

1. In Java applications, only class level variables are having default values , local variables are not having default values, If we declare any variable as local variable then we must provide initialization for that variable explicitly either at the same declarative statement or atleast before accessing that local variable. If we violate this condition then compiler will raise an error.

EX:

```
---
class A
{
    int i;// i = 0
    void m1()
    {
        int j;// j = no value
        System.out.println(i); // OP: 0
        System.out.println(j); ---> Error
    }
}
```

EX:

```
---
class A
{
    int i;// i = 0
    void m1()
    {
        int j;// j = no value
        System.out.println(i); // OP: 0
        System.out.println(j); ---> Error
        j = 10;
        System.out.println(j); // OP: 10
    }
}
```

2. There are two types of conditional expressions,

1. Constant Expression

It includes only constants[Final variables also] and it will be evaluated by compiler.

EX1: if(10 == 10) {}
EX2: if(true){ }
EX3: final int i = 10;
if(i == 10){ }

```
1 class Test
2 {
3     public static void main(String[] args)
4     {
5         int i = 10;
6         int j;
7         if(i == 10)
8         {
9             j = 20;
10        }
11        System.out.println(j);
12    }
13 }
```

```
{}
public static void main(String[] args)
{
    int i = 10;
    int j;
    if(i == 10)// false
    {
        j = 20;
    }
    else
    {
        j = 30;
    }
    System.out.println(j);
}
```

```
public static void main(String[] args)
{
    int i = 10;
    int j;
    if(i == 10)
    {
        j = 20;
    }
    else if(i == 20)
    {
        j = 30;
    }
    System.out.println(j);
}
```

```
int i = 10;
int j;
if(i == 10)// false
{
    j = 20;
}
else if(i == 20)// true
{
    j = 30;
}
else
{
    j = 40;
}
System.out.println(j);
}
```

```
1 class Test
2 {
3     public static void main(String[] args)
4     {
5         int j;
6         if(true)
7         {
8             j = 20;
9         }
10        System.out.println(j);
11    }
12 }
```

```
1 class Test
2 {
3     public static void main(String[] args)
4     {
5         final int i = 10;
6         int j;
7         if(i == 10)
8         {
9             j = 20;
10        }
11        System.out.println(j);
12    }
13 }
```

2. Variable Expression

It includes atleast one variable[non final variable] and it will be evaluated by JVM at runtime.

EX1: int i = 10;
 int j = 10;
 if(i == j){ }

EX2: int i = 10;
 if(i == 10){ }