

3. Q what are Constructors? How can you initialize the base class member using derived class Constructor?

Ans A Constructor is a Special method that is used to initialize a newly created object and is called just after the memory is allocated for the object. A Constructor can be used to initialize the object, to required, or default values at the time of object creation. It is not mandatory for the coder to write a Constructor for the class, if no user defined Constructor is provided for a class, Compiler initializes member variables to its default value.

⇒ Syntax

```
[access modifier] ConstructorName ([parameter list])
```

```
{
```

```
    // body of Constructor method
```

```
}
```

Here, the ConstructorName is same as the class it belongs to. The parameter list is the list of the optional or zero or more parameters that the Constructor will take while creating an object of the class. Each Parameter specification, if any, consists of a type and a name are separated from each other by commas.

⇒ we can initialize the base class members using derived class with the help of Super(). If we want to call parameterized

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Constructor of base class, then we can call it using Super().

Base Class Constructor Call must be the first line in derived class constructor.

⇒ PROGRAM

```
class Base
{
```

```
    int x;
```

```
    Base(int x)
```

```
    {
```

```
        this.x = x;
```

```
    }
```

```
}
```

```
class Derived extends Base
```

```
{
```

```
    int y;
```

```
    Derived(int x, int y)
```

```
    {
```

```
        Super(x);
```

```
        this.y = y;
```

```
    }
```

```
}
```

```
    void display()
```

```
    { System.out.println("x = " + x + ", y = " + y); }
```

```
}
```

```
public class main
```

```
{
```

```
    public static void main(String args[])
```

```
    {
```

```
        Derived d = new Derived(5, 10);
```

```
        d.display();
```

```
    }
```

\Rightarrow OUTPUT

$$x=5, y=10$$