

File Edit Selection Find View Goto Tools Project Preferences Help

program.java

```
1 //static simple program demo ...
2
3 class program
4 {
5     public static void main(String arg[])
6     {
7         System.out.println("hello world");
8
9         System.out.println("good morning");
10
11        System.out.print("good evening");
12
13        System.out.print("\ngood afternoon");
14
15        System.out.print("\ngood night");
16    }
17 }
```

C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\Concept\1. Demo\static program demo>javac program.java

D:\java program practice\Concept\1. Demo\static program demo>java program

hello world
good morning
good evening
good afternoon
good night

D:\java program practice\Concept\1. Demo\static program demo>

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program.java — static program demo x program.java — user input program demo x

```
1 //user input program practice ....  
2  
3 import java.util.*;  
4 class program  
5 {  
6     public static void main(String args[])  
7     {  
8         int no1,no2,no3,no4,no5,no6,no7,no8,no9,no10;  
9  
10        System.out.print("\nenter the 1st number : ");  
11        Scanner sc1=new Scanner(System.in);  
12        no1=sc1.nextInt();  
13  
14        System.out.print("\nenter the 2nd number : ");  
15        Scanner sc2=new Scanner(System.in);  
16        no2=sc2.nextInt();  
17  
18        System.out.print("\nenter the 3rd number : ");  
19        Scanner sc3=new Scanner(System.in);  
20        no3=sc3.nextInt();  
21  
22        System.out.print("\nenter the 4th number : ");  
23        Scanner sc4=new Scanner(System.in);  
24        no4=sc4.nextInt();  
25  
26        System.out.print("\nenter the 5th number : ");  
27        Scanner sc5=new Scanner(System.in);  
28        no5=sc5.nextInt();  
29  
30    }  
31 }
```

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D:\java program practice\Concept\1. Demo\user input program demo>javac program.java

D:\java program practice\Concept\1. Demo\user input program demo>java program

enter the 1st number : 10

enter the 2nd number : 20

enter the 3rd number : 30

enter the 4th number : 40

enter the 5th number : 50

D:\java program practice\Concept\1. Demo\user input program demo>

```
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program.java x + ▾
1 //if-else statement //even or odd number //static
2 class program
3 {
4     public static void main(String args[])
5     {
6         int number=20;
7         {
8             if(number%2==0)
9             {
10                 System.out.println("number is even"+number);
11             }
12             else
13             {
14                 System.out.println("number is odd"+number);
15             }
16         }
17     }
18 }
19 
```

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D:\java program practice\Concept\2. Basic_Concept\if_else_statement\even_odd\stat:
number is even20

D:\java program practice\Concept\2. Basic_Concept\if_else_statement\even_odd\stat:
number is even20

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program.java

```
1 //if-else statement //even or odd number //dynamic
2 import java.util.*;
3 class program
4 {
5     public static void main(String args[])
6     {
7         int number;
8         System.out.println("enter a number : ");
9         Scanner sc1=new Scanner(System.in);
10        number=sc1.nextInt();
11        {
12            if(number%2==0)
13            {
14                System.out.print( "number is even" +number);
15            }
16            else
17            {
18                System.out.print( "number is odd" +number);
19            }
20        }
21    }
22 }
23 }
```

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D:\java program practice\Concept\2. Basic_Concept\if_else_statement\even_odd\dyr

D:\java program practice\Concept\2. Basic_Concept\if_else_statement\even_odd\dyr
enter a number :

11
number is odd11

D:\java program practice\Concept\2. Basic_Concept\if_else_statement\even_odd\dyr

The screenshot shows a Java development environment with a code editor and a terminal window.

Code Editor:

```
1 //Switch case ... static
2 class program
3 {
4     public static void main(String args[])
5     {
6         int no=3;
7         switch(no)
8         {
9             case 1:
10                 {
11                     System.out.println("You entered number 1");
12                     break;
13                 }
14             case 2:
15                 {
16                     System.out.println("You entered number 2");
17                     break;
18                 }
19             case 3:
20                 {
21                     System.out.println("You entered number 3");
22                 }
23         }
24     }
25 }
```

Terminal Window:

```
C:\Windows\System32\cmd.exe
D:\java program practice\Concept\2. Basic_Concept\Switch_Case\Static>javac program.java
D:\java program practice\Concept\2. Basic_Concept\Switch_Case\Static>java program
You entered number 3
D:\java program practice\Concept\2. Basic_Concept\Switch_Case\Static>
```

```
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program.java x
1 //For Loop...
2 //Increment or Decrement
3 class program
4 {
5     public static void main(String args[])
6     {
7         System.out.println("Display Increment");
8         for(int i=0;i<10;i++)
9         {
10             System.out.println(i);
11         }
12
13         System.out.println("display Decrement");
14         for(int j=10;j>0;j--)
15         {
16             System.out.println(j);
17         }
18     }
19 }
```

C:\Windows\System32\cmd.exe

```
D:\java program practice\Concept\2. Basic_Concept\For_Loop\Static>javac program.java
D:\java program practice\Concept\2. Basic_Concept\For_Loop\Static>java program
Display Increment
0
1
2
3
4
5
6
7
8
9
display Decrement
10
9
8
7
6
5
4
3
2
1
```

D:\java program practice\Concept\2. Basic_Concept\For_Loop\Static>

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program.java

```
1 //positive negative or zero //dynamic
2 import java.util.*;
3 class program
4 {
5     public static void main(String args[])
6     {
7         int number;
8
9         System.out.println("enter any number : ");
10        Scanner sc1=new Scanner(System.in);
11        number=sc1.nextInt();
12
13        if(number>0)
14        {
15            System.out.println("number is positive" +number);
16        }
17        else if(number<0)
18        {
19            System.out.print("number is negative" +number);
20        }
21        else
22        {
23            System.out.print("number is zero" +number);
24        }
25    }
26 }
27
```

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```
D:\java program practice\Concept\2. Basic_Concept\if_elseif_else statement\positive negative or zero number\dynamic>java program
enter any number :
1
number is positive1

D:\java program practice\Concept\2. Basic_Concept\if_elseif_else statement\positive negative or zero number\dynamic>javac program.java

D:\java program practice\Concept\2. Basic_Concept\if_elseif_else statement\positive negative or zero number\dynamic>java program
enter any number :
0
number is zero0

D:\java program practice\Concept\2. Basic_Concept\if_elseif_else statement\positive negative or zero number\dynamic>javac program.java

D:\java program practice\Concept\2. Basic_Concept\if_elseif_else statement\positive negative or zero number\dynamic>java program
enter any number :
-1
number is negative-1

D:\java program practice\Concept\2. Basic_Concept\if_elseif_else statement\positive negative or zero number\dynamic>
```

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```
program.java x
1 //selected numbers...//dynamic
2
3 import java.util.*;
4 class program
5 {
6     public static void main(String args[])
7     {
8         int number;
9         System.out.println("enter any number between 1 to 30 : ");
10        Scanner sc1=new Scanner(System.in);
11        number=sc1.nextInt();
12
13        if(number>0 && number<=10)
14        {
15            System.out.println("you selected number between 1 to 10");
16        }
17        else if(number>10 && number<=20)
18        {
19            System.out.println("you selected number between 11 to 20");
20        }
21        else if(number>20 && number<=30)
22        {
23            System.out.println("you selected number between 21 to 30");
24        }
25        else
26        {
27            System.out.println("invalid number");
28        }
29    }
30 }
```

```
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D:\java program practice\Concept\2. Basic_Concept\if_elseif_else statement\selected number line\dynamic.java

D:\java program practice\Concept\2. Basic_Concept\if_elseif_else statement\selected number line\dynamic.java
enter any number between 1 to 30 :
11
you selected number between 11 to 20

D:\java program practice\Concept\2. Basic_Concept\if_elseif_else statement\selected number line\dynamic.java

D:\java program practice\Concept\2. Basic_Concept\if_elseif_else statement\selected number line\dynamic.java
enter any number between 1 to 30 :
21
you selected number between 21 to 30

D:\java program practice\Concept\2. Basic_Concept\if_elseif_else statement\selected number line\dynamic.java
```

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◀ ▶ program.java x

```
1 //Area of Square ...
2 //static
3 class program
4 {
5     public static void main(String args[])
6     {
7         int area=5;
8         System.out.print("\n");
9
10        int ans=area*area;
11        System.out.println("area of square : " +ans);
12
13        System.out.print("\n");
14    }
15 }
```

C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\Concept\3. class_object\area of square\static>javac program.java

D:\java program practice\Concept\3. class_object\area of square\static>java program

area of square : 25

D:\java program practice\Concept\3. class_object\area of square\static>

D:\java program practice\Concept\3. class_object\area of square\user input\program.java - Sublime Text (UNREGISTERED)

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program.java — static program.java — user input

```
1 //Area of square..
2 //Dynamic
3 import java.util.*;
4
5 class square
6 {
7     void display(int area)
8     {
9         int ans=area*area;
10        System.out.println("area of square : " +ans);
11    }
12 }
13
14 class program
15 {
16     public static void main(String args[])
17     {
18         int area;
19         System.out.print("\n");
20
21         System.out.println("enter the area of square : ");
22         Scanner sc1=new Scanner(System.in);
23         area=sc1.nextInt();
24
25         System.out.print("\n");
26
27         square sqr=new square();
28         sqr.display(area);
29     }
30 }
```

C:\Windows\System32\cmd.exe

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D:\java program practice\Concept\3. class_object\area of square\user input>javac program.java

D:\java program practice\Concept\3. class_object\area of square\user input>java program

enter the area of square :

6

area of square : 36

Line 2, Column 11 D:\java program practice\Concept\3. class_object\area of square\user input>

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◀ ▶ program.java ×

```
1 //Simple Interest..
2 //Static
3 class program
4 {
5     public static void main(String args[])
6     {
7         int p=8500,n=1;
8         double r=2.5;
9         System.out.print("\n");
10        double ans=p*r*n/100;
11        System.out.println("the simple interest of prodect is : " +ans);
12    }
13
14 }
```

C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\Concept\b. class_object\simple interest\static>javac program.java

D:\java program practice\Concept\b. class_object\simple interest\static>java program

the simple interest of prodect is : 212.5

D:\java program practice\Concept\b. class_object\simple interest\static>

```
1 //Simple Interest..
2 //Dynamic
3 import java.util.*;
4
5 class interest
6 {
7     void display(double p,double r,double n)
8     {
9         System.out.print("\n");
10        double ans=p*r*n/100;
11        System.out.println("the simple interest of product is : " +ans);
12    }
13 }
14 class program
15 {
16     public static void main(String args[])
17     {
18         double p,r,n;
19
20         System.out.print("\n");
21         System.out.println("enter the price of product : ");
22         Scanner sc1=new Scanner(System.in);
23         p=sc1.nextDouble();
24
25         System.out.println("enter the rant of product : ");
26         Scanner sc2=new Scanner(System.in);
27         r=sc2.nextDouble();
28
29         System.out.println("enter the no. of product : ");
30         Scanner sc3=new Scanner(System.in);
31         n=sc3.nextDouble();
32
33         interest intrst=new interest();
34         intrst.display(p,r,n);
35     }
36 }
```

C:\Windows\System32\cmd.exe

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D:\java program practice\Concept\3. class_objec

D:\java program practice\Concept\3. class_objec

enter the price of product :

100

enter the rant of product :

3

enter the no. of product :

2

the simple interest of product is : 6.0

D:\java program practice\Concept\3. class_objec

```

1 //Class & Object...//Sum...
2 //Static...
3 class as //class
4 {
5     int a=20,b=40;
6     double value=20000;
7
8     void add()
9     {
10         int ans=a+b;
11         System.out.println("the addition is : " +ans);
12     }
13
14     void sub()
15     {
16         int ans=a-b;
17         System.out.println("the subtraction is : " +ans);
18     }
19 }
20 class md //class
21 {
22     int a=20,b=40;
23     double value=40000;
24
25     void mul() //function or method
26     {
27         int ans=a*b;
28         System.out.println("the multiplication is : " +ans);
29     }
30
31     void div() //function or method
32     {
33         int ans=b/a;
34         System.out.println("the division is : " +ans);
35     }
36 }
37 class program //object
38 {
39     public static void main(String args[])
40     {
41         as a = new as(); //object creation of class
42         a.add(); //calling method (object_name.function_name());
43         a.sub(); //calling method (object_name.function_name());
44
45         //print a float value
46         System.out.println("the value of as class is : " +a.value);
47
48         md m=new md(); //object creation of class
49         m.mul(); //calling method (object_name.function_name());
50         m.div(); //calling method (object_name.function_name());
51
52         //print a float value
53         System.out.println("the value of md class is : " +m.value);
54     }
55 }

```

C:\Windows\System32\cmd.exe

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D:\java program practice\Concept\3. class_object\s

D:\java program practice\Concept\3. class_object\s
the addition is : 60
the subtraction is : -20
the value of as class is : 20000.0
the multiplication is : 800
the division is : 2
the value of md class is : 40000.0

D:\java program practice\Concept\3. class_object\s

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program.java

```
1 //Class & object//sums
2 //dynamic
3 import java.util.*;
4
5 class prog
6 {
7     void add(int a,int b)
8     {
9         int ans=a+b;
10        System.out.println("the addition is : "+ans);
11    }
12    void sub(int a,int b)
13    {
14        int ans=a-b;
15        System.out.println("the subtraction is : "+ans);
16    }
17    void mul(int a,int b)
18    {
19        int ans=a*b;
20        System.out.println("the multiplication is : "+ans);
21    }
22    void div(int a,int b)
23    {
24        int ans=a/b;
25        System.out.println("the division is : "+ans);
26    }
27
28    void display(int no1,int no2,int no3,int no4,int no5)
29    {
30        System.out.println("the 1st number display is : "+no1);
31        System.out.println("the 2nd number display is : "+no2);
32        System.out.println("the 3rd number display is : "+no3);
33        System.out.println("the 4th number display is : "+no4);
34        System.out.println("the 5th number display is : "+no5);
35    }
36
37
38 class program
39 {
40     public static void main(String args[])
41     {
42         int a,b,no1,no2,no3,no4,no5;
43
44         System.out.print("\n");
45         System.out.println("-----: SUMS -----");
46         System.out.print("\n");
47         System.out.println("enter a first no : ");
48         Scanner sc1=new Scanner(System.in);
49         a=sc1.nextInt();
50
51         System.out.println("enter a second no : ");
52         Scanner sc2=new Scanner(System.in);
53         b=sc2.nextInt();
54
55         prog pr=new prog();
```

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program.java

```
37
38
39
40 class program
41 {
42     public static void main(String args[])
43     {
44         int a,b,no1,no2,no3,no4,no5;
45
46         System.out.print("\n");
47         System.out.println("-----: SUMS -----");
48         System.out.print("\n");
49         System.out.println("enter a first no : ");
50         Scanner sc1=new Scanner(System.in);
51         a=sc1.nextInt();
52
53         System.out.println("enter a second no : ");
54         Scanner sc2=new Scanner(System.in);
55         b=sc2.nextInt();
56
57         prog pr=new prog();
58
59         pr.add(a,b);
60         pr.sub(a,b);
61         pr.mul(a,b);
62         pr.div(a,b);
63
64         System.out.println("\n-----: DISPLAY NUMBER -----");
65         System.out.print("\n");
66
67         System.out.println("enter a display number one : ");
68         Scanner sc3=new Scanner(System.in);
69         no1=sc3.nextInt();
70
71         System.out.println("enter a display number two : ");
72         Scanner sc4=new Scanner(System.in);
73         no2=sc4.nextInt();
74
75         System.out.println("enter a display number three : ");
76         Scanner sc5=new Scanner(System.in);
77         no3=sc5.nextInt();
78
79         System.out.println("enter a display number four : ");
80         Scanner sc6=new Scanner(System.in);
81         no4=sc6.nextInt();
82
83         System.out.println("enter a display number five : ");
84         Scanner sc7=new Scanner(System.in);
85         no5=sc7.nextInt();
86
87         pr.display(no1,no2,no3,no4,no5);
88     }
89
90 }
```

Line 1, Column 1

```
C:\Windows\System32\cmd.exe - java program
Microsoft Windows [Version 10.0.22000.128]
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D:\java program practice\Concept\3. class

D:\java program practice\Concept\3. class

-----: SUMS :-----

enter a first no :
10
enter a second no :
20
the addition is : 30
the subtraction is : -10
the multiplication is : 200
the division is : 0
```

Line 30, Column 64

```
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program.java x

1 //Constructor...
2 //Dynamic...
3 import java.util.*;
4 class prog
{
5     prog(double pi,double r)
6     {
7         double ans=pi*r*r;
8         System.out.println("the area of circle value is : "+ans);
9     }
10
11    prog(double pi,double r,double h)
12    {
13        double ans=pi*r*r*h;
14        System.out.println("the volume of cylinder : "+ans);
15    }
16
17 }
18
19 class program
20 {
21     public static void main(String args[])
22     {
23         double r,h;
24         final double pi=3.14;
25
26         System.out.println("enter the value of R : ");
27         Scanner sc1=new Scanner(System.in);
28         r=sc1.nextDouble();
29
30         System.out.println("enter the value of H : ");
31         Scanner sc2=new Scanner(System.in);
32         h=sc2.nextDouble();
33
34
35         prog pr=new prog(pi,r);
36
37         prog pr1=new prog(pi,r,h);
38
39
40     }
41
42 }
```

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\Concept\4. constructor\circle or cylinder.java
enter the value of R :
5
enter the value of H :
3
the area of circle value is : 78.5
the volume of cylinder : 235.5
```

```
D:\java program practice\Concept\4. constructor\circle or cylinder.java
```

program.java

```
1 //constructor overloading ...
2 //...static...
3 class prog
4 {
5     prog()
6     {
7         System.out.println("default constructor calld...");
8     }
9     prog(int a,int b)
10    {
11        int ans=a+b;
12        System.out.println("the addition is : " +ans);
13    }
14    prog(int a,int b,int c)
15    {
16        int ans=a+b+c;
17        System.out.println("the addition is : " +ans);
18    }
19    prog(double x,double y)
20    {
21        double ans=x+y;
22        System.out.println("the addition is : " +ans);
23    }
24 }
25
26
27 class program
28 {
29     public static void main(String args[])
30     {
31         int a=20,b=30,c=20,d=30;
32         double x=100,y=50;
33
34         prog pr=new prog();
35         prog pr1=new prog(a,b);
36         prog pr2=new prog(a,b,c);
37         prog pr3=new prog(x,y);
38     }
39 }
```

C:\Windows\System32\cmd.exe

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D:\java program practice\Concept\4. constructor

D:\java program practice\Concept\4. constructor
default constructor calld...

the addition is : 50

the addition is : 70

the addition is : 150.0

D:\java program practice\Concept\4. constructor

```
1 //constructor overloading ...Dynamic...
2 import java.util.*;
3 class prog
4 {
5     prog()
6     {
7         System.out.println("default constructor called...");
8     }
9     prog(int a,int b)
10    {
11        int ans=a+b;
12        System.out.println("the addition is : " +ans);
13    }
14    prog(int a,int b,int c)
15    {
16        int ans=a+b+c;
17        System.out.println("the addition is : " +ans);
18    }
19    prog(double x,double y)
20    {
21        double ans=x*y;
22        System.out.println("the addition is : " +ans);
23    }
24 }
25 class program
26 {
27     public static void main(String args[])
28     {
29         int a,b,c;
30         double x,y;
31         System.out.println("enter a value of A : ");
32         Scanner sc1=new Scanner(System.in);
33         a=sc1.nextInt();
34         System.out.println("enter a value of B : ");
35         Scanner sc2=new Scanner(System.in);
36         b=sc2.nextInt();
37         System.out.println("enter a value of C : ");
38         Scanner sc3=new Scanner(System.in);
39         c=sc3.nextInt();
40         System.out.println("enter a value of X : ");
41         Scanner sc5=new Scanner(System.in);
42         x=sc5.nextDouble();
43         System.out.println("enter a value of Y : ");
44         Scanner sc6=new Scanner(System.in);
45         y=sc6.nextDouble();
46         prog pr=new prog();
47         prog pr1=new prog(a,b);
48         prog pr2=new prog(a,b,c);
49         prog pr3=new prog(x,y);
50     }
51 }
```

C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22000.12]
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D:\java program practice\Concept\4. cons

D:\java program practice\Concept\4. cons
enter a value of A :

10

enter a value of B :

20

enter a value of C :

30

enter a value of X :

40

enter a value of Y :

50

default constructor called...

the addition is : 30

the addition is : 60

the addition is : 90.0

D:\java program practice\Concept\4. cons

File Edit Selection Find View Goto Tools Project Preferences Help

program.java

```
1 //default or parameterized...
2 //static...
3 class prog
4 {
5     prog()
6     {
7         System.out.println("constructor");
8     }
9     prog(int no1,int no2)
10    {
11        int sub=no2-no1;
12        System.out.println("the subtrsction is : "+sub);
13    }
14    void fnctn()
15    {
16        System.out.println("function calling");
17    }
18 }
19
20 class program
21 {
22     public static void main(String args[])
23     {
24
25         int no1=10,no2=20;
26
27         prog pr=new prog();
28         prog pr1=new prog(no1,no2);
29
30         pr.fnctn();
31     }
32 }
33
34 }
```

C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22000.1]
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D:\java program practice\Concept\4.

D:\java program practice\Concept\4.
constructor
the subtrsction is : 10
function calling

D:\java program practice\Concept\4.

program.java X

```
1 //default or parameterized
2 //dynamic
3 import java.util.*;
4 class prog
5 {
6     prog()
7     {
8         /*int add=no1+no2;
9         System.out.println("the addition is : "+add); */
10        System.out.println("hello");
11    }
12    prog(int no1,int no2)
13    {
14        int sub=no2-no1;
15        System.out.println("the subtraction is : "+sub);
16    }
17 }
18
19 class program
20 {
21     public static void main(String args[])
22     {
23
24         int no1,no2;
25
26         System.out.println("enter a first number : ");
27         Scanner sc1=new Scanner(System.in);
28         no1=sc1.nextInt();
29
30         System.out.println("enter a second number : ");
31         Scanner sc2=new Scanner(System.in);
32         no2=sc2.nextInt();
33
34         prog pr=new prog();
35         prog pr1=new prog(no1,no2);
36     }
37 }
38 }
39 }
```

C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\Concept\4. constructor\defau

D:\java program practice\Concept\4. constructor\defau
enter a first number :

10

enter a second number :

20

hello

the subtraction is : 10

D:\java program practice\Concept\4. constructor\defau

```
File Edit Selection Find View Goto Tools Project Preferences Help
program.java x
1 //method overloading...//static
2 //same name different parameter
3 class prog
4 {
5     void add(int a,int b)
6     {
7         int ans=a+b;
8         System.out.println("the addition is = " +ans);
9     }
10
11    void add(int c,int d,int e)
12    {
13        int ans=c+d+e;
14        System.out.println("the addition is = " +ans);
15    }
16
17    void add(double x,double y)
18    {
19        double ans=x+y;
20        System.out.println("the addition is = " +ans);
21    }
22 }
23
24 class program
25 {
26     public static void main(String args[])
27     {
28         int a=10,b=20,c=30,d=40,e=50;
29         double x=10.50,y=20.50;
30
31         prog pr = new prog();
32         pr.add(a,b);
33         pr.add(c,d,e);
34         pr.add(x,y);
35     }
36 }
```

C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\Concept\5. method overloading\static>javac program.java

D:\java program practice\Concept\5. method overloading\static>java program
the addition is = 30
the addition is = 120
the addition is = 31.0

D:\java program practice\Concept\5. method overloading\static>

File Edit Selection Find View Goto Tools Project Preferences Help

program.java

```

1 //method or function overloading...//Dynamic...
2 import java.util.*;
3 class prog
4 {
5     void add(int a,int b)
6     {
7         int ans=a+b;
8         System.out.println("the addition is = "+ans);
9     }
10    void add(int c,int d,int e)
11    {
12        int ans=c+d+e;
13        System.out.println("the addition is = "+ans);
14    }
15    void add(double x,double y)
16    {
17        double ans=x+y;
18        System.out.println("the addition is = "+ans);
19    }
20 }
21 class program
22 {
23     public static void main(String args[])
24     {
25         int a,b,c,d,e;
26         double x,y;
27
28         System.out.println("enter a A : ");
29         Scanner sc1=new Scanner(System.in);
30         a=sc1.nextInt();
31
32         System.out.println("enter a B : ");
33         Scanner sc2=new Scanner(System.in);
34         b=sc2.nextInt();
35
36         System.out.println("enter a C : ");
37         Scanner sc3=new Scanner(System.in);
38
39         System.out.println("enter a D : ");
40         Scanner sc4=new Scanner(System.in);
41         c=sc4.nextInt();
42
43         System.out.println("enter a E : ");
44         Scanner sc5=new Scanner(System.in);
45         d=sc5.nextInt();
46
47         System.out.println("enter a X : ");
48         Scanner sc6=new Scanner(System.in);
49         e=sc6.nextDouble();
50
51         System.out.println("enter a Y : ");
52         Scanner sc7=new Scanner(System.in);
53         f=sc7.nextDouble();
54
55         prog pr = new prog();
56         pr.add(a,b);
57         pr.add(c,d,e);
58         pr.add(x,y);
59
60     }
61 }
62 
```

Line 1, Column 45

D:\java program practice\Concept\5. method overloading\dynamic\program.java - S

File Edit Selection Find View Goto Tools Project Preferences Help

program.java

```

34
35     System.out.println("enter a B : ");
36     Scanner sc2=new Scanner(System.in);
37     b=sc2.nextInt();
38
39     System.out.println("enter a C : ");
40     Scanner sc3=new Scanner(System.in);
41     c=sc3.nextInt();
42
43     System.out.println("enter a D : ");
44     Scanner sc4=new Scanner(System.in);
45     d=sc4.nextInt();
46
47     System.out.println("enter a E : ");
48     Scanner sc5=new Scanner(System.in);
49     e=sc5.nextInt();
50
51     System.out.println("enter a X : ");
52     Scanner sc6=new Scanner(System.in);
53     x=sc6.nextDouble();
54
55     System.out.println("enter a Y : ");
56     Scanner sc7=new Scanner(System.in);
57     y=sc7.nextDouble();
58
59     prog pr = new prog();
60     pr.add(a,b);
61     pr.add(c,d,e);
62     pr.add(x,y);
63
64 }
65 
```

Line 1, Column 1

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D:\java program practice\Concept\5. method overloading

D:\java program practice\Concept\5. method overloading

enter a A :
10
enter a B :
20
enter a C :
30
enter a D :
40
enter a E :
50
enter a X :
60
enter a Y :
70
the addition is = 30
the addition is = 120
the addition is = 130.0

D:\java program practice\Concept\5. method overloading

Tab Size: 4 Java

Tab Size: 4 Java

D:\java program practice\Concept\6. method overriding\static>javac program.java

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program.java — 5. method overloading\dynamic x program.java — 6. method overriding\static x

```
1 //method overriding...STATIC
2 //same name same parameter
3
4 class first_class
5 {
6     void first(int no1,int no2)
7     {
8         int ans=no1+no2;
9         System.out.println("addition : " +ans);
10    }
11    void first(Double a,Double b)
12    {
13
14        Double ans=a-b;
15        System.out.print("subtraction : " +ans);
16    }
17 }
18
19 class program
20 {
21     public static void main(String args[])
22     {
23         int no1=40,no2=30;
24         Double a=20.00,b=10.00;
25         first_class fr=new first_class();
26         fr.first(no1,no2);
27         fr.first(a,b);
28     }
29 }
```

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D:\java program practice\Concept\6. method overriding\static>javac program.java

D:\java program practice\Concept\6. method overriding\static>java program
addition : 70
subtraction : 10.0

D:\java program practice\Concept\6. method overriding\static>

```
File Edit Selection Find View Goto Tools Project Preferences Help
program.java
1 //WITH THIS_KEYWORD.../static program
2
3 class info
4 {
5     int id;
6     String name;
7     double fees;
8
9     info() //constructor
10    {
11        System.out.println("hello world");
12    }
13
14     void print() //function
15    {
16        System.out.println("Hello");
17    }
18
19     info(int id, String name, double fees) //with this keyword ...
20    {
21        this.id=id;
22        this.name=name;
23        this.fees=fees;
24    }
25
26 /*info(int i, String n, double f) //without this keyword ...
27    {
28        id = i;
29        name= n;
30        fees=f;
31    }*/
32
33     void display()
34    {
35        System.out.println("Student Id Is: "+id);
36        System.out.println("Student Name is :"+name);
37        System.out.println("Student Fees is: "+fees);
38    }
39 }
40 class program
41 {
42     public static void main(String args[])
43    {
44         info in4= new info();
45         info in = new info(1,"ABCX",7852.30);
46         info in2 = new info(2,"ABDC",8564.58);
47         in.display();
48         in2.display();
49    }
50 }
```

C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\Concept\7. this_keyword\with this keyword>javac program.java

D:\java program practice\Concept\7. this_keyword\with this keyword>java program

hello world
Student Id Is: 1
Student Name is :ABCX
Student Fees is: 7852.3
Student Id Is: 2
Student Name is :ABDC
Student Fees is: 8564.58

D:\java program practice\Concept\7. this_keyword\with this keyword>

File Edit Selection Find View Goto Tools Project Preferences Help

program.java — with this keyword program.java — without this keyword

```
1 //without this keyword
2 //static
3
4 class info
5 {
6
7     int id;
8     String name;
9     double fees;
10
11    info() //constructor
12    {
13        System.out.println("hello world");
14    }
15
16    void print() //function
17    {
18        System.out.println("Hello");
19    }
20
21    info(int i, String n, double f)
22    {
23        id = i;
24        name= n;
25        fees=f;
26    }
27
28    void display()
29    {
30
31        System.out.println("Student Id Is: "+id);
32        System.out.println("Student Name is :"+name);
33        System.out.println("Student Fees is: "+fees);
34
35    }
36
37 }
38
39 class program
40 {
41     public static void main(String args[])
42     {
43         info in4= new info();
44         info in = new info(1,"ABCX",7852.30);
45         info in2 = new info(2,"ABDC",8564.58);
46         in.display();
47         in2.display();
48     }
49 }
```

C:\Windows\System32\cmd.exe

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D:\java program practice\Concept\7. this_keyword\without this keyword>javac program.java

D:\java program practice\Concept\7. this_keyword\without this keyword>java program
hello world
Student Id Is: 1
Student Name is :ABCX
Student Fees is: 7852.3
Student Id Is: 2
Student Name is :ABDC
Student Fees is: 8564.58

D:\java program practice\Concept\7. this_keyword\without this keyword>

```
program.java x

1 //encapsulation static program ...
2 class account
3 {
4     private Long ac_no;
5     private String name;
6     private double amt;
7     private int id=2; //Private Variable
8 // for long ac_no...
9     public Long getac_no()
10    {
11        return ac_no;
12    }
13    public void setac_no(Long ac_no)
14    {
15        this.ac_no=ac_no;
16    }
17 //for string name...
18    public String getname()
19    {
20        return name;
21    }
22    public void setname(String name)
23    {
24        this.name=name;
25    }
26 //for double amt...
27    public double getamt()
28    {
29        return amt;
30    }
31    public void setamt(double amt)
32    {
33        this.amt=amt;
34    }
35 }
36 class program
37 {
38     public static void main(String args[])
39     {
40         account ac=new account();
41 //for long ac_no...
42         ac.setac_no(1l);
43         System.out.println("your account number is : "+ac.getac_no());
44 //for string name...
45         ac.setname("anant");
46         System.out.println("your name is : "+ac.getname());
47 //for double amt...
48         ac.setamt(50000);
49         System.out.println("your amount is : "+ac.getamt());
50 //for int id
51         //System.out.println(ai.id);
52         /*Cannot Access In Another Class Because It is Private Member, If You Want To Access This
53         Variable In Other class or Main Fuction Then MAKE a Getter and Setter Method For It. After
54         Making Getter and Setter You Will Access.*/      }
55 }
```

C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\Concept\8. encapsulation\static>javac program.java

D:\java program practice\Concept\8. encapsulation\static>java program
your account number is : 1
your name is : anant
your amount is : 50000.0

D:\java program practice\Concept\8. encapsulation\static>

The screenshot shows a Java development environment with two code editors and a terminal window.

Code Editor 1 (Left):

```
1 //encapsulation ...dynamic
2 import java.util.*;
3 class account
4 {
5     private long ac_no;
6     private String name;
7     private Double amt;
8 //for long ac_no...
9     public long getac_no()
10    {
11        return ac_no;
12    }
13    public void setac_no(long ac_no)
14    {
15        this.ac_no=ac_no;
16    }
17 //for String name...
18    public String getname()
19    {
20        return name;
21    }
22    public void setname(String name)
23    {
24        this.name=name;
25    }
26 //for Double amt...
27    public Double getamt()
28    {
29        return amt;
30    }
31    public void setamt(Double amt)
32    {
33        this.amt=amt;
34    }
35 }
36 class program
37 {
```

Code Editor 2 (Right):

```
34     }
35 }
36
37 class program
38 {
39     public static void main(String args[])
40     {
41         Long ac_no;
42         String name;
43         Double amt;
44
45 //for long ac_no...
46         System.out.print("enter account number : ");
47         Scanner sc1=new Scanner(System.in);
48         ac_no=sc1.nextLong();
49
50 //for String name...
51         System.out.println("enter your name : ");
52         Scanner sc2=new Scanner(System.in);
53         name=sc2.nextLine();
54
55 //for Double amt...
56         System.out.println("enter your amt : ");
57         Scanner sc3=new Scanner(System.in);
58         amt=sc3.nextDouble();
59
60         account ac=new account();
61
62 //for long ac_no...
63         ac.getac_no();
64         System.out.println("no is : "+ac_no);
65
66 //for String name...
67         ac.getname();
68         System.out.println("your name is : "+name);
69     }
69 }
```

Terminal Window (Bottom Right):

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\Concept\8. encapsulation\dynamic>javac program.java

D:\java program practice\Concept\8. encapsulation\dynamic>java program
enter account number : 1
enter your name :
anant
enter your amt :
100000
no is : 1
your name is : anant
your amt is : 100000.0

D:\java program practice\Concept\8. encapsulation\dynamic>
```

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```
1 //STATIC_KEYWORD...
2 class demo
3 {
4     int a=80;    //simple variable
5     static int b=70;    //static variable
6
7     static void add(int x,int y)
8     {
9         int ans=x+y;
10        System.out.println("the answer is : " +ans);
11    }
12
13    static
14    {
15        System.out.println("hello");
16    }
17 }
18
19 class program
20 {
21     public static void main(String args[])
22     {
23         int x=10,y=20;
24         //System.out.println("A is:" +key.a);    //Cannot Be Access, Because Variable is Not a Static.
25
26         System.out.println("B is : " +demo.b);//it is Accessed Because The Variable is Static.
27         //Static Variable Can Access Using "Classname.Variable_name".
28
29         demo.add(x,y);//Access The Static Function Using "Class_Name.Function_name"
30         //Without Creating Object of Class
31     }
32 }
```

```
C:\Windows\System32\cmd.exe
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D:\java program practice\Concept\9. static_keyword>javac program.java

D:\java program practice\Concept\9. static_keyword>java program
hello
B is : 70
the answer is : 30

D:\java program practice\Concept\9. static_keyword>
```

File Edit Selection Find View Goto Tools Project Preferences Help

program.java x

```
1 //single inheritance ...
2 import java.util.*;
3 class A      //Base Class or Super Class or Parent Class
4 {
5     void msg() //basic function
6     {
7         System.out.println("Hello");
8     }
9     void display()
10    {
11        System.out.println("Hello Good Morning");
12    }
13 }
14 class B extends A //Derived Class or Sub Class or Child Class
15 {
16     void func(int a,int b)
17     {
18         msg(); //print a basic function ...
19         System.out.println("the value of A is : "+a);
20         System.out.println("the value of B is : "+b);
21     }
22 }
23 class program
24 {
25     public static void main(String args[])
26     {
27         int a,b;
28         B bb=new B();
29         System.out.print("enter value of A : ");
30         Scanner sc1=new Scanner(System.in);
31         a=sc1.nextInt();
32         System.out.print("enter value of B : ");
33         Scanner sc2=new Scanner(System.in);
34         b=sc2.nextInt();
35
36         bb.func(a,b);
37         bb.display();
38     }
39 }
```

C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\Concept\10. inheritance\sing

D:\java program practice\Concept\10. inheritance\sing

enter value of A : 10
enter value of B : 20

Hello
the value of A is : 10
the value of B is : 20
Hello Good Morning

D:\java program practice\Concept\10. inheritance\sing

File Edit Selection Find View Goto Tools Project Preferences Help

```
1 //multiple inheritance ...
2 //multiple inheritance is not supported in java ...
3 //it will be support ..used for interface
4
5 import java.util.*;
6 class a
7 {
8     void function(Double b,Double h)
9     {
10         Double p=b*h;
11         System.out.println("area of parallelogram is : " +p);
12     }
13 }
14 class b
15 {
16     void function()
17     {
18         System.out.println("hello");
19     }
20 }
21 class c extends b //ERROR SHOW HERE ...
22 {
23     void function_c()
24     {
25         System.out.println("good");
26     }
27 }
28 class program
29 {
30     public static void main(String args[])
31     {
32         double b,h;
33
34         System.out.println("enter the base of parallelogram : ");
35         Scanner sc1=new Scanner(System.in);
36         b=sc1.nextDouble();
37
38         System.out.println("enter the hight of parallelogram : ");
39         Scanner sc2=new Scanner(System.in);
40         h=sc2.nextDouble();
41
42         c cc=new c();
43         cc.function(b,h);
44         cc.function();
45         cc.function_c();
46     }
47 }
```

C:\Windows\System32\cmd.exe

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```
D:\java program practice\Concept\10. inheritance\multiple inheritance\dynamic>
program.java:43: function() in b cannot be applied to (double,double)
        cc.function(b,h);
```

1 error

D:\java program practice\Concept\10. inheritance\multiple inheritance\dynamic>

File Edit Selection Find View Goto Tools Project Preferences Help

program.java x

```
1 // multilevel program :
2
3 import java.util.*;
4 class parallelogram
5 {
6     void function(Double b,Double h)
7     {
8         Double p=b*h;
9         System.out.println("area of parallelogram is : " +p);
10    }
11 }
12 class tringle extends parallelogram
13 {
14 }
15 }
16 class program
17 {
18     public static void main(String args[])
19     {
20         double b,h;
21
22         System.out.println("enter the base of parallelogram : ");
23         Scanner sc1=new Scanner(System.in);
24         b=sc1.nextDouble();
25
26         System.out.println("enter the hight of parallelogram : ");
27         Scanner sc2=new Scanner(System.in);
28         h=sc2.nextDouble();
29
30         tringle tr=new tringle();
31         tr.function(b,h);
32     }
33 }
```

C:\Windows\System32\cmd.exe

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D:\java program practice\Concept\10. inheritance\multilevel inheritance

D:\java program practice\Concept\10. inheritance\multilevel inheritance
enter the base of parallelogram :

5

enter the hight of parallelogram :

3

area of parallelogram is : 15.0

D:\java program practice\Concept\10. inheritance\multilevel inheritance

File Edit Selection Find View Goto Tools Project Preferences Help

program.java — multilevel inheritance\dynamic

program.java — hierarchical inheritance\dynamic

```
1 //hierarchical inheritance...
2 class a
3 {
4     void function_a()
5     {
6         System.out.println("call class A");
7     }
8 }
9
10 class b extends a
11 {
12     void function_b()
13     {
14         System.out.println("calling class B");
15     }
16 }
17
18 class c extends a
19 {
20     void function_c()
21     {
22         System.out.println("calling class C");
23     }
24 }
25
26 class program
27 {
28     public static void main(String args[])
29     {
30         c cc=new c();
31         b bb=new b();
32
33         cc.function_a();
34         bb.function_b();
35         cc.function_c();
36     }
37 }
```

C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\Concept\10. inheritance

D:\java program practice\Concept\10. inheritance
call class A
calling class B
calling class C

D:\java program practice\Concept\10. inheritance

program.java

```
1 //method overloading with inheritance ...
2 //same name different parameter
3 import java.util.*;
4 class over
5 {
6     void function_a(int no1,int no2)
7     {
8         int ans=no1+no2;
9         System.out.println("function A ans is : " +ans);
10    }
11 }
12 class load extends over
13 {
14     void function_a(int no1,int no2,int no3)
15     {
16         int ans=no1+no2+no3;
17         System.out.println("function B ans is : " +ans);
18     }
19 }
20 class program
21 {
22     public static void main(String args[])
23     {
24         int no1,no2,no3;
25
26         System.out.print("enter no1 : ");
27         Scanner sc1=new Scanner(System.in);
28         no1=sc1.nextInt();
29
30         System.out.print("enter no2 : ");
31         Scanner sc2=new Scanner(System.in);
32         no2=sc2.nextInt();
33
34         System.out.print("enter no3 : ");
35         Scanner sc3=new Scanner(System.in);
36         no3=sc3.nextInt();
37
38         load ld=new load();
39
40         ld.function_a(no1,no2,no3);
41         ld.function_a(no1,no2);
42     }
43 }
44 }
```

C:\Windows\System32\cmd.exe

Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\Concept\11. method

D:\java program practice\Concept\11. method
enter no1 : 10
enter no2 : 20
enter no3 : 30
function B ans is : 60
function A ans is : 30

D:\java program practice\Concept\11. method

```
e Edit Selection Find View Goto Tools Project Preferences Help
program.java — 11. method overloading_inheritance\dynamic x program.java — 12. method overriding_inheritance\dynamic x + ▾
```

```
1 //overriding with inheritance...
2 //same name same parameter
3 import java.util.*;
4 class first
5 {
6     void calc(int no1,int no2)
7     {
8         int ans=no1+no2;
9         System.out.println("Addition is : " +ans);
10    }
11 }
12
13 class second extends first
14 {
15     void calc(int no1,int no2)
16     {
17         super.calc(no1,no2);
18         int ans=no1-no2;
19         System.out.println("subtraction is : " +ans);
20     }
21 }
22
23 class program
24 {
25     public static void main(String args[])
26     {
27         int no1,no2;
28
29         second sc=new second();
30
31         first f=new first();
32
33         System.out.print("enter first number : ");
34         Scanner sc1=new Scanner(System.in);
35         no1=sc1.nextInt();
36
37         System.out.print("enter second number : ");
38         Scanner sc2=new Scanner(System.in);
39         no2=sc2.nextInt();
40
41         sc.calc(no1,no2);
42     }
43 }
44 }
```

```
C:\Windows\System32\cmd.exe
D:\java program practice\Concept\12. method overriding_inheritance\dynamic>javac program.java
D:\java program practice\Concept\12. method overriding_inheritance\dynamic>java program
enter first number : 10
enter second number : 20
Addition is : 30
subtraction is : -10
D:\java program practice\Concept\12. method overriding_inheritance\dynamic>
```

D:\java program practice\Concept\13.super keyword\dynamic\program.java - Sublime Text (UNREGISTERED)

File Edit Selection Find View Goto Tools Project Preferences Help

program.java — 11. method overloading_inheritance\dynamic x program.java — 12. method overriding_inheritance\dynamic x program.java — 13.super keyword\dynamic x

```
1 //super keyword...
2 import java.util.*;
3 class sup
4 {
5     int eid=20;
6     void calc(int no1,int no2)
7     {
8         int ans=no1+no2;
9         System.out.println("The Addition is: " +ans);
10    }
11 }
12
13 class sub extends sup
14 {
15     int eid=90,no1,no2;
16     void calc(int no1,int no2)
17     {
18         super.calc(no1,no2);
19         System.out.println("employee id number is [sub class] : " +eid);
20         System.out.println("employee id number is [super class] : " +super.eid);
21     }
22 }
23
24 class program
25 {
26     public static void main(String args[])
27     {
28         int no1,no2;
29
30         sub sb=new sub();
31
32         System.out.print("enter no1 : ");
33         Scanner sc1=new Scanner(System.in);
34         no1=sc1.nextInt();
35
36         System.out.print("enter no2 : ");
37         Scanner sc2=new Scanner(System.in);
38         no2=sc2.nextInt();
39
40         sb.calc(no1,no2);
41     }
42 }
43 }
```

C:\Windows\System32\cmd.exe

```
D:\java program practice\Concept\13.super keyword\dynamic>javac program.java

D:\java program practice\Concept\13.super keyword\dynamic>java program
enter no1 : 10
enter no2 : 20
The Addition is: 30
employee id number is [sub class] : 90
employee id number is [super class] : 20

D:\java program practice\Concept\13.super keyword\dynamic>
```

D:\java program practice\concept\array\single demensional\demo\static\program.java - Sublime Text (UNREGISTERED)

File Edit Selection Find View Goto Tools Project Preferences Help

program.java

```
1 //array single and multi value print ...
2
3 class program
4 {
5     public static void main(String args[])
6     {
7         int arr[]={10,20,30,40,50,60};
8
9         //for print single value ...
10        System.out.println("the value of an array is : "+arr[4]);
11
12        //for print a multi value ...
13        for(int i=0;i<arr.length;i++)
14        {
15            System.out.println("index number is ["+i+"] the value of an array is : "+arr[i]);
16        }
17    }
18 }
```

C:\Windows\System32\cmd.exe

```
Microsoft Windows [Version 10.0.22000.1281]
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D:\java program practice\concept\array\single demensional\demo\static>javac program.java

D:\java program practice\concept\array\single demensional\demo\static>java program
the value of an array is : 50
index number is [0] the value of an array is : 10
index number is [1] the value of an array is : 20
index number is [2] the value of an array is : 30
index number is [3] the value of an array is : 40
index number is [4] the value of an array is : 50
index number is [5] the value of an array is : 60

D:\java program practice\concept\array\single demensional\demo\static>
```

Line 2, Column 1

Search

20:15
07-01-2023

D:\java program practice\concept\array\single demensional\demo\dynamic\program.java - Sublime Text (UNREGISTERED)

File Edit Selection Find View Goto Tools Project Preferences Help

program.java — static program.java — dynamic

```
1 import java.util.*;
2
3 class program
4 {
5     public static void main(String args[])
6     {
7         int arr[];
8         arr=new int[50];
9         int size,i;
10
11        System.out.print("enter the size of an array : ");
12        Scanner sc1=new Scanner(System.in);
13        size=sc1.nextInt();
14
15        for(i=0;i<size;i++)
16        {
17            System.out.print("enter the element of an array ["+i+"]: ");
18            Scanner sc2=new Scanner(System.in);
19            arr[i]=sc2.nextInt();
20        }
21
22        for(i=0;i<size;i++)
23        {
24            System.out.println("Index no is : ["+i+"] element number is : "+arr[i]);
25        }
26    }
27 }
28 }
```

C:\Windows\System32\cmd.exe

```
D:\java program practice\concept\array\single demensional\demo\dynamic>java
c program.java

D:\java program practice\concept\array\single demensional\demo\dynamic>java
program
enter the size of an array : 3
enter the element of an array [0]: 12
enter the element of an array [1]: 13
enter the element of an array [2]: 14
Index no is : [0] element number is : 12
```

Line 1, Column 1 Tab Size: 4 Java

Search Cloud Search Spotify Sublime Text

ENG IN 20:17 07-01-2023

D:\java program practice\concept\array\single demensional\addition\static\program.java - Sublime Text (UNREGISTERED)

File Edit Selection Find View Goto Tools Project Preferences Help

program.java — demo\static | program.java — demo\dynamic | program.java — addition\static

```
1 class program
2 {
3     public static void main(String args[])
4     {
5         int i,a[]={10,20,30,40,50,60},b[]={20,50,60,70,30,10},ans[],sub[];
6         ans=new int[50];
7         sub=new int[50];
8         for(i=0;i<a.length;i++)
9         {
10             ans[i]=a[i]+b[i];
11             System.out.println("the ans is : "+ans[i]);
12         }
13
14         for(i=0;i<a.length;i++)
15         {
16             sub[i]=a[i]-b[i];
17             System.out.println("sub is : " +sub[i]);
18         }
19     }
20 }
```

C:\Windows\System32\cmd.exe

```
D:\java program practice\concept\array\single demensional\addition\static>java program
the ans is : 30
the ans is : 70
the ans is : 90
the ans is : 110
the ans is : 80
the ans is : 70
sub is : -10
sub is : -30
sub is : -30
sub is : -30
sub is : 20
sub is : 50
```

Line 5, Column 61 Tab Size: 4 Java

Search ENG IN 20:19 07-01-2023

The image shows two side-by-side Java code editors. Both editors have a dark theme and are titled "program.java".

Left Editor (Line 20, Column 21):

```
1 //dynamic addition program ...
2
3 import java.util.*;
4 class program
5 {
6     public static void main(String args[])
7     {
8         int i,fst[],scnd[],sum[],size;
9
10        fst=new int[50];
11        scnd=new int[50];
12        sum=new int[50];
13
14        System.out.println("enter the size of an array : ");
15        Scanner sc1=new Scanner(System.in);
16        size=sc1.nextInt();
17
18        for(i=0;i<size;i++)
19        {
20            System.out.println("enter first array number : ");
21            Scanner sc2=new Scanner(System.in);
22            fst[i]=sc2.nextInt();
23        }
24
25        for(i=0;i<size;i++)
26        {
27            System.out.println("enter second array number : ");
28            Scanner sc3=new Scanner(System.in);
29            scnd[i]=sc3.nextInt();
30        }
31
32        for(i=0;i<size;i++)
33        {
34            sum[i]=fst[i]+scnd[i];
35            System.out.println("sum is : "+sum[i]);
36        }
37
38        //display ...
39
40        for(i=0;i<size;i++)
41        {
42            System.out.println("Index No: [" +i+ "]" +fst[i]);
43        }
44
45        System.out.print("\n");
46
47        for(i=0;i<size;i++)
48        {
49            System.out.println("Index No: [" +i+ "]" +scnd[i]);
50        }
51
52        System.out.print("\n");
53
54        for(i=0;i<size;i++)
55        {
56            System.out.println("Index No: [" +i+ "]" +sum[i]);
57        }
58
59    }
60 }
61 }
```

Right Editor (Line 20, Column 21):

```
37
38 //display ...
39
40 for(i=0;i<size;i++)
41 {
42     System.out.println("Index No: [" +i+ "]" +fst[i]);
43 }
44
45 System.out.print("\n");
46
47 for(i=0;i<size;i++)
48 {
49     System.out.println("Index No: [" +i+ "]" +scnd[i]);
50 }
51
52 System.out.print("\n");
53
54 for(i=0;i<size;i++)
55 {
56     System.out.println("Index No: [" +i+ "]" +sum[i]);
57 }
58
59 }
```

Output Window:

```
C:\Windows\System32\cmd.exe
enter the size of an array :
3
enter first array number :
1
enter first array number :
2
enter first array number :
3
enter second array number :
4
enter second array number :
5
enter second array number :
6
sum is : 5
sum is : 7
sum is : 9
Index No: [0]1
Index No: [1]2
Index No: [2]3

Index No: [0]4
Index No: [1]5
Index No: [2]6

Index No: [0] sum is : 5
Index No: [1] sum is : 7
Index No: [2] sum is : 9
```

Status Bar:

Line 20, Column 21 Tab Size: 4 D:\java program practice\concept\array\single demensional\addition\dynamic>

program.java

```
1  class program
2  {
3      public static void main(String args[])
4      {
5          int arr[][]={{
6              {10,20,30},
7              {20,30,40},
8              {30,40,50}
9          }};
10         System.out.println("The value of an array is :" +arr[2][0]);
11
12         for(int i=0;i<arr.length;i++)
13     {
14             for(int j=0;j<arr.length;j++)
15             {
16                 System.out.println("index no is: [" +i+ "] [" +j+ "] value is : " +arr[i][j]);
17             }
18         }
19     }
20 }
```

C:\Windows\System32\cmd.exe

```
index no is: [0] [0] value is : 10
index no is: [0] [1] value is : 20
index no is: [0] [2] value is : 30
index no is: [1] [0] value is : 20
index no is: [1] [1] value is : 30
index no is: [1] [2] value is : 40
index no is: [2] [0] value is : 30
index no is: [2] [1] value is : 40
index no is: [2] [2] value is : 50
```

D:\java program practice\concept\array\multi dimensional\demo\static>G

```
program.java — static    program.java — dynamic    two_djava

1 import java.util.*;
2
3 class program
4 {
5     public static void main(String args[])
6     {
7         int size,val[][];
8
9         val=new int[50][50];
10
11        System.out.println("enter the size of an array : ");
12        Scanner sc1=new Scanner(System.in);
13        size=sc1.nextInt();
14
15        for(int i=0;i<size;i++)
16        {
17            for(int j=0;j<size;j++)
18            {
19                System.out.print("index no : ["+i+"] ["+j+"] Enter value : ");
20                Scanner sc2=new Scanner(System.in);
21                val[i][j]=sc2.nextInt();
22            }
23        }
24
25        System.out.println("\n");
26
27        for(int i=0;i<size;i++)
28        {
29            for(int j=0;j<size;j++)
30            {
31                System.out.println("index no is : ["+i+"] ["+j+"] value is : "+val[i][j]);
32            }
33        }
34    }
35 }
36

Line 24, Column 9
Tab Size: 4
Ja
```

D:\java program practice\concept\array\multi
dimensional\demo\dynamic>java program
enter the size of an array :
3
index no : [0] [0] Enter value : 1
index no : [0] [1] Enter value : 2
index no : [0] [2] Enter value : 3
index no : [1] [0] Enter value : 4
index no : [1] [1] Enter value : 5
index no : [1] [2] Enter value : 6
index no : [2] [0] Enter value : 7
index no : [2] [1] Enter value : 8
index no : [2] [2] Enter value : 9

index no is : [0] [0] value is : 1
index no is : [0] [1] value is : 2
index no is : [0] [2] value is : 3
index no is : [1] [0] value is : 4
index no is : [1] [1] value is : 5
index no is : [1] [2] value is : 6
index no is : [2] [0] value is : 7
index no is : [2] [1] value is : 8
index no is : [2] [2] value is : 9

D:\java program practice\concept\array\multi
dimensional\demo\dynamic>^SS

```

1 //static addition program ...
2
3 class program
4 {
5     public static void main(String args[])
6     {
7         int fst[][]={{10,20,30},
8                     {20,30,40},
9                     {30,40,50}
10                };
11        int scnd[][]={{30,40,50},
12                     {40,50,60},
13                     {50,60,70}
14                };
15        int sum[][];
16
17        sum=new int[50][50];
18
19        System.out.print("\nfirst : \n");
20        for(i=0;i<fst.length;i++)
21        {
22            for(j=0;j<fst.length;j++)
23            {
24                System.out.print("[ "+i+" ][ "+j+" ]"+fst[i][j]+" ");
25            }
26            System.out.print("\n");
27        }
28        System.out.print("\nsecond : \n");
29        for(i=0;i<scnd.length;i++)
30        {
31            for(j=0;j<scnd.length;j++)
32            {
33                System.out.print("[ "+i+" ][ "+j+" ]"+scnd[i][j]+" ");
34            }
35            System.out.print("\n");
36        }
37        System.out.print("\nsum : \n");
38        for(i=0;i<fst.length;i++)
39        {
40            for(j=0;j<scnd.length;j++)
41            {
42                sum[i][j]=fst[i][j]+scnd[i][j];
43                System.out.print("[ "+i+" ][ "+j+" ]" +sum[i][j]);
44            }
45            System.out.print("\n");
46        }
47    }
48
49 }
50
51 }
52
53 }
54
55 }

```

C:\Windows\System32\cmd.exe

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D:\java program practice\concept\array\multi dimensional\addition\static>javac program.java

D:\java program practice\concept\array\multi dimensional\addition\static>java program

first :

[0][0]10	[0][1]20	[0][2]30
[1][0]20	[1][1]30	[1][2]40
[2][0]30	[2][1]40	[2][2]50

second :

[0][0]30	[0][1]40	[0][2]50
[1][0]40	[1][1]50	[1][2]60
[2][0]50	[2][1]60	[2][2]70

sum :

[0][0]40	[0][1]60	[0][2]80
[1][0]60	[1][1]80	[1][2]100
[2][0]80	[2][1]100	[2][2]120

D:\java program practice\concept\array\multi dimensional\addition\static>

The image shows a Java development environment with two windows. The left window displays the source code for a Java program named `program.java`. The right window shows the terminal output of the program's execution.

Source Code (`program.java`):

```
1 //dynamic addition program ...
2 import java.util.*;
3 class program
4 {
5     public static void main(String args[])
6     {
7         int i,j,row,col,fst[][],scnd[][],sum[][];
8
9         fst=new int[50][50];
10        scnd=new int[50][50];
11        sum=new int[50][50];
12
13
14        System.out.println("enter a size of first row : ");
15        Scanner sc1=new Scanner(System.in);
16        row=sc1.nextInt();
17
18        System.out.println("enter a size of first column : ");
19        Scanner sc2=new Scanner(System.in);
20        col=sc2.nextInt();
21        System.out.print("\nenter first metrix : ");
22        for(i=0;i<row;i++)
23        {
24            for(j=0;j<col;j++)
25            {
26                System.out.println("index number [" +i+"][" +j+ "] number is : ");
27                Scanner sc3=new Scanner(System.in);
28                fst[i][j]=sc3.nextInt();
29            }
30        }
31        System.out.print("\nenter second metrix : ");
32        for(i=0;i<row;i++)
33        {
34            for(j=0;j<col;j++)
35            {
36                System.out.println("index number [" +i+"][" +j+ "] number is : ");
37                Scanner sc6=new Scanner(System.in);
38                scnd[i][j]=sc6.nextInt();
39            }
40        }
41        System.out.print("\nfirst metrix : \n");
42        for(i=0;i<row;i++)
43        {
44            for(j=0;j<col;j++)
45            {
46                System.out.print(" " +fst[i][j]+ " ");
47            }
48            System.out.print("\n");
49        }
50        System.out.print("\nsecond metrix : \n");
51        for(i=0;i<row;i++)
52        {
53            for(j=0;j<col;j++)
54            {
55                System.out.print(" " +scnd[i][j]+ " ");
56            }
57            System.out.print("\n");
58        }
59        System.out.print("\nsum of metrix : \n");
60        for(i=0;i<row;i++)
61        {
62            for(j=0;j<col;j++)
63            {
64                sum[i][j]=fst[i][j]+scnd[i][j];
65                System.out.print("[" +i+"][" +j+ "] " +sum[i][j] );
66            }
67            System.out.print("\t");
68        }
69    }
70 }
71 }
```

Terminal Output:

```
D:\java program practice\concept\array\multi dimensional\addition\dynamic>java program
enter a size of first row :
2
enter a size of first column :
2
enter first metrix : index number [0][0] number is :
10
index number [0][1] number is :
20
enter second metrix : index number [0][0] number is :
50
index number [0][1] number is :
60
enter first metrix : index number [0][0] number is :
10
index number [0][1] number is :
20
index number [1][0] number is :
30
index number [1][1] number is :
40
enter second metrix : index number [0][0] number is :
50
index number [0][1] number is :
60
index number [1][0] number is :
70
index number [1][1] number is :
80
first metrix :
10 20
30 40
second metrix :
50 60
70 80
sum of metrix :
[0][0]60 [0][1]80
[1][0]100 [1][1]120
```

```
inter.java      x  program.java — Demo\Static  x  program.java — rectangle & trangle\static  x  program.java — rectangle & trangle\dynam...  
1 //interface demo...  
2  
3 interface demo  
4 {  
5     int a=10,b=20;  
6     void function_a();  
7     void function_b();  
8 }  
9  
10 class test implements demo  
11 {  
12     public void function_a()    //compulsory in public...  
13     {  
14         System.out.println("The number of A is : " +a);  
15     }  
16  
17     public void function_b()    //compulsory in public...  
18     {  
19         System.out.println("The number of B is : " +b);  
20     }  
21 }  
22  
23 class program  
24 {  
25     public static void main(String args[])  
26     {  
27         test tt=new test();  
28         tt.function_a();  
29         tt.function_b();  
30     }  
31 }
```

```
C:\Windows\System32\cmd... - □ ×  
ncept\12. Interface\Demo\St  
atic>java program  
The number of A is : 10  
The number of B is : 20  
  
D:\java program practice\Co  
ncept\12. Interface\Demo\St  
atic>
```

```
► inter.java x | program.java — Demo\Static x | program.java — rectangle & trangle\static x

1 //tringle & rectangle .../Static...
2 interface demo
3 {
4     double base=10,height=30,width=20,area=50,radius=5;
5     final double pi=3.14;
6
7     void tringle();
8     void rectangle();
9     void square();
10    void circle();
11 }
12
13 class sum implements demo
14 {
15     public void tringle()
16     {
17         double ans=0.5*base*height;
18         System.out.println("The area of tringle is : "+ans);
19     }
20
21     public void rectangle()
22     {
23         double ans=width*height;
24         System.out.println("The area of rectangle is : "+ans);
25     }
26     public void square()
27     {
28         double ans=area*area;
29         System.out.println("The area of square is : "+ans);
30     }
31     public void circle()
32     {
33         double ans=pi*radius*radius;
34         System.out.println("The area of circle is : "+ans);
35     }
36 }
37 class program
38 {
39     public static void main(String args[])
40     {
41         sum s=new sum();
42         s.tringle();
43         s.rectangle();
44         s.square();
45         s.circle();
46     }
47 }
```

C:\Windows\System32 - X

D:\java program practice\Concept\12.▲
Interface\rectangle & trangle\static
c>java program
The area of tringle is : 150.0
The area of rectangle is : 600.0
The area of square is : 2500.0
The area of circle is : 78.5

```

File Edit Selection Find View Goto Tools Project Preferences Help
program.java ×
1 import java.util.*;
2 interface demo
3 {
4     void tringle(double base,double height);
5     void rectangle(double width,double height);
6     void square(double area);
7     void circle(double pi,double radius);
8 }
9
10 class sum implements demo
11 {
12     public void tringle(double base,double height)
13     {
14         double ans=0.5*base*height;
15         System.out.print("\nThe area of tringle is : "+ans);
16     }
17
18     public void rectangle(double width,double height)
19     {
20         double ans=width*height;
21         System.out.print("\nThe area of rectangle is : "+ans);
22     }
23
24     public void square(double area)
25     {
26         double ans=area*area;
27         System.out.print("\nThe area of square is : "+ans);
28     }
29
30     public void circle(double pi,double radius)
31     {
32         double ans=pi*radius*radius;
33         System.out.print("\nThe area of circle is : "+ans);
34     }
35
36     class program
37     {
38         public static void main(String args[])
39         {
40             double base,height,width,area,radius;

```

Line 45, Column 29

```

File Edit Selection Find View Goto Tools Project Preferences Help
program.java ×
24     j
25
26     class program
27     {
28         public static void main(String args[])
29         {
30             double base,height,width,area,radius;
31             final double pi=3.14;
32
33             sum s=new sum();
34
35             System.out.print("\nEnter the value of base : ");
36             Scanner sc1=new Scanner(System.in);
37             base=sc1.nextDouble();
38
39             System.out.print("Enter the value of height : ");
40             Scanner sc2=new Scanner(System.in);
41             height=sc2.nextDouble();
42
43             System.out.print("Enter the value of width : ");
44             Scanner sc3=new Scanner(System.in);
45             width=sc3.nextDouble();
46
47             System.out.print("Enter the value of area : ");
48             Scanner sc4=new Scanner(System.in);
49             area=sc4.nextDouble();
50
51             System.out.print("Enter the value of radius : ");
52             Scanner sc5=new Scanner(System.in);
53             radius=sc5.nextDouble();
54
55             s.tringle(base,height);
56             s.rectangle(width,height);
57             s.square(area);
58             s.circle(pi,radius);
59         }
60     }
61
62
63
64
65
66
67
68
69
70

```

2 lines, 38 characters selected

Tab Size: 4 Java Tab Size: 4

64 Select C:\Windows\System32\cmd.exe

Enter the value of base : 10
 Enter the value of height : 20
 Enter the value of width : 30
 Enter the value of area : 40
 Enter the value of radius : 50

The area of tringle is : 100.0
 The area of rectangle is : 600.0
 The area of square is : 1600.0
 The area of circle is : 7850.0

D:\java program practice\Concept\12. Interface\rectangle & trangle\dynamic>

File Edit Selection Find View Goto Tools Project Preferences Help

program.java

```
1 // multiple_interface ...
2 //sums...//static...
3
4 interface inter_circle
{
    double pi=3.14;
    int base=10,height=20;
    void find_circle();
}
5
6 interface inter_rectangle
{
    int width=30;
    void find_rectangle();
}
7
8 interface inter_square
{
    int area=10;
    void find_square();
}
9
10 interface inter_tringle
{
    int radius=50;
    void find_tringle();
}
11
12 class sums implements inter_circle,inter_rectangle,inter_square,inter_tringle
{
    public void find_circle()
    {
        double ans=pi*base*height;
        System.out.println("The area of circle is : " +ans);
    }
13
14    public void find_rectangle()
    {
        double ans=height*width;
        System.out.println("The area of rectangle is : " +ans);
    }
15
16    public void find_square()
    {
        double ans=area*area;
        System.out.println("The area of square is : " +ans);
    }
17
18    public void find_tringle()
    {
        double ans=pi*radius*radius;
        System.out.println("The area of tringle is : " +ans);
    }
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55 }
```

D:\java program practice\Concept\12. Interface\multiple_interface\static>java program

The area of circle is : 628.0
The area of rectangle is : 600.0
The area of square is : 100.0
The area of tringle is : 7850.0

C:\Windows\System32\cmd.exe

a

D:\java program practice\Concept\12. Interface\multiple_interface\static>

Line 3, Column 1

File Edit Selection Find View Goto Tools Project Preferences Help

```
program.java — static      program.java — dynamic
```

```
1 // multiple_interface ...
2 //sums...//dynamic...
3
4 import java.util.*;
5
6 interface inter_circle
7 {
8     double pi=3.14;
9     void find_circle(double base,double height);
10 }
11
12 interface inter_rectangle
13 {
14     void find_rectangle(double height,double width);
15 }
16
17 interface inter_square
18 {
19     void find_square(double area);
20 }
21
22 interface inter_tringle
23 {
24     void find_tringle(double radius);
25 }
26
27 class sums implements inter_circle,inter_rectangle,inter_square
28 {
29     public void find_circle(double base,double height)
30     {
31         double ans=pi*base*height;
32         System.out.println("The area of circle is : " +ans);
33     }
34
35     public void find_rectangle(double height,double width)
36     {
37         double ans=height*width;
38         System.out.println("The area of rectangle is : " +ans);
39     }
40
41     public void find_square(double area)
42     {
43         Double ans=area*area;
44         System.out.println("The area of square is : " +ans);
45     }
46
47     public void find_tringle(double radius)
48     {
49         double ans=pi*radius*radius;
50         System.out.println("The area of tringle is : " +ans);
51     }
52 }
53
54 class program
55 {
```

D:\java program practice\Concept\12. Interface\multiple_interface\dynam...

```
program.java
```

```
52 }
53
54 class program
55 {
56     public static void main(String args[])
57     {
58         double base,height,width,area,radius;
59         sums ss=new sums();
60
61         System.out.print("Enter the value of Base : ");
62         Scanner sc1=new Scanner(System.in);
63         base=sc1.nextDouble();
64
65         System.out.print("Enter the value of Height : ");
66         Scanner sc2=new Scanner(System.in);
67         height=sc2.nextDouble();
68
69         System.out.print("Enter the value of Width : ");
70         Scanner sc3=new Scanner(System.in);
71         width=sc3.nextDouble();
72
73         System.out.print("Enter the value of Area : ");
74         Scanner sc4=new Scanner(System.in);
75         area=sc4.nextDouble();
76
77         System.out.print("Enter the value of Radius : ");
78         Scanner sc5=new Scanner(System.in);
79         radius=sc5.nextDouble();
80
81         ss.find_circle(base,height);
82         ss.find_rectangle(height,width);
83         ss.find_square(area);
84         ss.find_tringle(radius);
85     }
86 }
```

```
C:\Windows\System32\cmd.exe
```

```
2 errors
```

```
D:\java program practice\Concept\12. Interface\multiple_interface\dynam...>javac program.java
```

```
D:\java program practice\Concept\12. Interface\multiple_interface\dynam...>java program
Enter the value of Base : 10
Enter the value of Height : 20
Enter the value of Width : 30
Enter the value of Area : 40
Enter the value of Radius : 50
The area of circle is : 628.0
The area of rectangle is : 600.0
The area of square is : 1600.0
The area of tringle is : 7850.0
```

```
D:\java program practice\Concept\12. Interface\multiple_interface\dynam...
```

```

File Edit Selection Find View Goto Tools Project Preferences Help
program.java x
1 //Interface_Inherits_Interface...
2 //Static
3 interface circle
4 {
5     double pi=3.14;
6     int base=10,height=20;
7     void find_circle();
8 }
9
10 interface square extends circle
11 {
12     int area=10;
13     void find_square();
14 }
15
16 interface tringle extends square
17 {
18     int radius=50;
19     void find_tringle();
20 }
21
22 interface rectangle extends tringle
23 {
24     int width=30;
25     void find_rectangle();
26 }
27
28 class shape implements rectangle
29 {
30     public void find_circle()
31     {
32         double ans=pi*base*height;
33         System.out.println("The area of circle is : " +ans);
34     }
35
36     public void find_square()
37     {
38         double ans=area*area;
39         System.out.println("The area of square is : " +ans);
40     }
41
42     public void find_tringle()
43     {
44         double ans=pi*radius*radius;
45         System.out.println("The area of tringle is : " +ans);
46     }
47
48     public void find_rectangle()
49     {
50         double ans=height*width;
51         System.out.println("The area of rectangle is : " +ans);
52     }
53 }
54
55 class program
56 {
57     public static void main(String args[])
58     {
59         shape sh=new shape();
60         sh.find_circle();
61         sh.find_square();
62         sh.find_tringle();
63         sh.find_rectangle();
64     }
65 }

```

Line 1, Column 23 Line 28, Column 1

```

File Edit Selection Find View Goto Tools Project Preferences Help
program.java
28 class shape implements rectangle
29 {
30     public void find_circle()
31     {
32         double ans=pi*base*height;
33         System.out.println("The area of circle is : " +ans);
34     }
35
36     public void find_square()
37     {
38         double ans=area*area;
39         System.out.println("The area of square is : " +ans);
40     }
41
42     public void find_tringle()
43     {
44         double ans=pi*radius*radius;
45         System.out.println("The area of tringle is : " +ans);
46     }
47
48     public void find_rectangle()
49     {
50         double ans=height*width;
51         System.out.println("The area of rectangle is : " +ans);
52     }
53 }
54
55 class program
56 {
57     public static void main(String args[])
58     {
59         shape sh=new shape();
60         sh.find_circle();
61         sh.find_square();
62         sh.find_tringle();
63         sh.find_rectangle();
64     }
65 }

```

C:\Windows\System32... — X

D:\java program practice\Concept\12. Interface\Interface_Inherits_Interface\Static>java program

The area of circle is : 628.0
 The area of square is : 100.0
 The area of tringle is : 7850.0
 The area of rectangle is : 600.0

D:\java program practice\Concept\12. Interface\Interface_Inherits_Interface\Static>



program.java



```
1 //abstraction static
2 [abstract class sums
3 {
4     int no1,no2;
5
6     abstract void add();
7     abstract void sub();
8 }
9
10 class first extends sums
11 {
12     void add()
13     {
14         int ans=no1+no2;
15         System.out.println("The addition is : " +ans);
16     }
17 }
18
19 class second extends sums
20 {
21     void sub()
22     {
23         int ans=no2-no1 ;
24         System.out.println("The subtraction is : " +ans);
25     }
26 }
27
28
29 abstract class program
30 {
31     public static void main(String args[])
32     {
33         int no1=10,no2=20;
34
35         first ft=new first();
36         ft.add();
37
38         second sc=new second();
39         sc.sub();
40     }
41 }
42
43
44 OUTPUT : :
45
46 The addition is : 30
47
48 The subtraction is : 10
49
```

File Edit Selection Find View Goto Tools Project Preferences Help

File Edit Selection Find View Goto Tools Project Preferences Help

```

1 //Aggrigation Static...
2 //create a file in program.java name
3 //save the file with prog.java folder
4 public class program
5 {
6     int id;
7     String name;
8     prog pro;
9
10    public program(int id, String name, prog pro)
11    {
12        this.id=id;
13        this.name=name;
14        this.pro=pro;
15    }
16
17    void display()
18    {
19        System.out.println(id+" "+name);
20        System.out.println(pro.city+" "+pro.state+" "+pro.country);
21    }
22
23    public static void main(String args[])
24    {
25        prog pro1=new prog("surat","gujarat","india");
26        prog pro2=new prog("mumbai","maharastra","india");
27
28        program p=new program(1,"anant",pro1);
29        program p1=new program(2,"dhruv",pro2);
30
31        p.display();
32        p1.display();
33    }
34 }
```

D:\java program practice\Concept\17. aggrigation\progjava - Sublime Text (UNREGISTERED)

```

1 //create a file prog.java name
2 //save the file with program.java folder
3 public class prog
4 {
5     String city,state,country;
6
7     public prog(String city, String state, String country)
8     {
9         this.city=city;
10        this.state=state;
11        this.country=country;
12    }
13 }
```

Line 2, Column 41

Tab Size: 4 Java

C:\Windows\System32\cmd.exe

D:\java program practice\Concept\17. aggrigation>javac program.java

D:\java program practice\Concept\17. aggrigation>java program

1 anant
surat gujarat india
2 dhruv
mumbai maharastra india

D:\java program practice\Concept\17. aggrigation>

```
tryCatch.java x
1 //try_catch method in java : -
2
3 class tryCatch
4 {
5     public static void main(String args[])
6     {
7         try
8         {
9             int data=50/0;
10        }
11
12        catch(Exception e)
13        {
14            System.out.print("\n" +e);
15        }
16
17        finally
18        {
19            System.out.println("\n\nFinally block is always executed");
20        }
21
22        System.out.println("\nrest of code");
23    }
24 }
```

C:\Windows\System32\cmd.exe

```
D:\java program practice\Concept\18. tryCatch>javac tryCatch.java
D:\java program practice\Concept\18. tryCatch>java tryCatch
java.lang.ArithmetricException: / by zero
Finally block is always executed
rest of code
D:\java program practice\Concept\18. tryCatch>
```

The image shows three side-by-side Sublime Text windows, each displaying a different part of a Java program named `program.java`. The code demonstrates various String class methods.

Window 1 (Left):

```
1 //String functions in java : -
2
3 class program
4 {
5     public static void main(String args[])
6     {
7         String s = "";
8         String str = "hello";
9         String str1 = "java";
10        String str2 = "hello";
11        String str3 = "0123456789";
12        String str4 = "GIIT";
13        String str5 = " good morning ";
14        char[] str6 = {'H', 'e', 'l', 'l', 'o'};
15
16 //There are 2 methods to concatenate two or more string.
17 //1. Using concat() method 2. Using + operator
18
19 // 1) Using concat() method
20 System.out.println("\n\nJava String concat() : -");
21 System.out.println(str.concat(str1)); //OUTPUT : hellojava
22 // 2) Using + operator
23 System.out.println("\n\nUsing + operator : -");
24 System.out.println(str+str1); //OUTPUT : hellojava
25
26 //String comparison can be done in 3 ways.
27 //1. Using equals() method
28 //2. Using == operator
29 //3. By CompareTo() method
30
31 //1. Using equals() method
32 System.out.println("\n\nJava String equals() : -");
33 System.out.println(str.equals(str1)); //OUTPUT : false
34 System.out.println(str.equals(str2)); //OUTPUT : true
35 //2. Using == operator
36 System.out.println("\n\nUsing == operator : -");
37 System.out.println(str==str1); //OUTPUT : false
38 System.out.println(str==str2); //OUTPUT : true
39 //3. By CompareTo() method
40 System.out.println("\n\nJava String CompareTo() : -");
41 System.out.println(str.compareTo(str1)); //OUTPUT : -2
42 System.out.println(str.compareTo(str2)); //OUTPUT : 0
43 System.out.println(str1.compareTo(str)); //OUTPUT : 2
44 // String class function : -
45 System.out.println("\n\nString class function : -");
46 //charAt() : -
47 System.out.println("\n\nJava String charAt() : -");
48 System.out.println(str1.charAt(2)); //OUTPUT : l
49 //equalsIgnoreCase() : -
50 System.out.println("\n\nJava String equalsIgnoreCase() : -");
51 System.out.println(str2.equalsIgnoreCase("HELLO")); //OUTPUT : true
52 System.out.println(str2.equalsIgnoreCase("JAVA")); //OUTPUT : false
53 //length() : -
```

Window 2 (Middle):

```
1 //length() : -
2 System.out.println("\n\nJava String length() : -");
3 System.out.println(str.length()); //OUTPUT : 5
4 System.out.println(str1.length()); //OUTPUT : 4
5
6 //replace() : -
7 System.out.println("\n\nJava String replace() : -");
8 System.out.println(str.replace('h','M')); //hello --> mello
9 System.out.println(str1.replace('j','M')); //java --> mava
10
11 //substring() : -
12 System.out.println("\n\nJava String substring() : -");
13 System.out.println(str3.substring(4)); //OUTPUT : 456789
14 System.out.println(str3.substring(4,7)); //OUTPUT : 456
15
16 //toLowerCase() : -
17 System.out.println("\n\nJava String toLowerCase() : -");
18 System.out.println(str4.toLowerCase()); //OUTPUT : gitit
19
20 //toUpperCase() : -
21 System.out.println("\n\nJava String toUpperCase() : -");
22 System.out.println(str.toUpperCase()); //OUTPUT : HELLO
23
24 //trim() : -
25 System.out.println("\n\nJava String trim() : -");
26 System.out.println(str5.trim()); //OUTPUT : good morning
27
28 //Java String charAt() : -
29 System.out.println("\n\nJava String charAt() : -");
30 char ch= str.charAt(2); //Returns the char value at the 2nd index...
31
32 char ch1= str5.charAt(4); //Returns the char value at the 4rd index
33 System.out.println(ch); //OUTPUT : l
34 System.out.println(ch1); //OUTPUT : d
35
36 //Java String contains() : -
37 System.out.println("\n\nJava String contains() : -");
38 System.out.println(str5.contains("good")); //OUTPUT : true
39 System.out.println(str5.contains("every")); //OUTPUT : false
40 System.out.println(str5.contains("morning")); //OUTPUT : true
41
42 //Java String startsWith() : -
43 System.out.println("\n\nJava String startsWith() : -");
44 System.out.println(str2.startsWith("he")); //OUTPUT : true
45 System.out.println(str2.startsWith("e")); //OUTPUT : false
46
47 System.out.println(str4.startsWith("GI")); //OUTPUT : true
48 System.out.println(str4.startsWith("IT")); //OUTPUT : false
49
50 //Java String endsWith() : -
51 System.out.println("\n\nJava String endsWith() : -");
52 System.out.println(str2.endsWith("lo")); //OUTPUT : true
53 System.out.println(str2.endsWith("h")); //OUTPUT : false
54
55 //System.out.println(str4.endsWith("IT")); //OUTPUT : true
56 System.out.println(str4.endsWith("m")); //OUTPUT : false
57
58 //Java String indexOf() : -
59 System.out.println("\n\nJava String indexOf() : -");
60 int index= str2.indexOf('I');
61 System.out.println("index of substring : " +index); //OUTPUT : 1
62
63 //Hello --> l is 2nd index
```

Window 3 (Right):

```
139 //Hello --> l is 2nd index
140
141 //Java String length() : -
142 System.out.println("\n\nJava String length() : -");
143
144 System.out.println("string length is: "+str2.length()); //OUTPUT : 5
145 //Hello
146 System.out.println("string length is: "+str4.length()); //OUTPUT : 4
147 //GIIT
148
149 //OTHER STRING FUNCTIONS :
150 System.out.println("\n\nOTHER STRING FUNCTIONS");
151
152 //Java String codePointAt() : -
153 System.out.println("\n\nJava String codePointAt() : -");
154
155 int result = str.codePointAt(0);
156 System.out.println(result); //OUTPUT : 104
157
158 //Java String hashCode() : -
159 System.out.println("\n\nJava String hashCode() : -");
160
161 System.out.println(str.hashCode()); //OUTPUT : 99162322
162
163 //Java String isEmpty() : -
164 System.out.println("\n\nJava String isEmpty() : -");
165
166 System.out.println(str1.isEmpty()); //OUTPUT : false
167 // s value is empty ...
168 System.out.println(s.isEmpty()); //OUTPUT : true
169
170 //Java String copyValueOf() : -
171 System.out.println("\n\nJava String copyValueOf()");
172
173 s = s.copyValueOf(str6, 0, 5);
174 System.out.println("Returned String: " +s); //OUTPUT: Hello
175
176
177
178
179
180 }
```

```
C:\Windows\System32\cmd.exe
```

```
Microsoft Windows [Version 10.0.22000]
(c) Microsoft Corporation. All rights reserved.

D:\java program practice\Concept\20. String function>

Java String concat() : -
hellojava

Using + operator : -
hellojava

Java String equals() : -
false
true

Using == operator : -
false
true

Java String CompareTo() : -
-2
0
2

String class function : -

Java String charAt() : -
v

Java String equalsIgnoreCase() : -
true
false

Java String length() : -
```

```
C:\Windows\System32\cmd.exe
```

```
Java String length() : -
5
4

Java String replace() : -
Mello
Mava

Java String substring() : -
456789
456

Java String toLowerCase() : -
giit

Java String toUpperCase() : -
HELLO

Java String trim() : -
good morning

Java String charAt() : -
l
d

Java String contains() : -
true
false
true

Java String startsWith() : -
true
false
true
false
```

```
Select C:\Windows\System32\cmd.exe
```

```
Java String endsWith() : -
true
false
true
false
```

```
Java String indexOf() : -
index of substring : 2
```

```
Java String length() : -
string length is: 5
string length is: 4
```

OTHER STRING FUNCTIONS

```
Java String codePointAt() : -
104
```

```
Java String hashCode() : -
99162322
```

```
Java String isEmpty() : -
false
true
```

```
Java String copyValueOf()
Returned String: Hello
```

```
D:\java program practice\Concept\20. String function>
```

```

program.java
1 //Math function in java : -
2 class program
3 {
4     public static void main(String args[])
5     {
6         int x=10,y=-20,z=81;
7         int a=5,b=4;
8         double p=80.52,q=80.48;
9
10    //Java Math.abs() method : -
11    System.out.println("\n\nJava Math.abs() method : -");
12    System.out.println(Math.abs(x)); //OUTPUT : 10
13    System.out.println(Math.abs(y)); //OUTPUT : 20
14
15    //Java Math.max() method : -
16    System.out.println("\n\nJava Math.max() method : -");
17    System.out.println(Math.max(x,y)); //OUTPUT : 10
18
19    //Java Math.min() method : -
20    System.out.println("\n\nJava Math.min() method : -");
21    System.out.println(Math.min(x, y)); //OUTPUT : -20
22
23    //Java Math.round() method : -
24    System.out.println("\n\nJava Math.round() method : -");
25    System.out.println(Math.round(p)); //OUTPUT : 81
26    System.out.println(Math.round(q)); //OUTPUT : 80
27
28    //Java Math.sqrt() method : -
29    System.out.println("\n\nJava Math.sqrt() method : -");
30    System.out.println(Math.sqrt(z)); //OUTPUT : 9
31
32    //Java Math.pow() method : -
33    System.out.println("\n\nJava Math.pow() method : -");
34    System.out.println(Math.pow(a,b)); //OUTPUT : 625 //5*5*5*5 = 625
35
36    //Java Math.addExact() method : -
37    System.out.println("\n\nJava Math.addExact() method : -");
38    System.out.println(Math.addExact(x,z)); //OUTPUT : 91 //x+z = 10+81 = 91
39
40    //Java Math.subtractExact() method : -
41    System.out.println("\n\nJava Math.subtractExact() method : -");
42    System.out.println(Math.subtractExact(z,x)); //OUTPUT : 71 //z-x = 81-10 = 71
43
44    //Java Math.multiplyExact() method : -
45    System.out.println("\n\nJava Math.multiplyExact() method : -");
46    System.out.println(Math.multiplyExact(a,b)); //OUTPUT : 20 //a*b = 5*4 = 20
47
48    //Java Math.log() method : -
49    System.out.println("\n\nJava Math.log() method : -");
50    System.out.println(Math.log(z)); //OUTPUT : 4.394449154672439
51
52    //Java Math.log10() method : -
53    System.out.println("\n\nJava Math.log10() method : -");
54    System.out.println(Math.log10(z)); //OUTPUT : 1.9084850188786497
55
56    //Java Math.sin() method : -
57    System.out.println("\n\nJava Math.sin() method : -");
58    System.out.println(Math.sin(z)); //OUTPUT : -0.6298879942744539
59
60    //Java Math.cos() method : -
61    System.out.println("\n\nJava Math.cos() method : -");
62    System.out.println(Math.cos(z)); //OUTPUT : 0.7766859820216312
63
64    //Java Math.tan() method : -
65    System.out.println("\n\nJava Math.tan() method : -");
66    System.out.println(Math.tan(z)); //OUTPUT : -0.8109944158318942
67
68    //Java Math.asin() method : -
69    System.out.println("\n\nJava Math.asin() method : -");
70    System.out.println(Math.asin(q)); //OUTPUT : -----
71
72    //Java Math.acos() method : -
73    System.out.println("\n\nJava Math.acos() method : -");
74    System.out.println(Math.acos(q)); //OUTPUT : -----
75
76    //Java Math.atan() method : -
77    System.out.println("\n\nJava Math.atan() method : -");
78    System.out.println(Math.atan(q)); //OUTPUT : 1.558371518881711
79
80    }
81 }

```

```

program.java
28 //Java Math.sqrt() method : -
29 System.out.println("\n\nJava Math.sqrt() method : -");
30 System.out.println(Math.sqrt(z)); //OUTPUT : 9
31
32 //Java Math.pow() method : -
33 System.out.println("\n\nJava Math.pow() method : -");
34 System.out.println(Math.pow(a,b)); //OUTPUT : 625 //5*5*5*5 = 625
35
36 //Java Math.addExact() method : -
37 System.out.println("\n\nJava Math.addExact() method : -");
38 System.out.println(Math.addExact(x,z)); //OUTPUT : 91 //x+z = 10+81 = 91
39
40 //Java Math.subtractExact() method : -
41 System.out.println("\n\nJava Math.subtractExact() method : -");
42 System.out.println(Math.subtractExact(z,x)); //OUTPUT : 71 //z-x = 81-10 = 71
43
44 //Java Math.multiplyExact() method : -
45 System.out.println("\n\nJava Math.multiplyExact() method : -");
46 System.out.println(Math.multiplyExact(a,b)); //OUTPUT : 20 //a*b = 5*4 = 20
47
48 //Java Math.log() method : -
49 System.out.println("\n\nJava Math.log() method : -");
50 System.out.println(Math.log(z)); //OUTPUT : 4.394449154672439
51
52 //Java Math.log10() method : -
53 System.out.println("\n\nJava Math.log10() method : -");
54 System.out.println(Math.log10(z)); //OUTPUT : 1.9084850188786497
55
56 //Java Math.sin() method : -
57 System.out.println("\n\nJava Math.sin() method : -");
58 System.out.println(Math.sin(z)); //OUTPUT : -0.6298879942744539
59
60 //Java Math.cos() method : -
61 System.out.println("\n\nJava Math.cos() method : -");
62 System.out.println(Math.cos(z)); //OUTPUT : 0.7766859820216312
63
64 //Java Math.tan() method : -
65 System.out.println("\n\nJava Math.tan() method : -");
66 System.out.println(Math.tan(z)); //OUTPUT : -0.8109944158318942
67
68 //Java Math.asin() method : -
69 System.out.println("\n\nJava Math.asin() method : -");
70 System.out.println(Math.asin(q)); //OUTPUT : -----
71
72 //Java Math.acos() method : -
73 System.out.println("\n\nJava Math.acos() method : -");
74 System.out.println(Math.acos(q)); //OUTPUT : -----
75
76 //Java Math.atan() method : -
77 System.out.println("\n\nJava Math.atan() method : -");
78 System.out.println(Math.atan(q)); //OUTPUT : 1.558371518881711
79
80 }
81 }

```

```
D:\java program practice\Concept\21. Math functions>javac program.java
D:\java program practice\Concept\21. Math functions>java program

Java Math.abs() method : -
10
20

Java Math.max() method : -
10

Java Math.min() method : -
-20

Java Math.round() method : -
81
80

Java Math.sqrt() method : -
9.0

Java Math.pow() method : -
625.0

Java Math.addExact() method : -
91

Java Math.subtractExact() method : -
71

Java Math.multiplyExact() method : -
20

Java Math.log() method : -
4.394449154672439

Java Math.log10() method : -
1.9084850188786497

Java Math.sin() method : -
-0.6298879942744539

Java Math.cos() method : -
0.7766859820216312

Java Math.tan() method : -
-0.8109944158318942

Java Math.tan() method : -
-0.8109944158318942

Java Math.asin() method : -
NaN

Java Math.acos() method : -
NaN

Java Math.atan() method : -
1.558371518881711

D:\java program practice\Concept\21. Math functions>
```

The image shows two side-by-side Java code editors and their corresponding command-line outputs.

Left Editor (Thread Implementation):

```
File Edit Selection Find View Goto Tools Project Preferences Help
program.java x
1 //Thread with implements ...
2 class program implements Runnable
3 {
4     public void run()
5     {
6         System.out.println("Thread is Running ...");
7     }
8     public static void main(String args[])
9     {
10        program pr=new program();
11        Thread th=new Thread(pr);
12        th.start();
13    }
14 }
```

Right Editor (Thread Extension):

```
File Edit Selection Find View Goto Tools Project Preferences Help
program.java x
1 //Thread with extends ...
2 class program extends Thread
3 {
4     public void run()
5     {
6         System.out.println("Thread is Running ...");
7     }
8     public static void main(String args[])
9     {
10        program pr=new program();
11        pr.start();
12    }
13 }
```

Left Command Line Output:

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1696]
(c) Microsoft Corporation. All rights reserved.

D:\java program practice\Concept\22. Thread\Thread with implements>javac program.java

D:\java program practice\Concept\22. Thread\Thread with implements>java program
Thread is Running ...

D:\java program practice\Concept\22. Thread\Thread with implements>
```

Right Command Line Output:

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1696]
(c) Microsoft Corporation. All rights reserved.

D:\java program practice\Concept\22. Thread\Thread with extending>javac program.java

D:\java program practice\Concept\22. Thread\Thread with extending>java program
Thread is Running ...

D:\java program practice\Concept\22. Thread\Thread with extending>
```

```
File Edit Selection Find View Goto Tools Project Preferences Help
```

```
threadprogram.java
```

```
1 class program extends Thread
2 {
3     public program(String str)
4     {
5         super(str);
6     }
7
8     public void run()
9     {
10        for(int i=0;i<10;i++)
11        {
12            System.out.println(i+" "+getName());
13            try
14            {
15                sleep((int)(Math.random()*1000)); //time...
16            }
17            catch(InterruptedException e)
18            {
19            }
20        }
21        System.out.println("DONE... "+getName());
22    }
23 }
24
25
26 class threadprogram
27 {
28     public static void main(String args[])
29     {
30         new program("anant").start();
31         new program("brij").start();
32         new program("ashutosh").stop();
33     }
34 }
35
36 //C:\Program Files\Java\jdk-9\bin
37
```

```
File Edit Selection Find View Goto Tools Project Preferences Help
```

```
multithread.java
```

```
1 class Count extends Thread
2 {
3     Count()
4     {
5         start();
6     }
7     public void run()
8     {
9         try
10        {
11            for (int i=0 ;i<10;i++)
12            {
13                System.out.println("Printing the Document " + i);
14                Thread.sleep(1000);
15            }
16        }
17        catch(InterruptedException e)
18        {
19            System.out.println("my thread interrupted");
20        }
21        System.out.println("My thread run is over" );
22    }
23 }
24
25 class multithread
26 {
27     public static void main(String args[])
28     {
29         Count cnt = new Count();
30         try
31         {
32             while(cnt.isAlive())
33             {
34                 System.out.println("Main thread will be alive till the child thread is live");
35                 Thread.sleep(1500);
36             }
37         }
38         catch(InterruptedException e)
39         {
40             System.out.println("Main thread interrupted");
41         }
42         System.out.println("Main thread's run is over" );
43     }
44 }
```

▶ program.java

```
1 //Deadlock example...
2 class Pen{}
3 class Paper{}
4 public class program
5 {
6     public static void main(String[] args)
7     {
8         final Pen pn =new Pen();
9         final Paper pr =new Paper();
10        Thread t1 = new Thread()
11        {
12            public void run()
13            {
14                synchronized(pn)
15                {
16                    System.out.println("Thread1 is holding Pen");
17                    try
18                    {
19                        Thread.sleep(1000);
20                    }
21                    catch(InterruptedException e){}
22                    synchronized(pr)
23                    {
24                        System.out.println("Requesting for Paper");
25                    }
26                }
27            }
28        };
29        Thread t2 = new Thread()
30        {
31            public void run()
32            {
33                synchronized(pr)
34                {
35                    System.out.println("Thread2 is holding Paper");
36                    try
37                    {
38                        Thread.sleep(1000);
39                    }
40                    catch(InterruptedException e){}
41                    synchronized(pn)
42                    {
43                        System.out.println("requesting for Pen");
44                    }
45                }
46            }
47        };
48        t1.start();
49        t2.start();
50    }
51 }
```

OUTPUT :

Thread2 is holding Paper

Thread1 is holding Pen

```

File Edit Selection Find View Goto Tools Project Preferences
File Edit Selection Find View Goto Tools Project Preferences Help
File Edit Selection Find View Goto Tools Project Preferences Help
1 //Access control modifier..Default
2 public class program
3 {
4     public int a = 10;
5     protected int b = 20;
6     private int c = 30;
7
8     void privateDisplay()
9     {
10         c = c+100;
11         System.out.println("Private Variable : "+c);
12     }
13 }
14 class SubClass extends program
15 {
16     void subDisplay()
17     {
18         a = a+100;
19         b = b+100;
20         System.out.println("Protected Variable : "+b);
21         System.out.println("Public Variable : "+a);
22     }
23 }
24 class MainClass
25 {
26     public static void main(String args[])
27     {
28         SubClass subObj = new SubClass();
29         subObj.privateDisplay();
30         subObj.subDisplay();
31     }
32 }
33
34 //OUTPUT :
35 Private Variable : 130
36 Protected Variable : 120
37 Public Variable : 110
38
39
1 //Access control modifier..private..
2 class program
3 {
4     private int a;
5     private float b;
6     private String str;
7
8     program()
9     {
10         a = 123;
11         b = (float)52.38;
12         str = "Private Values !!!";
13     }
14
15     private void get()
16     {
17         System.out.println("The Private Integer Value is : "+a);
18         System.out.println("The Private Float Value is : "+b);
19         System.out.println("The Private String Value is : "+str);
20     }
21     public void display()
22     {
23         get();
24     }
25 }
26 class MainClass
27
28 public static void main(String args[])
29 {
30     program obj = new program();
31     obj.display();
32 }
33
34 //OUTPUT :
35 The Private Integer Value is : 123
36 The Private Float Value is : 52.38
37 The Private String Value is : Private Values !!!
38
39
1 //Access control modifier..protected..
2 class program
3 {
4     protected int a;
5     protected float b;
6     protected String str;
7
8     program()
9     {
10         a = 111;
11         b = (float)123.456;
12         str = "Protected Values !!!";
13     }
14
15 class SubClass extends program
16 {
17     public void display()
18     {
19         System.out.println("The Protected Integer Value is : "+a);
20         System.out.println("The Protected Float Value is : "+b);
21         System.out.println("The Protected String Value is : "+str);
22     }
23 }
24 class MainClass
25
26 public static void main(String args[])
27 {
28     SubClass obj = new SubClass();
29     obj.display();
30 }
31
32 //OUTPUT :
33 The Protected Integer Value is : 111
34 The Protected Float Value is : 123.456
35 The Protected String Value is : Protected Values !!!
36
37

```

```

D:\java program practice\Concept\22.modifies\Access control modifier..public.java
D:\java program practice\Concept\22.modifies\Access control modifier..private.java
D:\java program practice\Concept\22.modifies\Access control modifier..protected.java
File Edit Selection Find View Goto Tools Project Preferences Help
File Edit Selection Find View Goto Tools Project Preferences Help
File Edit Selection Find View Goto Tools Project Preferences Help
1 //Access control modifier..public..
2 class program
3 {
4     public int a;
5     public float b;
6     public String str;
7
8     program()
9     {
10         a = 10;
11         b = (float)12.34;
12         str = "Public Values !!!";
13     }
14     public void display()
15     {
16         System.out.println("The Public Integer Value is : "+a);
17         System.out.println("The Public Float Value is : "+b);
18         System.out.println("The Public String Value is : "+str);
19     }
20 }
21 class MainClass
22 {
23     public static void main(String args[])
24     {
25         program obj = new program();
26         obj.display();
27     }
28 }
29
30 //OUTPUT :
31 The Public Integer Value is : 10
32 The Public Float Value is : 12.34
33 The Public String Value is :
34 Public Values !!!
35
36
37
38
39

```

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```
program.java •  
1 //Non-access Modifier..Static Method..  
2 class program  
3 {  
4     public static void square(int x)  
5     {  
6         System.out.println(x*x);  
7     }  
8     public static void main (String[] arg)  
9     {  
10        square(8); //static method square() is called without any instance of class.  
11    }  
12 }
```

D:\java program practice\Concept\22. modifies\Non-access Modifier\Final\program.java - Su...

File Edit Selection Find View Goto Tools Project Preferences Help

```
program.java x  
1 //Non-access Modifier..final..  
2 class program  
3 {  
4     final int MAX_PRICE = 999; //final variable  
5     final int MIN_PRICE = 699;  
6  
7     final void display() //final method  
8     {  
9         System.out.println("Maxprice is" + MAX_PRICE );  
10        System.out.println("Minprice is" + MIN_PRICE);  
11    }  
12 }
```

Line 2, Column 15

Tab Size: 4

Java

D:\java program practice\Concept\22. modifies\Non-access Modifier\Static\variable\program...

```
program.java x  
1 //Non-access Modifier..Static variable..  
2 class program  
3 {  
4     int eid;  
5     String name;  
6     static String company_name ="StudyTonight";  
7  
8     public void show()  
9     {  
10        System.out.println(eid+ " "+name+" "+company_name);  
11    }  
12    public static void main( String[] args )  
13    {  
14        program se1 = new program();  
15        se1.eid = 104;  
16        se1.name = "Abhijit";  
17        se1.show();  
18  
19        program se2 = new program();  
20        se2.eid = 108;  
21        se2.name = "ankit";  
22        se2.show();  
23    }  
24 }
```

Line 24, Column 2

Tab Size: 4

Java

```
File Edit Selection Find View Goto Tools Project Preferences Help
File Edit Selection Find View Goto Tools Project Preferences Help
animal.java MammalInt.java
1 package animals;
2
3 interface Animal
4 {
5     public void eat();
6
7     public void travel();
8 }
9
10 //compile a package :
11 Javac -d . animal.java
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
```

```
package animals;
public class MammalInt implements Animal
{
    public void eat()
    {
        System.out.println("Mammal eats");
    }

    public void travel()
    {
        System.out.println("Mammal travels");
    }

    public int noOfLegs()
    {
        return 0;
    }

    public static void main(String args[])
    {
        MammalInt m = new MammalInt();

        m.eat();
        m.travel();
    }
}

//Compile program :
Javac -d . MammalInt.java
//Run a Program :
Java animals. MammalInt
```

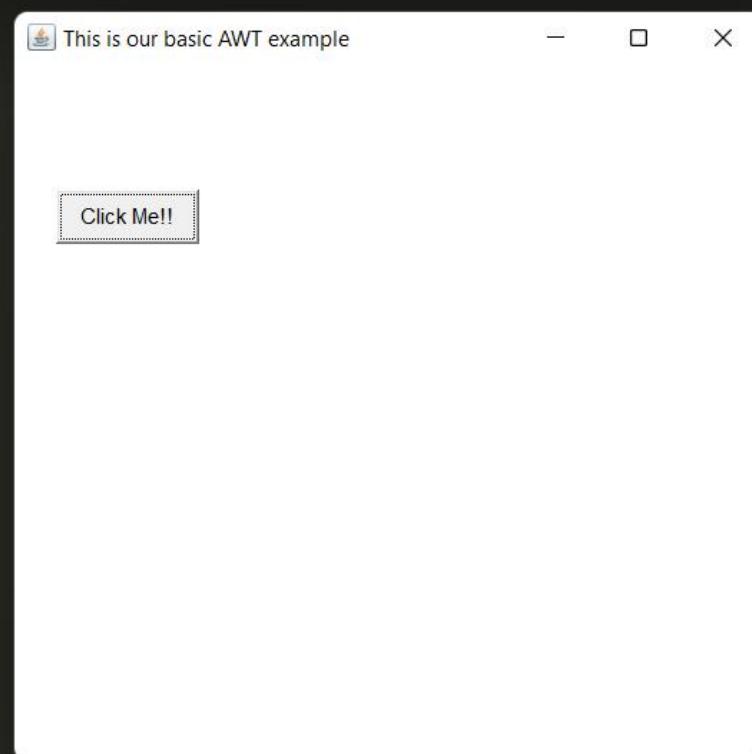
```
File Edit Selection Find View Goto Tools Project Preferences Help
animal.java          AWTExample1.java
1 // importing Java AWT class
2 import java.awt.*;
3
4 // extending Frame class to our class AWTExample1
5 public class AWTExample1 extends Frame
6 {
7
8     // initializing using constructor
9     AWTExample1()
10    {
11        // creating a button
12        Button b = new Button("Click Me!!");
13
14        // setting button position on screen
15        b.setBounds(30,100,80,30);
16
17        // adding button into frame
18        add(b);
19
20        // frame size 300 width and 300 height
21        setSize(300,300);
22
23        // setting the title of Frame
24        setTitle("This is our basic AWT example");
25
26        // no layout manager
27        setLayout(null);
28
29        // now frame will be visible, by default it is not visible
30        setVisible(true);
31    }
32    // main method
33    public static void main(String args[])
34    {
35
36        // creating instance of Frame class
37        AWTExample1 f = new AWTExample1();
38    }
39 } // C:\Program Files\Java\jdk-9\bin
```

```
C:\Windows\System32\cmd.exe - Java: AWTExample1
Microsoft Windows [Version 10.0.22000.1817]
(c) Microsoft Corporation. All rights reserved.

D:\JAVA\CONCEPT\25. AWT>set path=C:\Program Files\Java\jdk-9\bin

D:\JAVA\CONCEPT\25. AWT>javac AWTExample1.java

D:\JAVA\CONCEPT\25. AWT>java AWTExample1
```



File Edit Selection Find View Goto Tools Project Preferences Help



animal.java

● AWTExample2.java



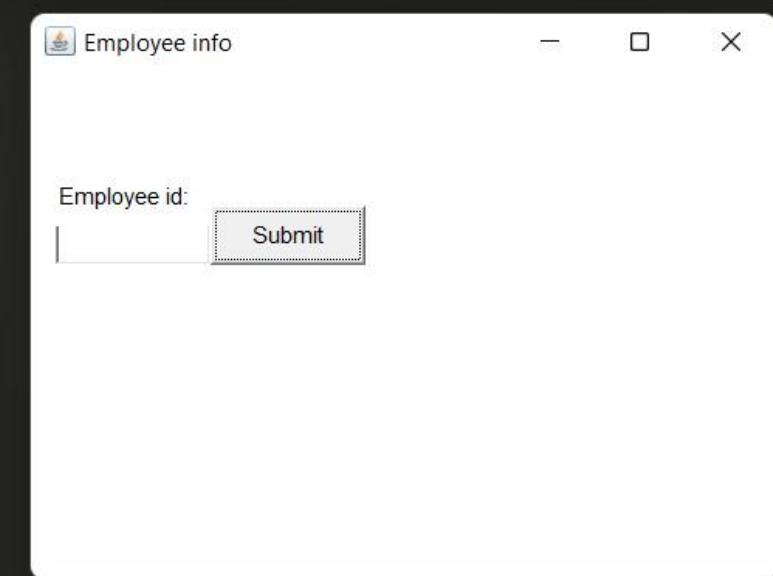
AWTExample1.java



```
1 // importing Java AWT class
2 import java.awt.*;
3 // class AWTExample2 directly creates instance of Frame class
4 class AWTExample2
5 {
6     AWTExample2() // initializing using constructor
7     {
8         Frame f = new Frame(); // creating a Frame
9
10        Label l = new Label("Employee id:"); // creating a Label
11
12        Button b = new Button("Submit"); // creating a Button
13
14        TextField t = new TextField(); // creating a TextField
15
16        // setting position of above components in the frame
17        l.setBounds(20, 80, 80, 30);
18        t.setBounds(20, 100, 80, 30);
19        b.setBounds(100, 100, 80, 30);
20
21        // adding components into frame
22        f.add(b);
23        f.add(l);
24        f.add(t);
25
26        f.setSize(400,300); // frame size 300 width and 300 height
27
28        f.setTitle("Employee info"); // setting the title of frame
29
30        f.setLayout(null); // no layout
31
32        f.setVisible(true); // setting visibility of frame
33    }
34    public static void main(String args[]) // main method
35    {
36        // creating instance of Frame class
37        AWTExample2 awt_obj = new AWTExample2();
38    }
39 }
```

```
C:\Windows\System32\cmd.exe - java AWTExample2
Microsoft Windows [Version 10.0.22000.1817]
(c) Microsoft Corporation. All rights reserved.

D:\JAVA\CONCEPT\25. AWT>set path=C:\Program Files\Java\jdk-9\bin
D:\JAVA\CONCEPT\25. AWT>javac AWTExample2.java
D:\JAVA\CONCEPT\25. AWT>java AWTExample2
```



D:\java program practice\Concept\24. Applet\Hexagon.java - Sublime Text (UNREGISTERED)

File Edit Selection Find View Goto Tools Project Preferences Help

Hexagon.java

```
1 import java.awt.*;
2
3 public class Hexagon extends java.applet.Applet
4 {
5
6     public void paint(Graphics g)
7     {
8         g.setColor(Color.black);
9         int[] x = {50, 100, 150, 150, 100, 50};
10        int[] y = {100, 100, 150, 200, 200, 150};
11        //int nPoints = 6;
12
13        g.drawPolygon(x,y,6);
14
15        g.setColor(Color.yellow);
16
17        g.fillPolygon(x,y,6);
18    }
19 }
20 //C:\Program Files\Java\jdk-9\bin
```

31 characters selected Spaces: 3 Java

D:\java program practice\Concept\24. Applet>set path=C:\Program Files\Java\jdk-9\bin

D:\java program practice\Concept\24. Applet>javac Hexagon.java

Note: Hexagon.java uses or overrides a deprecated API.

Note: Recompile with -Xlint:deprecation for details.

D:\java program practice\Concept\24. Applet>appletviewer Hexagon.html

Warning: Applet API and AppletViewer are deprecated.

D:\java program practice\Concept\24. Applet\Hexagon.html - Notepad++

File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

Hexagon.html

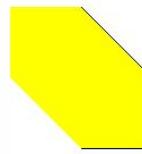
```
1 <html>
2   <body>
3     |   <applet code="Hexagon.class" height="500" width="500"></applet>
4   </body>
5 </html>
```

length : 101 lines : 5 Ln : 5 Col : 8 Pos : 102 Windows (CR LF) UTF-8 INS

C:\Windows\System32\cmd.exe - appletviewer Hexagon.html

Microsoft Windows [Version 10.0.22000.1817]
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Applet



Applet started.

D:\java program practice\Concept\24. Applet\AnantApplet.java - Sublime Text (UNREGISTERED)

AnantApplet.java

```
4 public class AnantApplet extends Applet
5 {
6     public void paint(Graphics g)
7     {
8         // Draw a circle
9         g.setColor(Color.red);
10        g.drawOval(50, 50, 100, 100);
11
12        // Draw a triangle inside the circle
13        g.setColor(Color.blue);
14        g.drawRect(50, 50, 100, 100);
15
16        // Write ANANT inside a circle
17        g.setColor(Color.black);
18        g.drawString("ANANT", 80, 105);
19
20    }
21
22 }
23
24 //C:\Program Files\Java\jdk-9\bin
25
```

Line 24, Column 34

Spaces: 3 Java

C:\Windows\System32\cmd.exe - appletviewer AnantApplet.html

Microsoft Windows [Version 10.0.22000.1817]
(c) Microsoft Corporation. All rights reserved.

D:\java program practice\Concept\24. Applet>set path=C:\Program Files\Java\jdk-9\bin

D:\java program practice\Concept\24. Applet>javac AnantApplet.java
Note: AnantApplet.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.

D:\java program practice\Concept\24. Applet>appletviewer AnantApplet.html
Warning: Applet API and AppletViewer are deprecated.

*D:\java program practice\Concept\24. Applet\AnantApplet.html - Notepad++

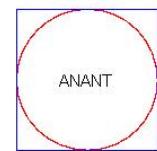
AnantApplet.html

```
1 <html>
2   <body>
3     <applet code="AnantApplet.class" height="500" width="500">
4       </applet>
5     </body>
6   </html>
```

Length : 109 Lines : 6 Ln : 4 Col : 9 Pos : 82 Windows (CR LF) UTF-8 INS

Applet Viewer: AnantApplet.class

Applet



ANANT

Applet started.

File Edit Selection Find View Goto Tools Project Preferences Help

test.java

```
1 import java.awt.*;
2 import java.applet.*;
3
4 public class test extends Applet
5 {
6     public void paint(Graphics g)
7     {
8         // Draw a circle
9         g.setColor(Color.red);
10        g.drawOval(64, 60, 75, 75);
11        g.fillOval(64, 60, 75, 75);
12
13        // Draw a triangle inside the circle
14        g.setColor(Color.blue);
15        g.drawRect(77, 73, 50, 50);
16        g.fillRect(77, 73, 50, 50);
17
18        // Write ANANT inside a circle
19        g.setColor(Color.green);
20        g.drawString("ANANT", 80, 105);
21    }
22}
23 //C:\Program Files\Java\jdk-9\bin
```

Line 23, Column 1

Spaces: 3

Java

File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?

test.html

```
1 <html>
2   <body>
3     <applet code="test.class" height="500" width="500"></applet>
4   </body>
5 </html>
```

Length : 98 lines : 5

Ln : 1 Col : 1 Pos : 1

Windows (CR LF)

UTF-8

INS

C:\Windows\System32\cmd.exe - appletviewer test.html

Microsoft Windows [Version 10.0.22000.1817]
(c) Microsoft Corporation. All rights reserved.

D:\java program practice\Concept\24. Applet>set path=C:\Program Files\Java\jdk-9\bin

D:\java program practice\Concept\24. Applet>javac test.java
Note: test.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.

D:\java program practice\Concept\24. Applet>appletviewer test.html
Warning: Applet API and AppletViewer are deprecated.



Applet started

D:\JAVA\CONCEPT\24. Applet\HappySymbol.java - Sublime Text (UNREGISTERED)

File Edit Selection Find View Goto Tools Project Preferences Help

HappySymbol.java

```
1 import java.awt.*;
2 import java.applet.*;
3
4 public class HappySymbol extends Applet
5 {
6     public void paint(Graphics g)
7     {
8         // Draw body
9         g.setColor(Color.ORANGE);
10        g.fillOval(50, 50, 200, 200);
11
12        // Draw eyes
13        g.setColor(Color.BLACK);
14        g.fillOval(90, 100, 30, 30);
15        g.fillOval(170, 100, 30, 30);
16
17        // Draw mouth
18        g.drawArc(100, 150, 100, 50, 180, 180);
19    }
20 }
```

Line 8, Column 17 Spaces: 2 Java

C:\Windows\System32\cmd.exe - appletviewer HappySymbol.html

```
D:\JAVA\CONCEPT\24. Applet>set path=C:\Program Files\Java\jdk-9\bin
D:\JAVA\CONCEPT\24. Applet>javac HappySymbol.java
Note: HappySymbol.java uses or overrides a deprecated API.
Note: Recompile with -Xlint:deprecation for details.

D:\JAVA\CONCEPT\24. Applet>appletviewer HappySymbol.html
Warning: Applet API and AppletViewer are deprecated.
```

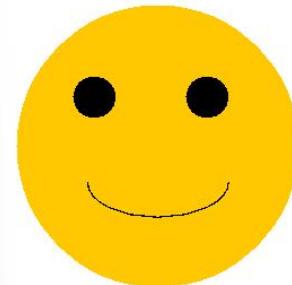
D:\JAVA\CONCEPT\24. Applet>HappySymbol.html - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
HappySymbol.html

```
1 <html>
2   <body>
3     <applet code="HappySymbol.class" height="500" width="500"></applet>
4   </body>
5 </html>
```

Length : 107 lines : 6 Ln : 6 Col : 1 Pos : 108 Windows (CR LF) UTF-8 INS

Applet Viewer: HappySymbol.class

Applet



Applet started.