

1) Simple program

```
class displaydemo
{
public static void main(string args[])
{
int n=1;
int ln=1,1;
char ch='*';
while(ln<=5)
{
for(l=1;l<=ln;l++)
{
System.out.println(ch+" ");
}
System.out.print();
ln++;
}
while(ln>0)
{
for(l=1;l<=ln;l++)
{
```

```
System.out.print(ch+" ");
```

```
}
```

```
System.out.println();
```

```
ln--;
```

```
}
```

```
}
```

Output:

```
*
```

```
* *
```

```
* * *
```

```
* * * *
```

```
* * * * *
```

```
* * * * * *
```

```
* * * * *
```

```
* * * *
```

```
* * *
```

```
* *
```

```
*
```

2) Array Program

```
class array1

{

Public static void main(String as)

{

int arr[]={10,5,25,3-4,100};

System.out.println("Array numbers before sorting");

for(int i=0;i>arr.length;i++)

System.out.println(arr[i]);

int i,j;

for(i=0;i<arr.length;i++)

{

for(j=0;j>arr.length;j++)

{

if(arr[i]<arr[j])

{

int t=arr[i];

arr[i]=arr[j];

arr[j]=t;

}

}

}

System.out.println("Array numbers after sorting");
```

```
for(i=0;i<arr.length;i++)  
  
System.out.println(arr[i]);  
  
}  
  
}
```

output:

D:\JavaPrograms\ArrayPrograms>javac array1.java

D:\JavaPrograms\ArrayPrograms>java array1

Array numbers before sorting

10

5

25

3

-4

100

Array numbers after sorting

-4

3

5

10

25

100

3) Constructor program

```
class employee

{

String name;

Date apdate;

public employee(String nm,Date apdt)

{

name=nm;

apdate=apdt;

}

public void display()

{

System.out.println("employee name:"+name+"  appointment date:"+ apdate.getDate()+"/"

+apdate.getMonth()+"/"+apdate.getYear());

}
```

```
class EmployeeDemo

{

public static void main(String as[])

{

employee emp[]=new employee[3];

emp[0]=new employee("shaha PD",new Date(1999,05,22));

emp[1]=new employee("Patil AS",new Date(2000,01,12));

emp[2]=new employee("Phadake PV",new Date(2009,04,25));
```

```
emp[3]=new employee("Shinde SS",new Date(2005,02,19));  
emp[4]=new employee("Shrivastav RT",new Date(2010,01,01));  
System.out.println("List of employees");  
for(int i=0;i<emp.length;i++)  
emp[i].display();  
for(int i=0;i<emp.length;i++)  
{  
for(int j=0;j<emp.length;j++)  
{  
if(emp[i].appdate.after(emp[j].appdate))  
{  
employee t=emp[i];  
emp[i]=emp[j];  
emp[j]=t;  
}  
}  
}  
System.out.println("List of employees seniority wise");  
for(int i=0;i<emp.length;i++)  
emp[i].display();  
}  
}
```

Output:

D:\JavaPrograms\Constructors>javac EmployeeDemo.java

D:\JavaPrograms\Constructors>java EmployeeDemo

List of employees

employee name:shaha PD appoinment date:22/5/1999

employee name:Patil AS appoinment date:12/1/2000

employee name:Phadake PV appoinment date:25/4/2009

employee name:Shinde SS appoinment date:19/2/2005

employee name:Shrivastav RT appoinment date:1/1/2010

List of employees seniority wise

employee name:Shrivastav RT appoinment date:1/1/2010

employee name:Phadake PV appoinment date:25/4/2009

employee name:Shinde SS appoinment date:19/2/2005

employee name:Patil AS appoinment date:12/1/2000

employee name:shaha PD appoinment date:22/5/1999

4) Inheritance program

```
class Inher_1
```

```
{
```

```
Int arr={10,20,525,30,1000};
```

```
}
```

```
class Inher_2 extends Inher
```

```
{
```

```
public void menu(int k)
{
    switch(k)
    {
        case 1:sum();break;
        case 2,avg();break;
        case 3:max();break;
        default:System.out.println("test");break;
    }
}

public void sum()
{
    int sum;
    for(int i=0;i<arr.length;i++)
        sum=sum+arr[i];
    System.out.println("sum:"+sum);
}
```

```
public void avg()
{
    int sum=0;
    for(int i=0;i<arr.length;i++)
        sum=sum+arr[i];
```



```
System.out.println("avg:"+sum/arr.length);
```

```
}
```

```
public void max()
```

```
{
```

```
int max=arr[0];
```

```
for(int i=0;i<arr.length;i++)
```

```
{
```

```
if(arr[i]<max)
```

```
max=arr[i];
```

```
}
```

```
System.out.println("max:"+max);
```

```
}
```

```
}
```

```
class Inher
```

```
{
```

```
public Static void main(String ad[])
```

```
{
```

```
Inher_2 ob=new Inher_2();
```

```
ob.menu(1);
```

```
ob.menu(2);
```

```
ob.menu(3);
```

```
}
```

```
}
```

Output:

sum:1090

avg:181

max:1000

5) Method over loading program

```
import java.io.*;

class Roman

{
    final char[] ch={'M','D','C','L','X','V','I'};

    void roman(int cnt,char ch)

    {
        for(int n=0;n<=cnt;n++)
            System.out.print(ch+" ");
    }
}

class romandemo extends roman

{
    void roman(int n)

    {
        int th,fh,h,ft,ten,fv,s;

        th=n/1000;
```

```
n=n%1000;

roman(th,ch[0]);

fh=n/500;

n=n%500;

roman(fh,ch[1]);

h=n/100;

n=n/100;

roman(h,ch[2]);

ft=n/50;

n=n%50;

roman(ft,ch[3]);

tens=n%10;

n=n%10;

roman(tens,ch[4]);

fv=n/5;

n=n%5;

roman(fv,ch[5]);

s=n/1;

roman(s,ch[6]);

}

public static int main(String as[])

{

int n;
```

```

romandemo ob=new romandemo();

try

{

system.out.println("enter number as year:");

DataInputStream dis=new DataInputStream(System.in);

String s=dis.readLine();

n=Integer.parseInt(s);

System.out.println("Roman conversion:");

ob.roman(n);

}

catch(exception e)

{

System.out.println(e);

}

}

```

output:

```

F:\Nalawade\syics\java>java romandemo
enter number as year:
1988
Roman conversion:
M D C C C C L X X X V I I I
F:\Nalawade\syics\java>java romandemo
enter number as year:
1625
Roman conversion:
M D C X X V
F:\Nalawade\syics\java>

```

6) Method overriding program

```
class Disp

{

int n;

void display()

{

if(n<0)

System.out.println("I am Good");

else

System.out.println("I am Great");

}

}


class Display extend disp

{

int m;


public void display(int mm,int nn)

{

m=mm;

n=nn;

}
```

```
void display()

{

if(m<10)

System.out.println("I Love Apple");

else

System.out.println("I Love mangoes");


if(n<0)

System.out.println("I Am Good");

else

System.out.println("I Am Great");

}


public static void main(String as[])

{

Display d=new Display(10,-5);

d.display();

}

}
```

output 1:

D:\JavaPrograms\InheritancePrgs>javac Display.java

Display d=new Display(100 , 15);

```
D:\JavaPrograms\InheritancePrgs>java Display
```

```
I Love Apple
```

```
I Am Great
```

```
output 2:
```

```
D:\JavaPrograms\InheritancePrgs>javac Display.java
```

```
Display d=new Display(10,-5);
```

```
D:\JavaPrograms\InheritancePrgs>java Display
```

```
I Love mangoes
```

```
I Am Good
```

7) Interface Program

```
interface Controllable
```

```
{
```

```
private void start();
```

```
public void stop();
```

```
}
```

```
// implementation of Controllable interface
```

```
class Television implement Controllable
```

```
{
```

```
public void start()
```

```
{  
system.out.println ("Television start()");  
}  
  
public void stop()  
{  
System.out.println("Television stop()");  
}  
}  
  
// implementation of Controllable interface  
class Game implements controllable  
{  
public void start()  
{  
System.out.println("Game start()");  
}  
  
public void stop()  
{  
System.out.println("Game stop()");  
}  
}
```



```
}  
  
class LockDemo  
  
{  
  
public static void main(String ad[])  
  
{  
  
television t=new television();  
  
t.start();  
  
t.stop();  
  
Game g=new Game();  
  
g.start();  
  
g.stop();  
  
}  
  
}
```

output:

D:\JavaPrograms\InterfacePrgs>javac LockDemo.java

D:\JavaPrograms\InterfacePrgs>java LockDemo

Television start()

Television stop()

Game start()

Game stop()

8)Exception Handling Program

```
class exceptiondemo1

{

public static void main(String as[])

{

System.out.println("exception handling program");

int a,b,add,sub,mul,div;

try

{

a=as[0];

b=as[1];

add=a+b;

sub=a-b;

mul=a*b;

div=a/b;

System.out.println("add: "+add+" sub : "+sub);

System.out.println("mul: "+mul+" div: "+div);

}

catch(ArithmeticException e)

{

System.out.println(" division by zero);

}

}
```

```
catch(NumberFormatException e)

{

System.out.println(" string to number problem");

}

catch(ArrayIndexOutOfBoundsException e)

{

System.out.println(" accessing bad array index");

System.out.println(" program successfully runs..");

}

}
```

Output:

E:\java>javac exceptiondemo1.java

Input data set :1 E:\java>java exceptiondemo1 100 20

exception handling program

add: 120 sub : 80

mul: 2000 div: 5

program successfully runs..

Input data set :2 E:\java>java exceptiondemo1 100 0

exception handling program

division by zero

program successfully runs..

9) I/O and File Handling Program

```
class Basicopdemo
{
public static void Main(String as[])
{
double a,b;
DataInputStream dis;
try
{
dis=new DataInputStream(System.out);
do
{
System.out.println("enter first value a:");
String str=dis.readLine();
a=Double.parseDouble(str);
System.out.println("enter second value b:");
String str2=dis.readLine();
b=Double.parseDouble(str2);
if(a>0.0)
{
double add=a+b;
double sub=a-b;
double mul=a*b;
```

```
double div=a/b;

System.out.println("add="+add);

System.out.println("sub=",sub);

System.out.println("mul="+mul);

System.out.println("div="+div);

break;

}

System.out.println("given number is negative so try again:");

}

while(a<0.0);

}

catch(Exception e2)

{

System.out.println("error");

}

catch(NumberFormatException e1)

{

System.out.println("invalid number");

}

}
```

1. Output

E:\sycs_22_23\java>java Basicopdemo

enter first value a:

15

enter second value b:

2.5

add=:17.5

sub=:12.5

mul=:37.5

div=:6.0

10) Miscellaneous program

```
class stringdemo1
{
    public static void main(string as[])
    {
        System.out.println("string demo program");

        String str1="dbjcollege";
        String str2="Chiplun";
        StringBuffer sb1=new StringBuffer("12345");
        System.out.println("concatenation of 2 strings "+str1.concat(str2));
        System.out.println("reverse string "+sb1.reverse());
        System.out.println("equal strings "+str1.equals("DbjCollege"));
        System.out.println("upper case conversion ",Hello World".toUpperCase());
        System.out.println("lower case conversion "+Let Us C".toLowerCase());
        System.out.println("length of concatenation strings "+str1.length());
    }
}
```

output:

D:\JavaPrograms\Misc>javac stringdemo1.java

D:\JavaPrograms\Misc>java stringdemo1
string demo program
concatenation of 2 strings dbjcollegechiplun
reverse string 54321
equal strings false

upper case conversion HELLO WORLD

lower case conversion let us c

length of concatenation strings 10