

**4) Classes and Objects**

**Defining a Class and Object in Java Answer :-**

1. Class : is an collection of data member(variables) and member function(methods, process) with its behaviors

sy:

class classname

{

data member member function

}

1. object : is a instancs of an class i.e.

:when you create class variables also called..

:its uses new keyword and class constructor to create object :access whole properties of an class except private sy:

classname objectname = new constructor();

Example:- **class** Student

{

String name;

**int** age;

**public** **void** getStudentData()

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter the Name of Student : "); name=sc.nextLine();

System.***out***.println("Enter the Age of Student : "); age=sc.nextInt();

sc.close();

}

**public** **void** showStudentData()

{

System.***out***.println("Name of the Student : "+name);

System.***out***.println("Age of the Student : "+age);

}

}

**public** **class** StudentClass

{

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

{

Student s1=**new** Student(); s1.getStudentData();

s1.showStudentData();

}

}

**Constructors and Overloading**

**Answer :-** Constructor : Is a Special member function (Method) because it has a same name as

the class name. Does not return any value even void.

To initialized value of your data members at object creation time

: may used access modifier except private

: when your class object you create at that time to called constructor.

: there are mainly 2 types

1. default : no any argument in constructor
2. parameterized: may have one or more argument in constructor

Overloading : If we create two or more constructor in the single class but different its behavior (data type, argument). When you want to access constructor data then you want to create different object with its behavior.

**Object Creation, Accessing Members of the Class**  **Answer :-**

In Java, an object is created using the new keyword followed by the class name and parentheses containing the required parameters.

For example:

MyClass obj = new MyClass();

To access members of a class, you can use the dot notation. For instance, to access a method myMethod() or a variable myVariable of an object obj, you would use:

obj.myMethod();

obj.myVariable;

**this Keyword**

**Answer :-** In Java, the this keyword is a reference to the current object of the class. It is used to:

Distinguish instance variables from local variables with the same name

Pass the current object as an argument to a method

Return the current object from a method

Call a method from another method of the same class For example:

public class Person

{

public void greet()

{

System.out.println("Hello, my name is " + this.name);

}

}