**CSC 150**

**PRELAB #10 – cStrings**

Purpose:

1. Work with strings as an array of characters
2. Work with C-style strings (cStrings) and string functions.

**I – Strings**

1. Given the following:

#define \_CRT\_SECURE\_NO\_DEPRECATE

#define \_CRT\_NONSTDC\_NO\_DEPRECATE

#include <iostream>

#include <cstring>

using namespace std;

int main()

{

char str1[10] = "Hello";

char str2[10] = ""; //no space between quotes

char str3[20] = "World!";

int length;

int cmp;

int j;

**//insert code segments here**

return 0;

}

What is the output if you substitute the following after the variable declarations in main?

Indicate if there is an invalid statement or compiler error.

1. length = strlen(str1);

cout << length;

output \_\_\_\_\_\_\_\_\_\_



1. length = strlen(str2);

cout << length;

output \_\_\_\_\_\_\_\_\_\_



1. length = strlen("CSC150");

cout << length;

output \_\_\_\_\_\_\_\_\_\_



1. for ( j = 0; j < strlen(str1); j++)

cout << str1[ j ];

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. str2 = str1;

cout << str2;



output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strcpy(str2, str1);

cout << str2;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strcpy(str1, str3);

cout << str3;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strcpy(str2, "String 2");

cout << str2;



output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strncpy(str2, str1, 3);

cout << str2;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strncpy(str3, str1, 3);

cout << str3;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strncpy(str2, "String 2", 3);

cout << str2;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strcat (str1, str3);



cout << str1;



output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strcat (str3, str1);

cout << str3;



output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strcat (str2, "String 2");

cout << str3;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strncat (str1, str3, 3 );

cout << str1;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strncat (str3, str1, 2 );

cout << str3;



output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strncat (str3, “String 2”, 7 );

cout << str3;



output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. cmp = strcmp (str1, str3);

cout << cmp;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. cmp = strcmp (str3, str1);

cout << cmp;



output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. cmp = strcmp (str1, “Hello”);

cout << cmp;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. cmp = strcmp (str1, “hello”);

cout << cmp;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strcpy (str2, "Hello2");

cmp = strncmp (str1, str2, 5);

cout << cmp;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. cmp = strncmp (str1, str3, 3);

cout << cmp;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. cmp = strncmp (str3, "Word", 3);

cout << cmp;



output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. cmp = stricmp (str3, "World!");

cout << cmp;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. cmp = stricmp (str3, "world!");

cout << cmp;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. str3 = strtoupper ("world!");

cout << str3;



output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. strlwr ( str3 );

cout << str3;

output \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Given the following:

#define \_CRT\_SECURE\_NO\_DEPRECATE

#define \_CRT\_NONSTDC\_NO\_DEPRECATE

#include <iostream>

#include <cstring>

using namespace std;

int main()

{

char str1[10];

cin >> str1;

cout << str1;

return 0;

}

What happens if the following values are entered?

1. hello

answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. thisisaverrryverrylongsentence



answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Why do you get this answer?



\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. hi mom



answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Given the following

#define \_CRT\_SECURE\_NO\_DEPRECATE

#define \_CRT\_NONSTDC\_NO\_DEPRECATE

#include <iostream>

#include <cstring>

using namespace std;

int main()

{

char str1[] = "First";

char str2[20] = "This is a test";

strcat(str1, str2);

cout << str1;

return 0;

}

What happens when you run this program and why?



1. Use the <cstring> library and character array string functions.

Complete the program program below that allows the user to enter two short phrases. In a separate function, combine the two phrases into one single string, ensuring that only as much of the two phrases as will fit is copied into the destination. Be sure to place a space between the two source strings in the destination. Write your function in such a way it will correctly work for any length of source strings, even the case where all of the first source will not fit in the destination.

Append your code to the end of this prelab file.

A sample run of this program should look like this:

(User input in ***bold italics***)

.

Enter your first phrase (24 or fewer characters: ***the quick brown fox***

Enter your second phrase (24 or fewer characters: ***jumps over the lazy dog***

String1: the quick brown fox

String2: jumps over the lazy dog

Combined string: the quick brown fox jumps over the lazy

Source file: prelab12.cpp

#define \_CRT\_SECURE\_NO\_DEPRECATE

#define \_CRT\_NONSTDC\_NO\_DEPRECATE

#include <iostream>

#include <cstring>

using namespace std;

//prototype here

int main()

{

char str1[25] = "";

char str2[25] = "";

char str3[40] = ""; //note this is not twice the size of str1 or str2

cout << "Enter your first phrase (24 or fewer characters: ";

//write input statement for str1

cout << "Enter your second phrase (24 or fewer characters: ";

//write input statement for str2

build\_big\_string( str3,40, str1, str2 ); //note order of arguments

cout << endl << endl;

cout << "String1: " << str1 << endl;

cout << "String2: " << str2 << endl;

cout << "Combined string: " << endl;

return 0;

}

//function definition here