java lab

factorial

```
import java.util.*;
class factor{
    public static void main(String args[]){
        System.out.println(" give number");
        Scanner s=new Scanner(System.in);
        int n=s.nextInt();
        int ans=1;
        while(n>0){
            ans*=n;
            n--;
        }
        System.out.println("factorial will be "+ans);
    }
}
```

operators

```
import java.util.*;
class logic{
    public static void main(String args[]){

        System.out.println(" give two number");
        Scanner s=new Scanner(System.in);
        int a=s.nextInt();
        int b=s.nextInt();
        System.out.println("a is "+a);
        System.out.println("b is "+b);
        System.out.println(" a+b="+(a+b));
        System.out.println(" a-b="+(a-b));
        System.out.println(" a*b="+(a*b));
        System.out.println(" a/b="+(a/b));
        System.out.println(" a%b="+(a%b));
        System.out.println(" a>b="+(a>b));
        System.out.println(" a=b="+(a==b));
        System.out.println(" a!=b="+(a!=b));
        System.out.println(" a&b="+(a&b));
        System.out.println(" a|b="+(a|b));

    }
}
```

constructor

```
class rect{
    int l,b;
    rect(int x,int y){
```

```
        l=x;
        b=y;
    }
    int area(){
        return l*b;
    }
}
class construct{
    public static void main(String args[]){
        rect r1=new rect(10,20);
        int a=r1.area();
        System.out.println(" area of recangle ="+a);
    }
}
```

overloading

```
import java.util.*;
 public class overload{
    public int area(int a,int b){
        return a*b;
    }
    public int area(int a){
        return a*a;
    }
    public static void main(String args[]){
        overload a1=new overload();
        System.out.println(" area of rectancle of length 10 and breadth
5="+a1.area(10,5));
        System.out.println("area of square of lenth 10 ="+a1.area(10));
    }
}
```

inheritence

```
class A{
    public void f1(){
        System.out.println("A");
    }
}
class B extends A{
    public void f2(){
        System.out.println("B");
    }
}
public class inherit{
    public static void main(String args[]){
        B b1=new B();
        b1.f1();
        b1.f2();
    }
```

```
}
```

string

```
class str{
    public static void main(String args[]){
        String s1="sumit";
        String s2="kumar";
        System.out.println("concatenation="+(s1+s2));
        System.out.println(" uppercase="+(s1.toUpperCase()));
        System.out.println(" equality="+(s1.equals(s2)));
        System.out.println(" length="+(s1.length()));
        System.out.println("char at 1 position in s1="+(s1.charAt(1)));
        System.out.println(" compare ="+(s1.compareTo(s2)));
        System.out.println("substring(0,3)="+(s1.substring(0,3)));
        System.out.println("position of s in s1="+(s1.indexOf('s')));
        System.out.println("replace S to s"+(s1.replace('s','S')));
        System.out.println("trim="+(s1.trim()));
    }
}
```

exception handling

```
class except{
    public static void main(String args[]){
        int a=10,b=0;
        System.out.println(" 10/0="+(a/b));
    }
}
```

Exception in thread "main" java.lang.ArithmeticException: / by zero
    at except.main(except.java:4)

human

```
import java.awt.*;
import java.applet.*;
public class aplet extends Applet{
    public void paint(Graphics g){
        g.drawOval(40,40,120,150);
        g.drawOval(55,75,30,20);
        g.drawOval(100,75,30,20);
        g.fillOval(65,80,10,10);
        g.fillOval(120,80,10,10);
        g.drawOval(85,100,30,30);
        g.fillArc(60,125,80,40,180,180);
        g.drawOval(25,90,15,30);
        g.drawOval(160,90,15,30);
    }
}
```

exception

```
import java.util.Scanner;
public class Exception_handling
{
    public static void main(String[] args)
     {
        Scanner scanner = new Scanner(System.in);
        try
        {
            System.out.println("Enter a number: ");
            int num1 = scanner.nextInt();
            System.out.println("Enter another number: ");
            int num2 = scanner.nextInt();
            int result = num1 / num2;
            System.out.println("Result: " + result);
        }
        catch (ArithmeticException e)
        {
            System.out.println("Exception caught: " + e);
            System.out.println("Cannot divide by zero!");
        }
         catch (Exception e)
        {
            System.out.println("Exception caught: " + e);
        }
        finally
        {
            scanner.close();
            System.out.println("Program has finished executing.");
        }
    }
}
```