# Java Abstraction

Data abstraction is the process of hiding certain details and showing only essential information to the user.

Abstraction can be achieved with either abstract classes or interfaces.

Abstract class 🡪 we cannot create object for the class. To access an abstract class, it must be inherited from another class.

Abstract method 🡪 doesn’t have the definition. The definition will be in the derived class.

Sample code:

abstract class Student

{

public abstract void dayscholar();

public void hosteller()

{

System.out.println(“I am hosteller”);

}

}

Class Education extends Student

{

public void dayscholar()

{

System.out.println(“I am a dayscholar”);

}

}

}

class Main

{

public static void main(String[] args)

{

Education edu=new Education();

edu.dayscholar();

edu.hosteller();

}

}

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# Java Polymorphism

We can perform polymorphism in Java via two different methods:

1. Method overloading
2. Method overriding;

Method overloading occurs when there is more than one method of the same name in the class. But all the methods work in different ways.

Sample code:

class Shapes

{

public void area()

{

System.out.println(“Find area “);

}

public void area(int r)

{

System.out.println(“Circle area = “+3.14\*r\*r);

}

public void area(double b, double h)

{

System.out.println(“Triangle area = “+0.5\*b\*h);

}

public void area(int l, int b)

{

System.out.println(“Rectangle area = “+l\*b);

}

}

class Circle extends Shape

{

public void area()

{

System.out.println(“I am finding the area of Circle”);

}

}

class Main

{

public static void main(String[] args)

{

Shapes myShape=new Shapes();

myShape.area();

myShape=new Circle();

myShape.area();

myShape.area(5);

myShape.area(6.0,1.2);

myShape.area(6,2);

}

}

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Output:

Find area

Circle area = 78.5

Triangle area = 3.60

Rectangle area = 12