

Aim :- Create debug and run java programmes based on inheritance

Theory :-

Inheritance in Java

Inheritance in Java is a mechanism which one object acquires all the properties and behaviour of parent object. It is an important part of oops. The idea behind inheritance in Java that you can create new classes that are built upon existing classes when you inherit from an existing class you can reuse methods and field of parent class. Moreover, you can add new methods and fields in your current classes also. It represents a relationship which is also known as parent-child relationship.

Syntax.

```
class subclass-name extends Super-  
class - name  
{  
    // methods and fields.  
}
```

The `extends` keyword indicates that you are making new class that derives from an existing class.

In terminology of Java a class which is inherited is called a parent or superclass and the new class is called child or subclass. There are 3 types of inheritance.

- ① single
- ② multilevel
- ③ hierarchical

Programs :-

① program :-

```
class phone {
    void ring () {
        System.out.println(" Ringing ---- ");
    }
}
class Smartphone extends phone {
    void vcall () {
        System.out.println(" Video Calling --- ");
    }
}
```

```
class practical10 {
    public static void main (String args []) {
        Smartphone s = new Smartphone ();
        s.vcall ();
        s.ring ();
    }
}
```

② program :-

```
class Camera {
    void photo () {
        System.out.println(" Capturing photo - - - ");
    }
}
class video extend Camera {
    void video () {
        System.out.println(" Recording video ");
    }
}
```

```

Class Smartphone extends Video {
    void Gallery () {
        System.out.println ("Opening Gallery ---");
    }
}

```

```

Class practical 10-2 {
    public static void main (String args []) {
        Smartphone s = new Smartphone ();
        s.photo ();
        s.video ();
        s.Gallery ();
    }
}

```

Conclusion:- Hence, we successfully create and run a program on inheritance.

C:\Windows\System32\cmd.exe

```
C:\Users\Public\Java\Practicals>javac practical10.java
```

```
C:\Users\Public\Java\Practicals>java practical10
```

Video Calling...

Ringin..

```
C:\Users\Public\Java\Practicals>_
```

```
C:\Users\Public\java>java practical10_2  
Capturing photo ...  
Recodrding video...  
Opening gallery...
```