

## **Instance Fields**

- 1.The variable which are declared with in the class , outside of all method without static keyword
- 2.For Instance fields the memory is allocated with in the Object
- 3.Every Instance field must be referred by using an object reference with in the static context of Same class
- 4.Every instance field must be referred by using an object reference , whenever you want access it from outside of the class
- 5.*For Every instance field* an individual memory block is created for every new Object of Same class, thus changing the value of an instance field of object will not be reflected same field of another object of Same class.
- 6.Every Instance field by default initialized with their default values
  - For byte, short, int, long is 0
  - For float is 0.0f[f is invisible ]
  - For double is 0.0
  - For char is Empty Space
  - For String is null
  - For Boolean is false
  - For Any Reference Type is “null”

Example -1 For 1 ,2 and 3

class Sample

```
{  
    int y; //instance fields or non static variables  
  
    public static void main(String args[ ])  
    {  
        int x=10; // local variable
```

```
System.out.println("Local variable x : "+x); //10

Sample s=new Sample();
s.y=20;
System.out.println("y val is : "+s.y); //20
}

}
```

**Example 2: For 4<sup>th</sup> point**

```
class Test
{
    int x; //Instance fields or non static fields
}
```

```
class Testing
{
    public static void main(String args[ ])
    {
        Test t=new Test();
        t.x=10;
        System.out.println("x val is : "+t.x);
    }
}
```

**Example 3: For 5<sup>th</sup> point**

```
class Test
{
    int x=111; //instance field or non static variable

    public static void main(String args[ ])
    {
        Test t1=new Test();
        Test t2=new Test();
    }
}
```

```
System.out.println("t1 x is : "+t1.x); //111
System.out.println("t2 x is : "+t2.x); //111

t1.x=999;
System.out.println("After modification ");
System.out.println("t1 x is : "+t1.x); //999
System.out.println("t2 x is : "+t2.x); //111
}

}
```

**Example for 6<sup>th</sup> Point:**

```
//BookInfo.java
class BookInfo
{
    String bname;
    int pages;
    float price; //instance fields

    public static void main(String args[])
    {
        BookInfo b=new BookInfo();
        System.out.println("bname is : "+b.bname);
        System.out.println("Pages is : "+b.pages);
        System.out.println("Price is : "+b.price);
    }
}
```