

**North South University**  
**Department of Electrical and Computer Engineering**  
**CSE 115L: Fundamentals of Computer Programming**  
**Week 01 – Introduction**

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<b>Example 1:</b> Write a program that prints:  "North South University" Hello class of cse115L!! Welcome to NSU.	<b>Example 2:</b> Write a program that prompts the user to insert an integer value, a decimal number and his name and print the inserted value as output.
<pre>#include&lt;stdio.h&gt; #include&lt;stdlib.h&gt;  int main() {     printf("\t \" North South University\" \n \n");     printf("Hello class of cse115L!! Welcome to NSU. \n"); }</pre>	<pre>#include&lt;stdio.h&gt; int main(){     int num;     float deci;     char name[20];      printf("Enter a number:");     scanf("%d",&amp;num);     printf("The number is %d\n",num);      printf("Enter a decimal number:");     scanf("%f",&amp;deci);     printf("The number is %.2f\n",deci);      printf("Enter your name:");     scanf("%s",&amp;name);     printf("Your name is: %s", name);      return 0; }</pre>

<b>Example 3:</b> Data types and their size in C.	<b>Example 4:</b> Write a program that reads in the radius of a circle and prints the circle's diameter, circumference and area.
<pre>#include&lt;stdio.h&gt; int main(){     int a;     float b;     double c;     char d;     long int longInt;     signed int no;      printf("Size of int: %d bytes\n",sizeof(a));     printf("Size of float: %d bytes\n",sizeof(b));     printf("Size of double: %d bytes\n",sizeof(c));</pre>	<pre>#include&lt;stdio.h&gt; int main() {     float const PI = 3.142;     float radius;     float area, circumference, diameter;     printf("Enter the radius of a circle:");     scanf("%f",&amp;radius);      diameter= 2*radius;     circumference= 2*PI*radius;     area= PI * radius * radius;</pre>

<pre>printf("Size of char: %d byte\n",sizeof(d)); printf("Size of Long int: %d byte\n",sizeof(longInt)); printf("Size of signed int: %d byte\n",sizeof(no)); return 0; }</pre>	<pre>printf("The Diameter is: %.2f \n",diameter); printf("The Circumference is: %.2f \n",circumference); printf("The area is: %.2f \n",area); }</pre>
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### Summary

scanf ( use to take input from user)	printf( display something on the screen)
<b>%d use to take integer input</b> <b>%f use to take floating number input</b> <b>%s string input</b> <b>%c character input</b> <b>%lf use to take double number input</b>	<b>%d to display integer</b> <b>%f to display float or double</b> <b>%c to display character</b> <b>%s to display string</b>

**NOTES:** To take string as input including ‘Space’ use gets(stringVariableName ).

### **Task (10 marks)**

**Task 1.** Write a program that asks the user to enter two numbers, obtains the two numbers from the user and prints the sum, product, difference, quotient and remainder of the two numbers.

Input:	Output:
Insert first number: 10 Insert second number: 5	Sum = 15 Product = 50 Difference = 5 Quotient = 2 Remainder = 0

**Task 2.** Write a program that reads in 3 numbers and prints their average.

Input:	Output:
Insert first number: 3 Insert second number: 8 Insert third number: 2	The average is: 4.3

**Task 3:** Convert Celsius to Fahrenheit unit using the following formula. Take the value of C as input from user and calculate the value of F.

$$F = C * (9/5) + 32$$

### Home Tasks

1. Ask user for two integers a and b. Then swap (interchange) the values of a and b. That means, a should get the value of b and b should get the value of a.

Enter a: 7

Enter b: 3

After swapping, a: 3 and b: 7