Hawassa University – IoT
Faculty of Informatics
Department of Information System
Fundamentals of Programming in C++
Lab Exercise 3

Part I: Program Writing

1. Write a program that do the following
   - ✓ Reads two strings, s1 and s2.
   - ✓ Creates a new string of their concatenation using + operator or +=.
   - ✓ Prints the new string.
2. Write a program that do the following
   - ✓ Creates a string, s1.
   - ✓ Initializes **s1** with "**Hyper Text Markup Language**"
   - ✓ Creates a new string of the first letter of each word using the subscript operator, **[int]**.
   - ✓ Prints the new string. Note that the output should be "**HTML**"
3. Write a C++ program that do the following
   - ✓ Reads a string, s1.
   - ✓ Check whether s1 is empty. If it is empty, print "Empty" else print "Not empty. Use empty function and? Operator.
4. Write a program that reads a string of two word in one line. Then, it displays abbreviation of the two words. An example of the program output is shown below.

Enter a string of two words: **Face Book** The abbreviation of Face Book is (FB)

5. Write C++ program to print string, then print it character by character?
6. Write C++ program to apply the following instructions:
   - ♣ cin.getline (str, 10);
   - ♣ cin.get (ch);
7. Write C++ program to apply the following instructions:
   - ♣ strlen (string)
   - ♣ strcpy (string2, string1)
   - ♣ strcat (string1, string2)

♣ strcmp (string1, string2)

8. Write C++ program to check each character in the string to convert it to lower case letter if it's an upper case letter and convert it to upper case letter if it's a lower once.
9. Write C++ program to print a string, and then print it character by character in reverse order.

   i.e: abcd ⟶ a

   b

   c

   d

Part II: Output Questions

1. What is the output of the following C++ Programs?

   A.

```
#include <iostream>
 #include <string>
 using namespace std;
 int main ()
 {
        string str1 = "Green";
        string str2 = "Color";
        string str3;
        int len ;
        str3 = str1;
        cout << "str3 : " << str3 << endl;
        str3 = str1 + str2;
        cout << "str3 : " << str3 << endl;
        len = str3.size();
        cout << "str3.size() :  " << len <<endl;
 }
```

   B.

```
#include <iostream>
using namespace std;
int main()
{
        int num[] = {2,8,7,6,0};
        int i;
        for (i=0;i<5;i++)
        {
                cout<<"\nArray Element num["<<i<<"]"<<" = "<<num[i];
        }
        return 0;
}
```

   C.

```
int main( )
{
		char word[100];
		 int len;
		 cout<<"Enter the sentence"<<endl;
		 cin.getline(word,100);
		 len=strlen(word);
		 cout<<"\n\nsentence length ="<<len<<endl;
		 int count=1;
		for(int i=0;i<len;i++)
		{
			if(word[i] == ' ')
			{
				count++;
			}
			 else
			 {
				count=count;
			 }
		}
		cout<<"Number of word="<<count<<endl;
		return 0;
}
```