

## DEFINING A CLASS :

A class is the basic element of object oriented programming.

A class defines the shape and behavior of an object.

A class is a template for multiple object with similar feature.

Any concept represented in a class is encapsulated in a class. When an application is written, classes of objects are defined.

To create a class a keyword 'class' followed by curly brackets is used. As shown below

```
class {  
}
```

## DEFINING CLASS ATTRIBUTES :

A class called Professor includes all its features serving as template for the concepts. Each property treated as an attribute of that class.

In Java attributes are declared inside the class.

For example, the professor's name, professors mobile are its attributes. The definition of the class 'Professor' would be:

```
class Professor {  
String professorName;  
String professorAddres;  
int mobile;
```

```
}
```

## DEFINING CLASS METHODS:

Apart from defining an object's structure, a class also defines its functional interface, known as methods.

To create a method, syntax is as shown below

```
class {  
return_type method_name(){  
}  
}
```

In Java each method requires a class.

For example, the class 'Professor' can have a method ( showProfessorName) that display the name of the professor,

```
class Professor {  
String professorName;  
String professorAddress;  
int mobile;  
  
void showProfessorName(){  
System.out.println("Name of the professor is" +name);  
}  
}
```

## DEFINING CLASS OBJECTS:

Once a class 'Professor' is defined, instance (object) of that class can be created and each instance can have different attributes. When the program runs, instances of the class are created and discarded as when required.

An instance can be created in a method of class only.

The terms instance and object are used interchangeably.

For example,

```
class Professor {  
String professorName;  
String professorAddress;  
int mobile;  
  
void showProfessorName(){  
System.out.println("Name of the professor is" +professorName);  
}  
  
void showProfessorAddress(){  
System.out.println("Name of the professor is" +professorAddress);  
Professor p = new Professor(); // Object p of class 'Professor'  
p.showProfessorName(); // p called method  
System.out.println("mobile is" +p.mobile); // p called attribute  
}  
}
```

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