

### ***HAS-A Relation [composition] :***

- 1.Has-a relationship is the process of creating an object of the super class into subclass
- 2.By the reference of the super class we can access the properties of the super into sub class

#### ***Syn For Has-a Relationship:***

---

```
[modifiers] <class> <SuperClassName>
{
    Fields
    Methods
}

[modifiers] <class> <SubClassName>
{
    <SuperClassName> <supref>=
        new <SuperClassName>([list of args]);
    Fields
    Methods
}
```

#### ***Has\_A Examples:***

```
class SuperA{
    int x=100; //instance field
}

class SubB
{
    SuperA sa=new SuperA();
    //here sa is also an instance field
    int y=200; //instance field
}

class Has_A1
```

```
{  
    public static void main(String args[])  
    {  
        SubB sb=new SubB();  
        System.out.println("y val is : "+sb.y);  
        System.out.println("x val is : "+sb.sa.x);  
    }  
}
```

**Example 2:**

```
class Master  
{  
    void print() //non static mtd  
    { System.out.println("U r Osm..!"); }  
}  
  
class Systems{  
    static Master out=new Master();  
    //out non static is reference variable of Master class  
}  
  
class Testing  
{  
    public static void main(String args[ ])  
    {  
        Systems.out.print();  
    }  
}
```

## Why to write System.out Before println( ) ?

```
java.io
class PrintStream {
    p v println(String x){....}
    p v println(int i){....}
    p v println(float j){....}
}

java.lang
class System {
    static PrintStream out;
    static PrintStream err;
}

class Testing
{
    p s v main(String args[ ])
    {
        System.out.println("Sai");
        System.out.println(10);
        |       |       |
        clsname  object   method
                    ref
        System.err.println("invalid");
    }
}
```

out and err are Object references of PrintStream class and those are defined as static members of java.lang.System class

System.out.println( ) and System.err.println( ) technically both are same but while write industry program, in order make the difference between Normal messages and Error messages then we to use System.err for Error Messages.