North South University

Department of Electrical and Computer Engineering

CSE 115L: Fundamentals of Computer Programming

Week 01 – Introduction

Example 1: Write a program that prints:

"North South University"
Hello class of cse115L!! Welcome to NSU.

```
#include<stdio.h>
#include<stdlib.h>

int main()
{
   printf("\t \" North South University\" \n \n");
   printf("Hello class of cse115L!! Welcome to NSU. \n");
}
```

Example 2: 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.

```
#include<stdio.h>
int main(){
 int num;
 float deci;
 char name[20];

 printf("Enter a number:");
 scanf("%d",&num);
 printf("The number is %d\n",num);

 printf("Enter a decimal number:");
 scanf("%f",&deci);
 printf("The number is %.2f\n",deci);

 printf("Enter your name:");
 scanf("%s",&name);
 printf("Your name is: %s", name);

return 0;
}
```

Example 3: Data types and their size in C.

```
#include<stdio.h>
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));
```

Example 4: Write a program that reads in the radius of a circle and prints the circle's diameter, circumference and area.

```
#include<stdio.h>
int main()
{
   float const PI = 3.142;
   float radius;
   float area, circumference, diameter;
   printf("Enter the radius of a circle:");
   scanf("%f",&radius);

   diameter= 2*radius;
   circumference= 2*PI*radius;
   area= PI * radius * radius;
```

```
    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;
}
```

```
    printf("The Diameter is: %.2f \n",diameter);
    printf("The Circumference is: %.2f \n",circumference);
    printf("The area is: %.2f \n",area);
}
```

Summary

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

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