ME 172

Computer Programming Language Sessional

Lecture 4

Arithmetic Operator
Test
math.h

Arithmetic Operator

C supports all basic arithmetic operations. The operators are –

Operator	Name	Example	Example Result
+	Addition	11 + 51	62
–	Subtraction	34 – 27	7
/	Division	10/3	3.333333
*	Multiplication	10*3	30
%	Modulus	10%3	1

The Modulus (%) operator

a%b returns the REMAINDER that occurs after performing a/b.

For this operator, a and b MUST be integers!

ASSIGNMENT OPERATOR

The basic assignment operator is (=)

Operand= Expression;

Where the left operand gets the value of the expression on the rights.

a=3; this is also an assignment operator

x=x+3;

Problem 1

- Write a C program that will take input your student id, cgpa and equivalent grade from keyboard and will display the output in the following format

  My student id 201010001

  My cgpa 3.99

  Which Equivalent to A

- Write a C program that will take input your student id, grade and cgpa from keyboard and will display the output in the following format

  My student id 201010001

  My grade is A

  And my cgpa is 3.76

Problem 2

1. Write a C program that will take input 4321.56789 from keyboard and will display the output in the following format

Input Number is 4321.56789

Formatted Output is 4321.57

2. Write a C program that will take input 976 from keyboard and will display the output in the following format

0	0	0	9	7	6

9	7	6			

Problem 3

1. Write a C program that will take input for x & y from keyboard and will display the value of the following expression

$$9x + 7xy+2y+8$$

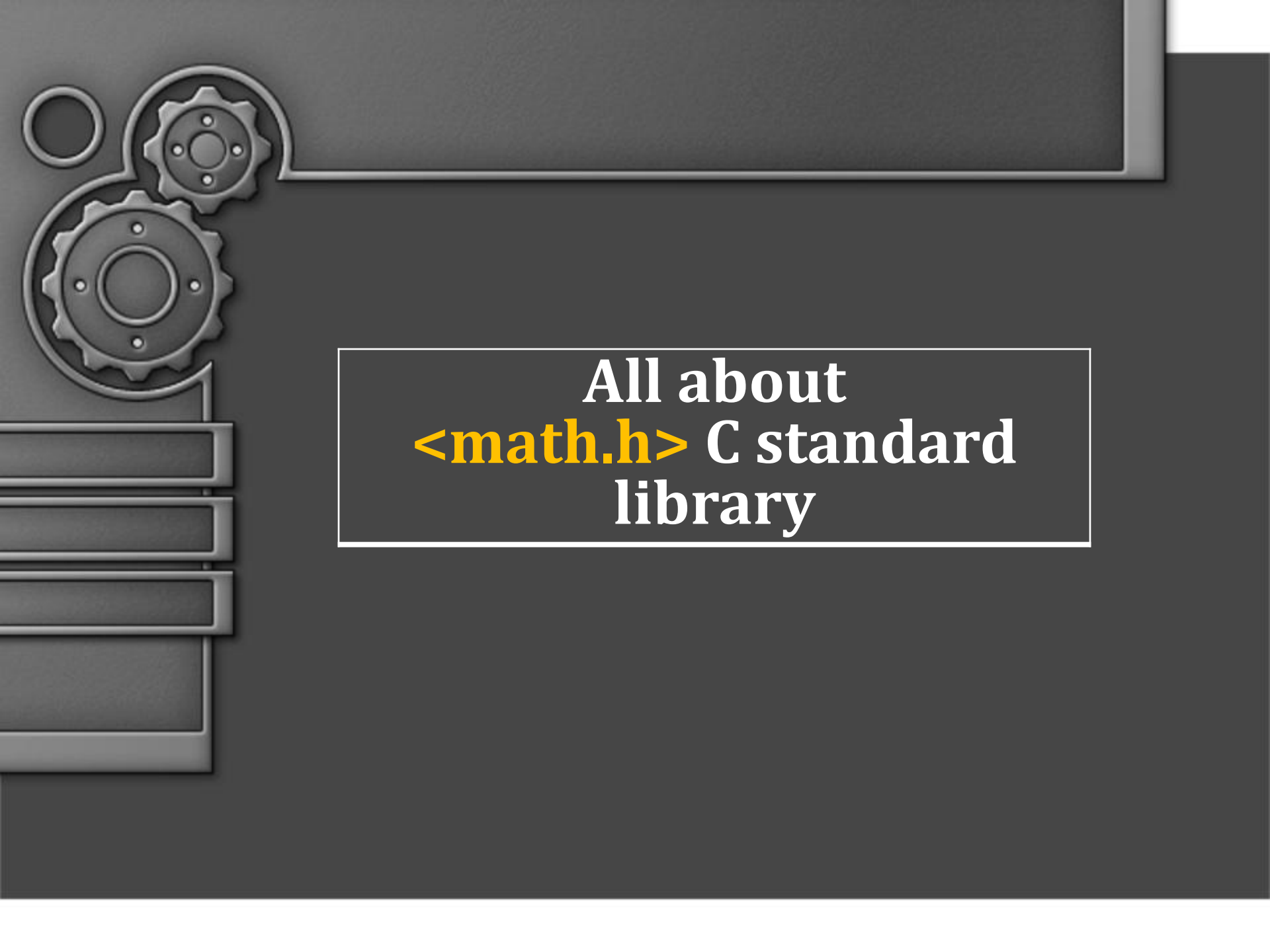
2. Write a C program that will ask the user to enter two numbers, obtains them from the keyboard and prints their product and remainder.

Problem 4

Write a C program that will take input radius of a circle from keyboard and will display the output in the following format

Area of the circle is 19.63

Perimeter of the circle is 15.71


All about
<math.h> C standard
library

sqrt()

```
double sqrt(double x);
#include <math.h>
#include <stdio.h>

int main(void)
{
   double x = 4.0, result;
   result = sqrt(x);
   printf("The square root of %lf is %lf\n", x, result);
   return 0;
}
```

pow()

double pow(double x, double y);

```
#include<stdio.h>
#include<math.h>
void main()
 {
printf ("2 ^ 8 = %lf\n", pow (2.0,8));
 }
```

Output of the pow example program above:

2 ^ 8 = 256.000000

fabs()

double fabs(double x);

- calculate the absolute value of a floating-point number

```
#include<stdio.h>
#include<math.h>
void main()
 {
  printf ("Absolute value of -3.51 is %lf\n", fabs(-3.51));
 }
```

Output of the fabs example program above:

Absolute value of -3.51 is 3.510000

abs()

double/int abs(double/int x);

-gets the absolute value of an integer

```
#include <stdio.h>
#include <math.h>
int main(void)
{
  int num = -1234;

  printf("number: %d  absolute value: %d\n", num, abs(num));
  return 0;
}
```

sin(), cos(), tan()

```
double sin(double x);

#include <stdio.h>
#include <math.h>

void main(void)
{
   double result , x = 0.5;
   result = sin(x);
   printf("The sin of %lf is %lf\n", x, result);
   }
```

That's all about today……