

North South University
Department of Electrical and Computer Engineering
CSE 115L: Programming Language I Lab
Week 04 – Assignments

1. Write a function to calculate the factorial value of any integer entered through the keyboard.
2. Write a function **power (a, b)**, to calculate the value of **a** raised to **b**.
3. Any year is entered through the keyboard. Write a function to determine whether the year is a leap year or not.
4. Write a function that receives 5 integers and returns the sum and average of these numbers. Call this function from **main()** and print the results in **main()**.
5. A positive integer is entered through the keyboard, write a function to calculate sum of digits of the number.
6. A positive integer is entered through the keyboard, write a function to find the binary equivalent of this number.
7. Write a function to compute the distance between two points and use it to develop another function that will compute the area of the triangle whose vertices are **A(x1, y1)**, **B(x2, y2)**, and **C(x3, y3)**. Use these functions to develop a function which returns a value 1 if the point **(x, y)** lies inside the triangle ABC, otherwise a value 0.
8. Write two functions to compute the GCD & LCD of two numbers.
9. Write a C program to check Palindrome number using a function named isPalindrome(int n): A palindrome number is a number such that if we reverse it, it will not change.
10. What would be the output of the following programs?

```
a) main( )
{
    printf ( "\nOnly stupids use C?" );
    display( );
}
display( )
{
    printf ( "\nFools too use C!" );
    main( );
}
```

```
b) main( )
{
    int i = 45, c ;
    c = multiply ( i * 1000 );
    printf ( "\n%d", c );
}
check ( int ch )
{
```

```
if ( ch >= 40000 )
    return ( ch / 10 );
else
    return ( 10 );
}
```

```
c) main( )
{
    void slogan( );
    int c = 5 ;
    c = slogan( );
    printf ( "\n%d", c );
}
void slogan( )
{
    printf ( "\nOnly He men use C!" );
}
```

```
d) main( )
{
```

```

        int i = 5, j = 2 ;
        junk ( i, j ) ;
        printf ( "\n%d %d", i, j ) ;
    }
    junk ( int i, int j )
    {
        i = i * i ;
        j = j * j ;
    }
e) main( )
    {
        int i = 0 ;
        i++ ;
        if ( i <= 5 )
        {
            printf ( "\nC adds wings to
            your thoughts" ) ;
            exit( ) ;
            main( ) ;
        }
    }
f) main( )
    {
        static int i = 0 ;
        i++ ;
        if ( i <= 5 )
        {
            printf ( "\n%d", i ) ;
            main( ) ;
        }
        else
            exit( ) ;
    }

```