**JAVA LAB PROGRAMS**

**1. write a java program to find area of traiangle:-**

**package** p1;

**class** triangle

{

**double** a,b,h;

**void** getdata(**double** b1,**double** h1)

{

b=b1;

h=h1;

}

**void** putdata()

{

a=0.5\*b\*h;

System.***out***.println("area of triangle is:"+a);

}

}

**class** Isra

{

**public** **static** **void** main(String args[])

{

triangle ob1=**new** triangle();

ob1.getdata(10,20);

ob1.putdata();

triangle ob2=**new** triangle();

ob2.getdata(5,2.6);

ob2.putdata();

}

}

**Output:-**

area of triangle is:100

area of triangle is:6.5

**2. write a java program to find area of classroom:-**

**package** p1;

**class** classroom

{

**double** a,b,l;

**void** getdata(**double** b1,**double** l1)

{

b=b1;

l=l1;

}

**void** putdata()

{

a=b\*l;

System.***out***.println("area of classroom is:"+a);

}

}

**class** Isra

{

**public** **static** **void** main(String args[])

{

classroom ob1=**new** classroom();

ob1.getdata(10,40);

ob1.putdata();

classroom ob2=**new** classroom();

ob2.getdata(5,10);

ob2.putdata();

}

}

**Output:-**

area of classroom is:400.0

area of classroom is:50.0

**3. Write a java program to find intrest of person:-**

**Package** p1;

**Class** intrest

{

**double** p,t,r,s;

**void** getdata(**double** p1,**double** t1,**double** r1)

{

p=p1;

t=t1;

r=r1;

}

**void** putdata()

{

s=p\*t\*r/100;

System.***out***.println("intrest amount="+s);

}

}

**class** Isra

{

**public** **static** **void** main(String args[])

{

intrest ob1=**new** intrest();

ob1.getdata(10,2,4);

ob1.putdata();

intrest ob2=**new** intrest();

ob2.getdata(5,6,4);

ob2.putdata();

}

}

**Output:-**

intrest amount=0.8

intrest amount=1.2

**4. Write a java program to find 3rd SEM marks:-**

**package** ouy;

**class** test

{

**int** python,chma,cn,dbms ;

**void** show(**int** py,**int** chma,**int** cn,**int** dbms)

{

python=py;

chma=chma;

cn=cn;

dbms=dbms;

System.***out***.println("marks in python:"+python);

System.***out***.println("marks in chma:"+chma);

System.***out***.println("marks in dbms:"+dbms);

System.***out***.println("marks in cn:"+cn);

}

}

**class** Results

{

**public** **static** **void** main(String args[])

{

test ob1=**new** test();

ob1.show(53,64,85,42);

}}

**Output:-**

marks in python:53

marks in chma:64

marks in dbms:85

marks in cn:42

**5. write a java program to find whether given number is odd or even:-**

**package** ganavi;

**import** java.util.Scanner;

**class** gn

{

**int** number;

gn(**int** number1)

{

number=number1;

}

**void** display()

{

**if**(number%2==0)

System.***out***.println(number+"is even");

**else**

System.***out***.println(number+"is odd");

}

}

**public** **class** oddeven {

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("enter number:");

**int** number=sc.nextInt();

gn ob=**new** gn(number);

ob.display();

}

}

**Output:-**

enter number:

3

3is odd

enter number:

4

4is even

**6. Write a java program to compare sum of three numbers is equal to product of two numbers:-**

**package** gan;

**import** java.util.Scanner;

**class** sss1

{

**int** a,b,c,d,e;

sss1(**int** a1,**int** b1,**int** c1)

{

a=a1;b=b1;c=c1;

}

**void** display()

{

d=a+b+c;

System.***out***.println("sum="+d);

e=a\*b;

System.***out***.println("product="+e);

{

**if**(d==e)

System.***out***.println("is equal");

**else**

System.***out***.println("not equal");

}

}

}

**class** sss

{

**public** **static** **void** main(String args[])

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("enter 3 number:");

**int** a1=sc.nextInt();

**int** b1=sc.nextInt();

**int** c1=sc.nextInt();

sss1 ob=**new** sss1(a1,b1,c1);

ob.display();

}

}

**Output:-**

enter 3 number:

5

4

6

sum=15

product=120

not equal

**7. write a java program to find out whether given number is palindrome or not:-**

**package** kjglg;

**import** java.util.Scanner;

**class** Pali

{

**int** sum=0,r;

**int** palindromeOrNot(**int** num)

{

**if**(num!=0)

{

r=num%10;

sum=(sum\*10)+r;

num/=10;

palindromeOrNot(num);

}

**return** sum;

}

}

**class** Palin

{

**public** **static** **void** main(String arg[])

{

**int** a,t,s;

Pali p=**new** Pali();

Scanner sc=**new** Scanner(System.***in***);

System.***out***.print("Enter a number :");

a=sc.nextInt();

t=a;

s=p.palindromeOrNot(a);

**if**(s==t)

System.***out***.println("Palindrome number ");

**else**

System.***out***.println("Not a Palindrome number ");

}}

**Output:-**

Enter a number :146

Not a Palindrome number

Enter a number :131

Palindrome number

**8. Write a java program to print numbers in reverese order:-**

**package** kjglg;

**import** java.util.Scanner;

**class** Reve

{

**int** res=0;

**void** reverse(**int** num)

{

**int** rem;

**if**(num!=0)

{

rem=num%10;

res=(res\*10)+rem;

num=num/10;

reverse(num);

}

**else**

System.***out***.println("reverse of a number is "+res);

}

}

**class** Rev

{

**public** **static** **void** main(String[] arg)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter a number");

**int** x=sc.nextInt();

Reve r=**new** Reve();

r.reverse(x);

}

}

**Output:-**

Enter a number

132

reverse of a number is 231

**9. write a java program to display the fibonacci number series:-**

**package** kjglg;

**import** java.util.Scanner;

**class** Fibonaci

{

**int** c=0,i=0,j=1,next;

**void** fib(**int** n)

{

**if**(n>0)

{

**if**(c<=1)

next=c;

**else**

{

next=i+j;

i=j;

j=next;

}

System.***out***.print(next+" ");

c++;

fib(--n);

}

}

}

**class** Fibonacci

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("Enter number of terms");

**int** num=sc.nextInt();

Fibonaci f=**new** Fibonaci();

System.***out***.println("Fibonacci series is ");

f.fib(num);

}}

**Output:-**

Enter number of terms

10

Fibonacci series is

0 1 1 2 3 5 8 13 21 34

**10. Write a java program to compare simple intrest and compound intrest:-**

package kio;

import java.math.\*;

import java.util.Scanner;

class java1

{

double pr,rate,t,sim,com;

java1(double pr1,double rate1,double t1)

{

pr=pr1;rate=rate1;t=t1;

}

void display()

{

sim=(pr\*t\*rate)/100;

com=((pr\*Math.pow((1+(rate/100)),t))-pr);

System.out.println("Simple Interest="+sim);

System.out. println("Compound Interest="+com);

if(sim==com)

System.out.println("compound intrest is equal to simple intrest");

else

System.out.println("compound intrest is not equal to simple intrest");

}

}

class Sici

{

public static void main (String args[ ])

{

double pr,rate,t;

Scanner sc=new Scanner (System. in);

System.out.println("Enter the amount:");

pr=sc.nextDouble();

System. out. println("Enter the No.of years:");

t=sc.nextDouble();

System. out. println("Enter the Rate of interest");

rate=sc.nextDouble();

java1 ob=new java1(pr,rate,t);

ob.display();

}}

**Output:-**

Enter the amount:

50000

Enter the No.of years:

2

Enter the Rate of interest

4

Simple Interest=4000.0

Compound Interest=4080.0000000000073

compound intrest is not equal to simple intrest

**11.write a java program to display 3rd sem result using if else nested statement:-**

**package** ouy;

**import** java.util.Scanner;

**public** **class** Result {

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("enter marks in CN:");

**int** CN=sc.nextInt();

System.***out***.println("enter marks in python:");

**int** python=sc.nextInt();

System.***out***.println("enter marks in dbms:");

**int** dbms=sc.nextInt();

System.***out***.println("enter marks in chma:");

**int** chma=sc.nextInt();

**if**(CN>35 && python>35 && dbms>35 && chma>35)

{

System.***out***.println("result=pass");

}

**else** {

System.***out***.println("result=fail");

}

**double** total=400;

**double** marks=CN+python+dbms+chma;

**double** percentage=(marks/total)\*100;

System.***out***.println("total marks="+total);

System.***out***.println("obtained marks="+marks);

System.***out***.println("percentage="+percentage);

**if**(percentage>=70 && percentage<=100)

{

System.***out***.println("grade=distinction");

}

**else** **if**(percentage>=60 && percentage<=70)

{

System.***out***.println("grade=first class");

}

**else** **if**(percentage>=50 && percentage<=60)

{

System.***out***.println("grade=second class");

}

**else** **if**(percentage>=40 && percentage<=50)

{

System.***out***.println("grade=pass");

}

**else** {

System.***out***.println("grade=fail");

}

}

}

**Output:-**

enter marks in CN:

89

enter marks in python:

99

enter marks in dbms:

73

enter marks in chma:

100

result=pass

total marks=400.0

obtained marks=361.0

percentage=90.25

grade=distinction

**12. Write a java program to implement area of triangle ,circle,rectangle and square using pakage:-**

**package** p1;

**public** **class** pp1 {

**public** **double** a,r;

**public** pp1(**double** r1)

{

r=r1;

}

**public** **void** display1()

{

a=3.14\*r\*r;

System.***out***.println("area of circle="+a);

}

}

**package** p2;

**public** **class** pp2 {

**public** **double** a,b,h;

**public** pp2(**double** b1,**double** h1)

{

b=b1;

h=h1;

}

**public** **void** display2()

{

a=0.5\*b\*h;

System.***out***.println("area of triangle="+a);

}

}

**package** p3;

**public** **class** pp3 {

**public** **double** a,s;

**public** pp3(**double** s1)

{

s=s1;

}

**public** **void** display3()

{

a=s\*s;

System.***out***.println("area of square="+a);

}}

**package** p4;

**public** **class** pp4 {

**public** **double** a,l,w;

**public** pp4(**double** l1,**double** w1)

{

l=l1;

w=w1;

}

**public** **void** display4()

{

a=l\*w;

System.***out***.println("area of rectangle="+a);

}

}

**package** p5;

**import** p1.\*;

**import** p2.\*;

**import** p3.\*;

**import** p4.\*;

**import** java.util.Scanner;

**public** **class** pp5

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("enter radius of circle:");

**double** r=sc.nextInt();

pp1 ob1=**new** pp1(r);

ob1.display1();

System.***out***.println("enter base and height of triangle:");

**double** b=sc.nextInt();

**double** h=sc.nextInt();

pp2 ob2=**new** pp2(b,h);

ob2.display2();

System.***out***.println("enter side of square:");

**double** s=sc.nextInt();

pp3 ob3=**new** pp3(s);

ob3.display3();

System.***out***.println("enter length and width of rectangle:");

**double** l=sc.nextInt();

**double** w=sc.nextInt();

pp4 ob4=**new** pp4(l,w);

ob4.display4();

}

}

**Output:-**

enter radius of circle:

4

area of circle=50.24

enter base and height of triangle:

4

9

area of triangle=18

enter side of square:

4

area of square=16.0

enter length and width of rectangle:

9

2

area of rectangle=18.0

**13. write a java program to implement simple intrest and compound intrest using package:-**

**package** p1;

**public** **class** pp1

{

**public** **double** s,p,t,r;

**public** pp1(**double** p1,**double** t1,**double** r1)

{

p=p1;t=t1;r=r1;

}

**public** **void** display1()

{

s=(p\*t\*r)/100;

System.***out***.println("simple intrest is="+s);

}

}

**package** p2;

**public** **class** pp2

{

**public** **double** c,p,t,r;

**public** pp2(**double** p1,**double** t1,**double** r1)

{

p=p1;t=t1;r=r1;

}

**public** **void** display2()

{

c=((p\*Math.*pow*(1+r/100, t))-p);

System.***out***.println("compound intrest is="+c);

}

}

**package** p5;

**import** p1.\*;

**import** p2.\*;

**import** java.util.Scanner;

**public** **class** pp5

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("enter principal amount:");

**double** p=sc.nextDouble();

System.***out***.println("enter time:");

**double** t=sc.nextDouble();

System.***out***.println("enter rate of intrest:");

**double** r=sc.nextDouble();

pp1 ob1=**new** pp1(p,t,r);

ob1.display1();

pp2 ob2=**new** pp2(p,t,r);

ob2.display2();

}

}

**Output:-**

enter principal amount:

50000

enter time:

3

enter rate of intrest:

4

simple intrest is=6000.0

compound intrest is=6243.200000000004

**14. write a program to find out minimum number in an given array:-**

**package** ars;

**class** mys

{

**public** **static** **void** main(String args[])

{

**int** a[]={1,2,3,4,5};

**int** min,I;

min=a[0];

**for**(i=1;i>=4;i++)

{

**if**(min>a[i])

min=a[i];

}

System.***out***.println("minimum="+min);

}

}

**Output:-**

minimum number=1

**15. write a program to find sum of odd and even number using array seperately:-**

**package** ars;

**class** mys

{

**public** **static** **void** main(String args[])

{

**int** numbers[]={1,2,3,4,5,6,7,8,9,10};

**int** sumEven=0;

**int** sumOdd=0;

**for**(**int** number:numbers)

{

**if**(number%2==0)

{

sumEven+=number;

}

**else**

{

sumOdd+=number;

}

}

System.***out***.println("sum of even numbers:"+sumEven);

System.***out***.println("sum of odd numbers:"+sumOdd);

}

}

**Output:-**

sum of even numbers:30

sum of odd numbers:25

**16. Write a program to display the array values in asscending order**:-

**package** ars;

**public** **class** Main {

**public** **static** **void** main(String[] args)

{

**int** number[]= {5,3,8,2,9,1,6,4,7};

{

**for**(**int** i=0;i<number.length-1;i++)

{

**for**(**int** j=0;j<number.length-i-1;j++)

{

**if**(number[j]>number[j+1])

{

**int** temp=number[j];

number[j]=number[j+1];

number[j+1]=temp;

}

}

}

System.***out***.println("array values in ascending order:");

**for**(**int** numbers :number)

{

System.***out***.println(numbers+" ");

}

}

}

}

**Output:-**

array values in ascending order:

1

2

3

4

5

6

7

8

**17. Write java program to search given number in an give array:-**

**package** ars;

**import** java.util.Scanner;

**public** **class** Mains {

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

**int** numbers[]= {5,3,8,2,9,1,6,4,7};

System.***out***.println("enter number to search:");

**int** target=sc.nextInt();

**boolean** found=**false**;

**for**(**int** number:numbers)

{

**if**(number==target)

{

found=**true**;

**break**;

}

}

**if**(found)

{

System.***out***.println("number"+ target+" found in the array");

}

**else**

{

System.***out***.println("number"+ target+" not found in the array:");

}

sc.close();

}

}

**Output:-**

enter number to search:

9

Number9 found in the array

enter number to search:

13

number 13 not found in the array

**18.write a java program to display the sum of primary diagonal elements:-**

**package** ouy;

**import** java.util.Scanner;

**public** **class** Primary

{

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("enter the size of matrix:");

**int** size=sc.nextInt();

**int** matrix[][]=**new** **int**[size][size];

System.***out***.println("enter the elements of matrix:");

**for**(**int** i=0;i<size;i++)

{

**for**(**int** j=0;j<size;j++)

{

matrix[i][j]=sc.nextInt();

}

}

**int** sum=0;

System.***out***.println("primary diagnonal elements:");

**for**(**int** i=0;i<size;i++)

{

System.***out***.println(matrix[i][i]+" ");

sum+=matrix[i][i];

}

System.***out***.println("\nsum of primary diagnal elements:"+sum);

sc.close();

}}

**Output:-**

enter the size of matrix:

3

enter the elements of matrix:

1 2 3

4 5 6

7 8 9

primary diagnonal elements:

1

5

9

sum of primary diagnal elements:15

**19.write a java program to display the sum of secondary diagonal elements:-**

**package** ouy;

**import** java.util.Scanner;

**public** **class** Secandary {

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("enter the size of matrix:");

**int** size=sc.nextInt();

**int** matrix[][]=**new** **int**[size][size];

System.***out***.println("enter the elements of matrix:");

**for**(**int** i=0;i<size;i++)

{

**for**(**int** j=0;j<size;j++)

{

matrix[i][j]=sc.nextInt();

}

}

**int** sum=0;

System.***out***.println("secondary diagnal elements:");

**for**(**int** i=0;i<size;i++)

{

System.***out***.println(matrix[i][size-i-1]+" ");

sum+=matrix[i][size-i-1];

}

System.***out***.println("\nsum of secondary diagnal elements:"+sum);

sc.close();}}

**Output:-**

enter the size of matrix:

3

enter the elements of matrix:

1 2 3

4 5 6

7 8 9

secondary diagnal elements:

3

5

7

sum of secondary diagnal elements:15

**20.write a java program to find out sum of elements above the primary diagonal :-**

**package** ouy;

**import** java.util.Scanner;

**public** **class** Secandary {

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("enter the size of matrix:");

**int** size=sc.nextInt();

**int** matrix[][]=**new** **int**[size][size];

System.***out***.println("enter the elements of matrix:");

**for**(**int** i=0;i<size;i++)

{

**for**(**int** j=0;j<size;j++)

{

matrix[i][j]=sc.nextInt();

}

}

**int** sum=0;

System.***out***.println("secondary diagnal elements:");

**for**(**int** i=0;i<size;i++)

{

System.***out***.println(matrix[i][size-i-1]+" ");

sum+=matrix[i][size-i-1];

}

System.***out***.println("\nsum of secondary diagnal elements:"+sum);

sc.close();}}

**Output:-**

enter the size of matrix:

3

enter the elements of matrix:

1 2 2

4 5 6

7 8 9

secondary diagnal elements:

2

5

7

sum of secondary diagnal elements:15

**21. .write a java program to find out sum of elements below the primary diagonal :-**

**package** ouy;

**import** java.util.Scanner;

**public** **class** Below {

**public** **static** **void** main(String[] args)

{

Scanner sc=**new** Scanner(System.***in***);

System.***out***.println("enter the size of matrix:");

**int** size=sc.nextInt();

**int** matrix[][]=**new** **int**[size][size];

System.***out***.println("enter the elements of matrix:");

**for**(**int** i=0;i<size;i++)

{

**for**(**int** j=0;j<size;j++)

{

matrix[i][j]=sc.nextInt();

}

}

**int** sum=0;

**for**(**int** i=0;i<size;i++)

{

**for**(**int** j=0;j<i;j++)

{

sum+=matrix[i][j];

}

}

System.***out***.println("sum of elements below the primary diagnal:"+sum);

sc.close();

}

}

**Output:-**

enter the size of matrix:

3

enter the elements of matrix:

1 2 3

4 5 6

7 8 9

sum of elements below the primary diagnal:19