

COMPUTER SCIENCE PROJECT

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CLASS : XIIth(A)

ROLL NO. : 2

SUBMITTED TO: Mrs. Deepa Rani

SCHOOL : Christu Jyothi Convent

School

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ACKNOWLEDGE MENT

I would like to express my special thanks of gratitude to my teacher Mrs. Deepa Rani who gave me the golden opportunity to do this wonderful project, for our board exams, which also helped me in doing a lot of Research and I came to know about so many new things. I am really thankful to them.

Secondly I would also like to thank my family and friends who helped me a lot in finalizing this project within the limited time frame.

:- ABHISHEK KUMAR

CERTIFICATE

This is to certify that Abhishek kumar of class XIIth has successfully completed the project work on Computer Science under the supervision of his Computer Teacher Mrs. Deepa Rani for the Board Examinations of the Indian Certificate of Secondary Education 2019 ~ 2020.

PROBLEM

DISCRIPTION

The name of this program is 'SCIENTIFIC CALCULATOR'. The creator of this program is ABHISHEK KUMAR. . This program is a great tool for calculation.

The user of this program can also get a lot of information about programming by looking at the source code.

The program allows the user to calculate most of the stuff which are available in real scientific calculator.

THIS PROGRAM IS FULL OF FUN AND KNOWLEDGE.


```
");
```

```
float sum=0;
```

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

```
for(int i=1;i<=num;i++)
```

```
{
```

```
    System.out.println("enter "+i+" number");
```

```
    float var=sc.nextFloat ();
```

```
    sum= sum+var;
```

```
}
```

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

```
return sum;
```

```
}
```



```
        System.out.println("enter "+i+" number");

        var[i-1] = sc.nextFloat();

    }

    sub=var[0];

    for(int i=1;i<num;i++)

    {

        sub=sub-var[i];

    }

    System.out.println();

    return sub;

}

float multi()
```



```
>>>");
```

```
float div=0;
```

```
float num1= sc.nextFloat();
```

```
System.out.println("enter first number");
```

```
float num2= sc.nextFloat();
```

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

```
return num1/num2;
```

```
}
```

```
double pow()
```

```
{
```

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

```
double pow=1.0d;
```

```
System.out.println("please enter the value of
```



```
x");
```

```
double x = sc.nextInt();
```

```
System.out.println("please enter the value of
```

```
n");
```

```
double n = sc.nextInt();
```

```
pow= Math.pow(x,n);
```

```
return pow;
```

```
}
```

```
long fact()
```

```
{
```

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

```
long fac=1;
```

```
System.out.println("enter the value of x");
```

```
long x = sc.nextLong();
```

```
for(int i=1;i<=x;i++)
```

```
{
```

```
    fac = fac*i;
```

```
}
```

```
return fac;
```

```
}
```

```
float reciprocal()
```

```
{
```

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

```
    System.out.println("enter the value of x");
```

```
    float x= sc.nextFloat();
```

```
    return 1/x;
```

```
}
```

```
float sqr()
```

```
{
```

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

```
    System.out.println("enter the value of x");
```

```
    float x= sc.nextFloat();
```

```
    float sq= (float)Math.sqrt(x);
```

```
    return sq;
```

```
}
```

```
float sqr_pow()
```

```
{
```

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

```
System.out.println("enter the value of x");

float x= sc.nextFloat();

return (x*x);

}

int ten()

{

Scanner sc= new Scanner(System.in);

System.out.println("enter the value of x");

int x= sc.nextInt();

int t=(int)Math.pow(10,x);

return t;

}
```

```
float cube_root()
```

```
{
```

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

```
    System.out.println("enter the value of x");
```

```
    float x= sc.nextFloat();
```

```
    float cr= (float)Math.cbrt(x);
```

```
    return cr;
```

```
}
```

```
int cube()
```

```
{
```

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

```
    System.out.println("enter the value of x");
```

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

```
return (x*x*x);
```

```
}
```

```
public double nthroot(int n, double x)
```

```
{
```

```
return nthroot(n, x, .0001);
```

```
}
```

```
public double nthroot(int n, double x, double p)
```

```
{
```

```
if(x < 0)
```

```
{
```

```
System.err.println("Negative!");
```

```
        return -1;
    }

    if(x == 0)
        return 0;

    double x1 = x;

    double x2 = x / n;

    while (Math.abs(x1 - x2) > p)
    {
        x1 = x2;

        x2 = ((n - 1.0) * x2 + x / Math.pow(x2, n -
1.0)) / n;
    }

    return x2;
```

```
}
```

```
double Sin()
```

```
{
```

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

```
    System.out.println("enter the angle in  
degree");
```

```
    double x= sc.nextDouble();
```

```
    double r = Math.toRadians(x);
```

```
    double si= Math.sin(r);
```

```
    return si;
```

```
}
```

```
double Cos()
```

```
{
```



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

System.out.println("enter the angle in
degree");

double x= sc.nextDouble();

double r = Math.toRadians(x);

double co= Math.cos(r);

return co;

}

double Tan()

{

Scanner sc= new Scanner(System.in);

System.out.println("enter the angle in
degree");
```

```
double x= sc.nextDouble();
```

```
double r = Math.toRadians(x);
```

```
double ta= Math.tan(r);
```

```
return ta;
```

```
}
```

```
double Cot()
```

```
{
```

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

```
System.out.println("enter the angle in  
degree");
```

```
double x= sc.nextDouble();
```

```
double r = Math.toRadians(x);
```

```
double cot= 1/Math.tan(r);
```

```
    return cot;
```

```
}
```

```
double Sec()
```

```
{
```

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

```
    System.out.println("enter the angle in  
degree");
```

```
    double x= sc.nextDouble();
```

```
    double r = Math.toRadians(x);
```

```
    double sec= 1/Math.cos(r);
```

```
    return sec;
```

```
}
```

```
double Cosec()
```

```
{  
  
    Scanner sc= new Scanner(System.in);  
  
    System.out.println("enter the angle in  
degree");  
  
    double x= sc.nextDouble();  
  
    double r = Math.toRadians(x);  
  
    double cosec= 1/Math.sin(r);  
  
    return cosec;  
  
}
```

```
double Log()
```

```
{  
  
    Scanner sc= new Scanner(System.in);  
  
    System.out.println("Enter the number");
```


System.out.println("

PLEASE

MAKE YOUR CHOICE");

System.out.println("1. add

2.

sub\n3. multi

4. div");// for basics

operations

System.out.println("5. x^n

6.

x!\n7. x^-1

8. square root ");

System.out.println("9. x^2

10.

10^x\n11. cube root of x

12. x^3 ");

System.out.println("13.

n^(1/x)

14. sin\n15. cos

16. tan");

System.out.println("17. Cot

18.

Sec\n19. Cosec

20. log");

```
int choice= sc.nextInt();
```

```
Calculator ob= new Calculator();
```

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

```
if(choice ==1)
```

```
System.out.println("result :"+ob.add());
```

```
if(choice==2)
```

```
System.out.println("result :"+ob.sub());
```

```
if(choice==3)
```

```
System.out.println("result :"+ob.multi());
```

```
if(choice==4)
```

```
System.out.println("result :"+ob.div());
```

```
if(choice==5)
```

```
System.out.println("result :"+ob.pow());
```

```
if(choice==6)
```

```
System.out.println("result :"+ob.fact());
```

```
if(choice==7)
```

```
System.out.println("result
```

```
:"+ob.reciprocal());
```

```
if(choice==8)
```

```
System.out.println("result :"+ob.sqr());
```

```
if(choice==9)
```

```
System.out.println("result :"+ob.sqr_pow());
```

```
if(choice==10)
```

```
System.out.println("result :"+ob.ten());
```

```
if(choice==11)
```

```
System.out.println("result
```



```
:"+ob.cube_root());  
  
    if(choice==12)  
  
        System.out.println("result :"+ob.cube());  
  
    if(choice==13)  
  
    {  
  
        System.out.println("enter the value of n  
of which root is to be find");  
  
        int n= sc.nextInt();  
  
        System.out.println("enter the value of x");  
  
        int x= sc.nextInt();  
  
        System.out.println("result  
:"+ob.nthroot(x,n));  
  
    }
```

```
if(choice==14)
```

```
System.out.println("result :"+ob.Sin());
```

```
if(choice==15)
```

```
System.out.println("result :"+ob.Cos());
```

```
if(choice==16)
```

```
System.out.println("result :"+ob.Tan());
```

```
if(choice==17)
```

```
System.out.println("result :"+ob.Cot());
```

```
if(choice==18)
```

```
System.out.println("result :"+ob.Sec());
```

```
if(choice==19)
```

```
System.out.println("result :"+ob.Cosec());
```

```
if(choice==20)
```

```
System.out.println("result :"+ob.Log());
```

```
}
```

```
}
```


CONCLUSION

Making a project is a good way to possess knowledge. And I want to thank my teacher for giving me an opportunity to work on this I am sure that the knowledge I gained from this project will help me further. I have tried my best to make this project easy and understandable, but still I apologize for any kind of discrepancies.

Thank you

BIBLIOGRAPHY

The contents of this program are taken from many sources. Some of those sources are :-

- (1) ISC BOARD 11th CLASS COMPUTER SCIENCE BOOK.*
- (2) ISC BOARD 12th CLASS COMPUTER SCIENCE BOOK.*
- (3) MANY INTERNET SITES.*
- (4) MANY COMPUTER SCIENCE BOOKS.*

To make this, we have taken help of our Computer Science teacher Mrs. Deepa Rani madam.

