**OOPs Concepts**

* **Classes :**

Underlyingstructure of each Java programs is Classes .

Classes

Functions basic programs Objects

Methods Components

Objects

**Defining a class :**

* A class is a user defined data type .
* Variables and functions can be created within class .

**Syntax :**

**Example :**

class classname { Instance variables class area{

field declaration; declaring variables int side

Instance variable can be declared

exactly as local variable int length; }

method declaration; }

there is no semi colon after curly closing braces.

**Method declaration :**

* Without methods class has no life .
* Since objects created by such class can not respond to any messages .
* Thus , methods are necessary for MANIPULATING DATA .

**Syntax :**

type method-name(parameter list){

} Type of the value the method returns .

It can be void , int , float , double .

**Example :**

class area

{

int side;

int length ;

void get(int s, int l)

{

side = s ;

length = l ;

}

}

**Example for creating a classes** –

Design a class Account that stores customer name , account number , and type of account . Include necessary methods to achieve following tasks :-

* Deposit money.
* Display balance .
* Permit withdrawal and update balance .

**Creating Objects**

* An object in java is essentially a block of memory that contains space to store all the instance variable .
* Creating an object also refers to INSTANTING AN OBJECT.
* Objects in java are created using new . The new operator dynamically (allocates at a run - time)allocates memory for an object an returns a reference to it .

|  |
| --- |
| Null |

Indicates that it does not point to any object .

**Syntax :**

Classname objectname ;

Objectname = new classname() ;

**Example for creating a Object** –

**public** **class** CreateObjectEx

{

**void** show()

{

System.out.println("Hello world");

}

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

{

CreateObjectExample1 obj = **new** CreateObjectEx();

obj.show();

}

}

**Accessing Class Members**

* Values are to assign to the variables in order to use them in our programs .
* Since we are outside the class . we can not access the instance variables and methods directly .
* Object and dot operators are used to do this .

**Syntax :**

Objectname.variablename = value ;

Objectname.methodname(parameter-list) ;

**Example :**

class area {

int side ;

int length ;

void get(int s , int l)

{

side = s;

length = l ;

}

area a1 = new area1() ;

a1.side = 10 ;

a1.get(10,15)

}

}