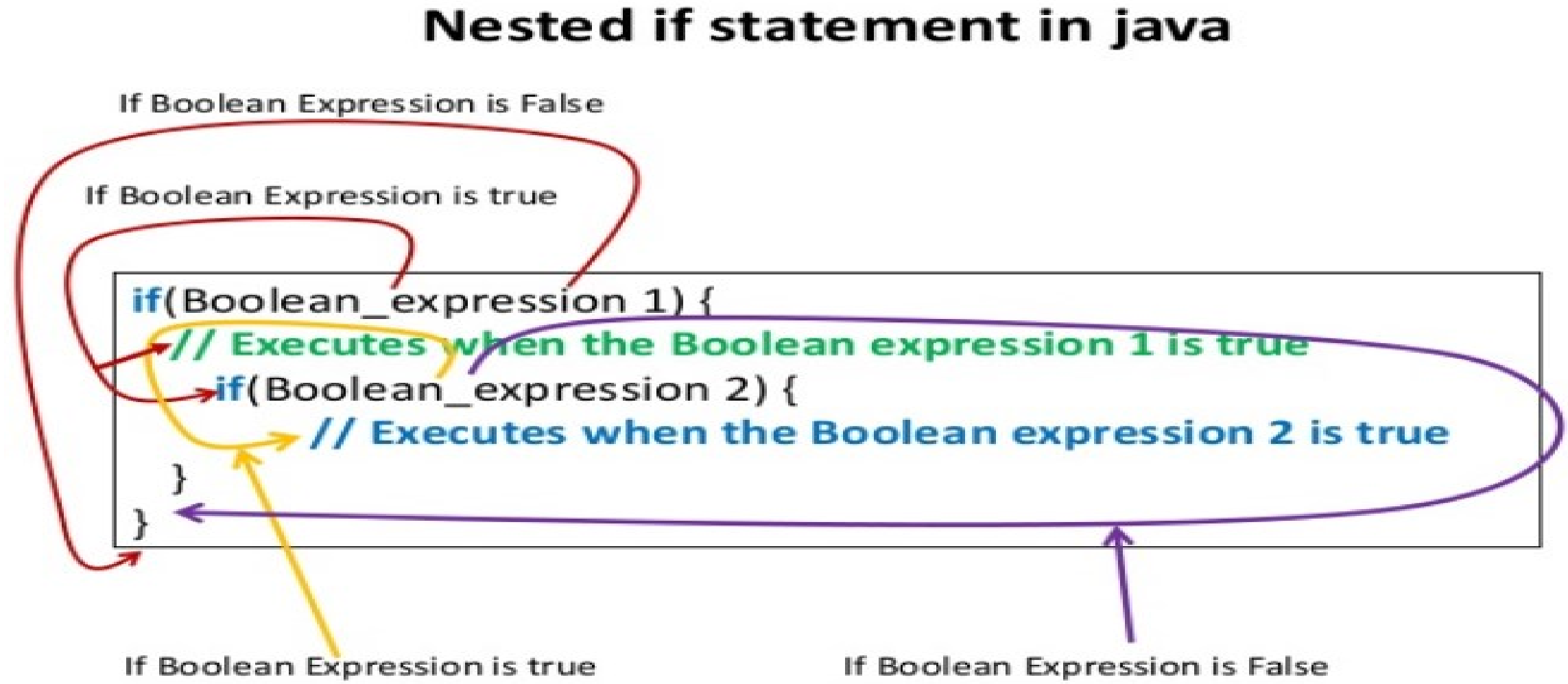
Value of b is : 20

NESTED IF STATEMENT

- It is always legal to nest if-else statements which means you can use one if or else if statement inside another if or else if statement.
- **Syntax:**

```
if(Boolean_expression 1)
 {
 // Executes when the Boolean expression 1 is true
if(Boolean_expression 2)
 {
// Executes when the Boolean expression 2 is true } }
```

EXAMPLE (1/2)


Nested if statement in java
If Boolean Expression is False
If Boolean Expression is true
if(Boolean_expression 1) {
// Executes when the Boolean expression 1 is true
if(Boolean_expression 2) {
// Executes when the Boolean expression 2 is true
}
}
If Boolean Expression is true
If Boolean Expression is False

EXAMPLE(2/2)

```
public static void main(String[] args) {
        int x = 30;
        int y = 10;
        if( x = = 30 )
        {
            if( y = = 10 )
            {
                System.out.println("X = 30 and Y = 10");
            }
        }
    }
```

JAVA IF-ELSE STATEMENT

- The if-else statement also tests the condition.
- It executes the if block if condition is true otherwise execute else block.
- **Syntax:**

```
if(condition)
{
 //code if condition is true
}
 else
{
//code if condition is false
}
```

EXAMPLE(1/2)

- if today is Wednesday I have test today else we have match today
- if you will run fast, you will catch the bus else you have to take a Taxi.
- if x is dividable by 2 then x is even number else x is odd

EXAMPLE(2/2)

- suppose the passing grade on an exam is 60. The pseudo code statement:

```
If student 's grade is greater than or equal to 60
Print "Passed"
else
Print "Failed"
```

- The preceding pseudo code If…Else statement can be written in Java as:

```
if (grade >= 60 )
System.out.println("Passed");
 else
 System.out.println("Failed");
```

THANK YOU.....

DO YOU HAVE ANY QUESTIONS ?