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Constructors in Java

=> Constructors :-

-> WHAT IS CONSTRUCTOR : Constructors are the special methods having same name as that of class name and does not have any return type

-> EXAMPLE :-

```
class Animal
{
    Animal()
    {

    }
}
```

-> USE OF CONSTRUCTOR :- Constructors are used to initialize an object but not for object creation

-> WHEN CONSTRUCTORS ARE EXECUTED :- Constructors are executed exactly at the time of object creation, not before or after object creation

-> HOW CONSTRUCTORS ARE EXECUTED :- Constructors are executed automatically when we create an object

-> SYNTAX :-

access-modifiers ClassName(list of parameters) throws Exception1, Exception2, --

```
{
    //initialization code
}
```

-> We can use any access-modifier for the constructor i.e. public, private, protected or default. This is done to control the object creation

-> We cannot use abstract, final, static, synchronized etc keywords with constructors

-> TYPES OF CONSTRUCTORS :- There are 3 types of constructors :-

1. Default Constructors (compiler)
2. 0-Argument Constructors (programmer)
3. Parametrized Constructors (programmer)

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1. Default Constructors :-

-> Whenever we dont create any constructor in class, then compiler will always create a constructor which is known as default constructor

-> Default constructors are used to provide the default values to the objects like 0, null etc depending on the type.

-> Note : If programmer creates any one constructor then compiler will not generate default constructor

-> Prototype of default constructor :-

1. Access-modifier of default constructor will be same at that of class access-modifier

2. Access-modifier of default constructor cannot be private or protected because outer class canot be private or protected

3. Default constructor has only one line of code i.e. super();

2. 0-Argument Constructors :-

-> These constructors are created by the programmer

```
class Test
{
    Test()
    {

    }
}
```

3. Parametrized Constructors :-

-> These constructors are created by the programmer

```
class Test
{
    Test(int a, int b)
    {

    }
}
```

=> What is difference between Methods & Constructors :-

1. Methods always have return type

Constructors does not have any return type even void

2. Methods can have any valid name

Constructors always have same name as that of class name

3. Methods are used to perform any particular task

Constructors are always used to initialize an object

4. We have to call the methods explicitly by using object name or class name

Constructors are called automatically when we create an object

5. If we dont create any method then compiler will not generate any method

If we dont create any constructor then compiler will generate default constructor

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=> Topics related to constructor :-

1. Constructors with inheritance
2. Constructors overloading and overriding
3. Constructors chaining (using this keyword)
4. Use of super keyword with constructor
5. Constructors with abstract class & interface
6. Constructors with exception handling
7. Copy constructor

=> NOTE :-

-> Constructor is predefined class present in java.lang.reflect package

-> This Constructor class is used to get constructor related information

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⇨ Program Flow

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```
class Animal5
{
        int age;
        String color;

        Animal5(int age1, String color1)
        {
                age=age1;
                color=color1;
        }

        void eat()
        {
                System.out.println("i am eating");
        }
        void run()
        {
                System.out.println("i am running");
        }

        public static void main(String[] args)
        {
                Animal5 buzo=new Animal5(10, brown);
                System.out.println("Age : "+buzo.age);
                System.out.println("Color : "+buzo.color);
                buzo.eat();
                buzo.run();

                System.out.println("----------------------");

                Animal5 cat=new Animal5(5, "black");
                System.out.println("Age : "+cat.age);
                System.out.println("Color : "+cat.color);
                cat.eat();
                cat.run();
```

Company Links & Contacts

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