**JAVA – Placement Training – ECE – PVPSIT – 2019 batch**

Java is OOP Language

Oop concepts

1. Class – definition of coll. Of similar objects
   1. Uses variables(properties) & methods(operations)
2. Object – instance of a class
   1. Each object obtains all the members(non static) of its class as a separate copy
3. Data Abstraction & Encapsulation
4. Inheritance
5. Polymorphism

**Class & Object**

class cpolygon

{

private int w,h;//declaration of variables

public void get\_values(int w,int h)

{

this.w=w;

this.h=h;

}

public int area()

{

return(this.w\*this.h);

}

}

class ObjectExample

{

public static void main(String[] args)

{

{

cpolygon a;//obj. ref. var.

a=new cpolygon();

cpolygon c1=new cpolygon();

//c1.w=9;//error , w is private

c1.get\_values(3,4);

System.out.println(c1.area());

cpolygon c2=new cpolygon();

c2.get\_values(5,4);

System.out.println(c2.area());

}

}

}

**Constructor**

* Special method called automatically when object is created
* Name is class name
* No return type
* Used to initialize the object(assigning initial val.)

class cpolygon

{

private int w,h;//declaration of variables

public cpolygon(int a,int b)//constructor

{

w=a;

h=b;

}

public int area()

{

return(w\*h);

}

}

class ObjectExample

{

public static void main(String[] args)

{

{

cpolygon c1=new cpolygon(3,4);//obj. creation

System.out.println(c1.area());

//c1.w=7;//error

cpolygon c2;//obj. ref. var.

c2=new cpolygon(4,5);//obj. creation

//c2=c1;

if(c1.equals(c2))

{

System.out.println("Both objects are equal");

}

else

{

System.out.println("Both objects are not equal");

}

System.out.println(c1.toString());

System.out.println(c2.toString());

}

}

}

**This – keyword**

Used to refer the obj. which is going to call the method

**Method Overloading**

* Defining multiple methods with same name and with diff. arg. List (type or count) in single class.
* Constructor can also be overloaded

class cpolygon

{

private int w,h;//declaration of variables

public cpolygon(int w,int h)

{

this.w=w;

this.h=h;

}

public cpolygon()

{}

public cpolygon(int s)

{

this.w=s;

this.h=s;

}

public int area()

{

return(w\*h);

}

}

class ObjectExample

{

public static void main(String[] args)

{

{

cpolygon c1=new cpolygon(3,4);

System.out.println(c1.area());

cpolygon c2=new cpolygon();

System.out.println(c2.area());

cpolygon c3=new cpolygon(3);

System.out.println(c3.area());

}

}

}