Constructor Basics

- Constructor is special kind of method. Its name must be a class name.

```
class Foo {
        Foo() { } // The constructor for the Foo class
      }
```

Notice what’s missing? *There’s* **no return type***!*

constructor has no return type

❑Typically, constructors are used to initialize instance variable state, as follows:

```
class Foo
 {
int age;
String name;
Foo( ){
name = “ABC”;
age = 23;
}
}
```

❑ The constructor will automatically invoke when an object is created.

```
Foo f = new Foo();   // Empty Constructor calling
```

Rules for Constructors

- ❑ Constructors can use any access modifier, including private.
- ❑ The constructor name must match the name of the class.
- ❑ Constructors must not have a return type.

- If you don’t type a constructor into your class code, a default constructor will be automatically generated by the compiler.
- The default constructor is *always* a no-arg constructor.

EXAMPLE

```
public class demo {
String name;
int age;
Demo()    {
name="abc";
age=20;
}
```

```
void display(){
      System.out.println("Name:"+name);
System.out.println("Age:"+age);
}
public static void main(String args[])    {
demo obj=new demo();
obj.display();
 } }
```

EXAMPLE

```
public class demo {
String name;
int age;
Demo()    {
name="abc";
age=20;
}
```

```
void display(){
      System.out.println("Name:"+name);
System.out.println("Age:"+age);
}
public static void main(String args[])    {
demo obj=new demo();
obj.display();
 } }
```

Overloaded Constructors

- Overloading a constructor means typing in multiple versions of the constructor, each having a different argument lists, like the following

Examples:

```
class Foo {
Foo() { }
Foo(String s) { }
}
```

Example

```
public class demo {
String name;      int age;
demo()     {
System.out.println("Empty
   Constructor");
}
demo(int n)      {
int f=1;
for(int i=1;i<=n;i++)           f=f*i;
System.out.println("Factorial:"+f
   );
  }
demo(int a,int b)    {
   System.out.println("S
   um :"+(a+b));
}
public static void
   main(String args[])  {
demo obj1=new demo();
demo obj2=new demo(5);
demo obj3=new
   demo(10,20);
}  }
```

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