Mawlana Bhashani Science and Technology University

Department of Information and Communication Technology

Assignment: 03

Assignment Name: Library Function of <math.h>

Device info:

System type: 64-bit operating system

Window Edition: Windows 11 Home Single Language

Code Blocks Version: Code::Blocks 20.03

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1st Year 2nd Semester
Session: 2021-2022

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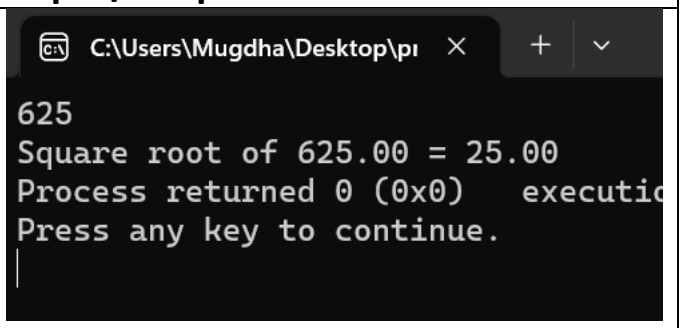
math.h library functions

1. sqrt():

- computes square root of a number.

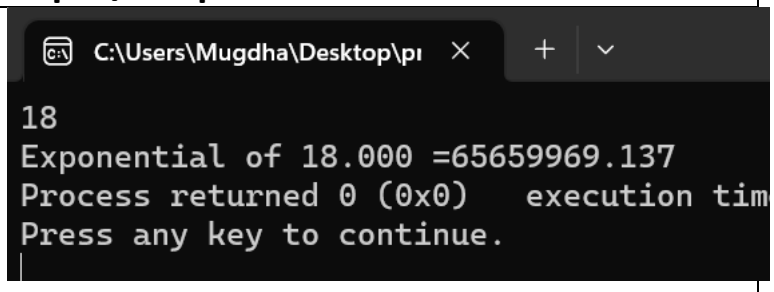
Code	Input/Output

#include <stdio.h>
#include <math.h>
int main() {
double Mugdha,root;
scanf("%lf",&Mugdha);
root= sqrt(Mugdha);
printf("Square root of %.2lf = %.2lf",Mugdha,root);
return 0;
}
	

2.exp():

- computes the exponential raised to the argument

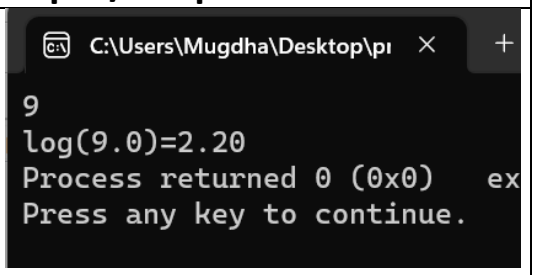
Code	Input/Output

#include <math.h>
#include <stdio.h>
int main(){
double Mugdha,res;
scanf("%lf",&Mugdha);
res= exp(Mugdha);
printf("Exponential of %.3f =%.3f",Mugdha,res);
return 0;
}
	

3.log():

- computes natural logarithm of an argument.

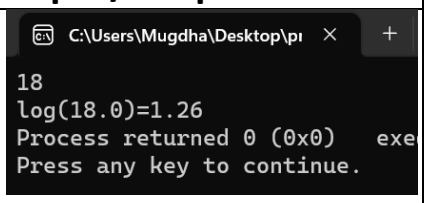
Code	Input/Output

#include <stdio.h>
#include <math.h>
int main(){
double Mugdha,res;
scanf("%lf",&Mugdha);
res=log(Mugdha);
printf("log(%.1f)=%.2f",Mugdha
,res);
return 0;
}
	

4.log10():

- computes the base 10 logarithm of an argument

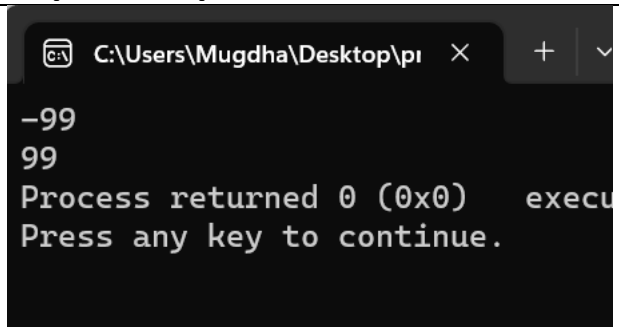
Code	Input/Output

#include <stdio.h>
#include <math.h>
int main(){
double Mugdha,res;
scanf("%lf",&Mugdha);
res=log10(Mugdha);
printf("log(%.1f)=%.2f",Mugdha,res)
;
return 0;
}
	

5.abs():

- computes natural logarithm of an argument.

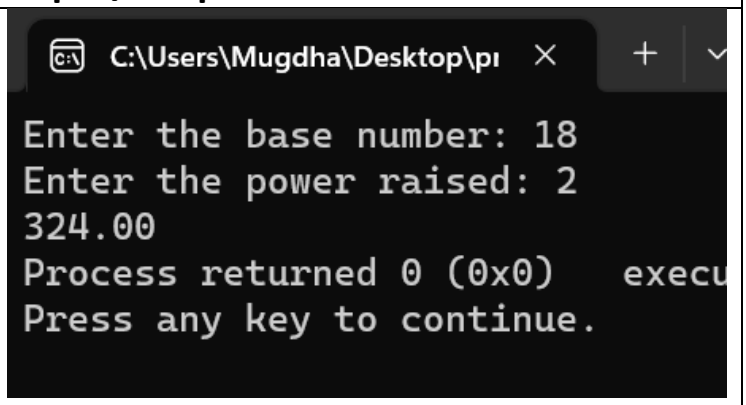
Code	Input/Output

#include <stdio.h>
#include <math.h>
int main(){
int Mugdha,res;
scanf("%d",&Mugdha);
res=abs(Mugdha);
printf("%d",res);
return 0;
}
	

6.pow():

- Computes power of a number

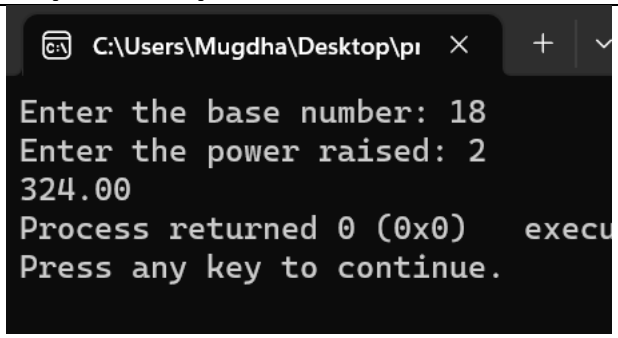
Code	Input/Output

#include <stdio.h>
#include <math.h>
int main(){
double
Mugdha,power,t;
printf("Enter the
base number: ");
scanf("%lf",&Mugdha)
;
printf("Enter the
power raised: ");
scanf("%lf",&power);
t=pow(Mugdha,power);
printf("%.2lf",t);
return 0;
}
	

7.ceil():

- computes the nearest integer greater than argument

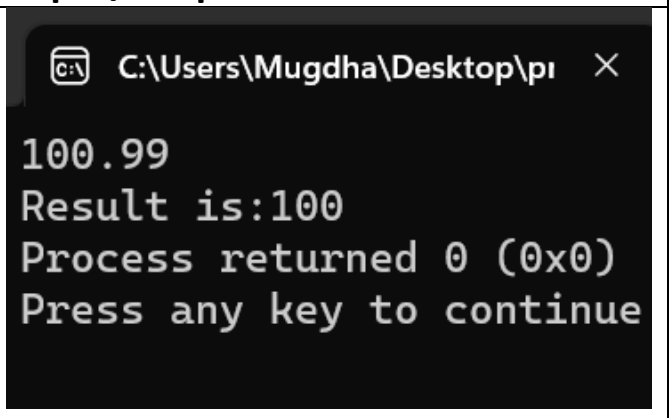
Code	Input/Output

#include <stdio.h>
#include <math.h>
int main(){
double Mugdha;
scanf("%lf",&Mugdha);
int result;
result = ceil(Mugdha);
printf("Result
is:%d",result);
return 0;
}
	

8.floor():

- computes the nearest integer less than argument

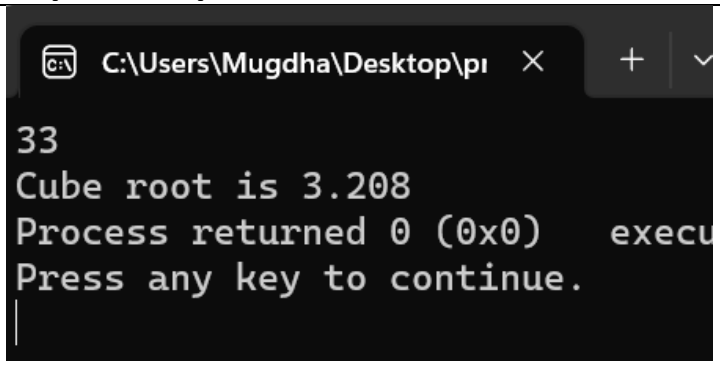
Code	Input/Output

#include <stdio.h>
#include <math.h>
int main(){
double Mugdha;
scanf("%lf",&Mugdha);
int result;
result =floor(Mugdha);
printf("Result
is:%d",result);
return 0;
}
	

9.cbrt():

- computes the cubic root of a number.

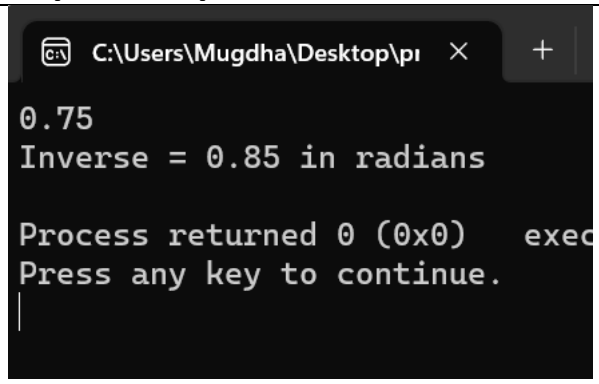
Code	Input/Output

#include <stdio.h>
#include <math.h>
int main(){
double Mugdha,cube;
scanf("%lf",&Mugdha);
cube= cbrt(Mugdha);
printf("Cube root is %.3lf",cube);
return 0;
}
	

10.asin():

- computes arc sine argument.

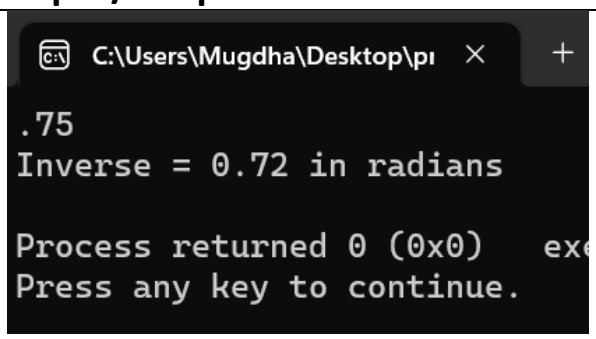
Code	Input/Output

#include <stdio.h>
#include <math.h>
int main(){
double PI = 3.1415926;
double Mugdha,result;
scanf("%lf",&Mugdha);
result = asin(Mugdha);
printf("Inverse = %.2lf in radians\n",result);}
	

11.acos():

- computes arc cosine argument.

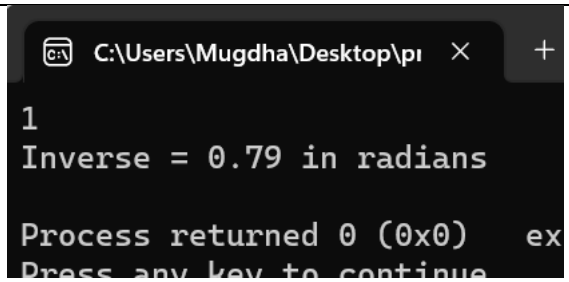
Code	Input/Output

`#include <stdio.h>`
`#include <math.h>`
`int main(){`
`double PI = 3.1415926;`
`double Mugdha,result;`
`scanf("%lf",&Mugdha);`
`result = acos(Mugdha);`
`printf("Inverse = %.2lf in radians\n",result);}`
	

12.atan():

- computes arc tangent argument.

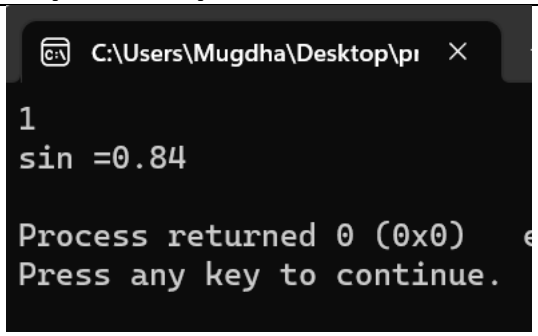
Code	Input/Output

`#include <stdio.h>`
`#include <math.h>`
`int main(){`
`double PI = 3.1415926;`
`double Mugdha,result;`
`scanf("%lf",&Mugdha);`
`result = atan(Mugdha);`
`printf("Inverse = %.2lf in radians\n",result);}`
	

13.sin():

- computes sine of a number.

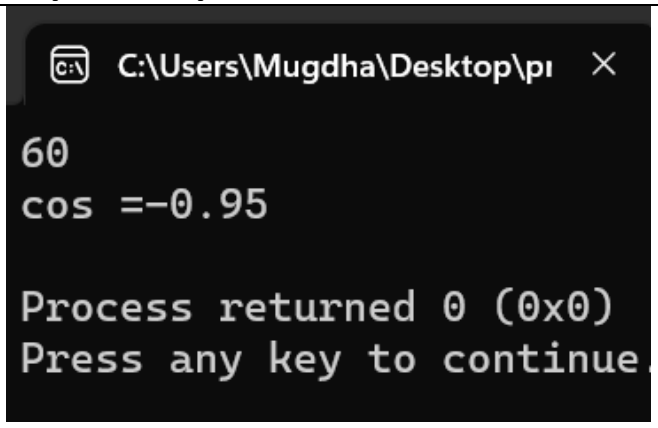
Code	Input/Output

#include<stdio.h>
#include<math.h>
int main(){
double Mugdha;
double result;
scanf("%lf",&Mugdha);
result = sin(Mugdha);
printf("sin
=%.2lf\n",result);
return 0;
}
	

14.cos():

- computes cosine of a number.

Code	Input/Output

#include<stdio.h>
#include<math.h>
int main(){
double Mugdha;
double result;
scanf("%lf",&Mugdha);
result =cos(Mugdha);
printf("cos
=%.2lf\n",result);
return 0;
}
	

15.tan():

- computes tangent of a number.

Code	Input/Output

`#include<stdio.h>`
`#include<math.h>`
`int main(){`
`double Mugdha;`
`double result;`
`scanf("%lf",&Mugdha);`
`result =tan(Mugdha);`
`printf("tan =%.2lf\n",result);`
`return 0;`
`}`