Course: Programming Fundamental –ENSF 337

Lab #: Lab 4

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Exercise C

Code

// lab2exC.c

// ENSF 337 Fall 2019 Lab 4 Exercise C

// Jiho Kim

#include <stdio.h>

#define ELEMENTS(x) sizeof(x)/sizeof(x[0])

int main()

{

int size;

int a[] = {45, 67, 89, 24, 54};

double b[20] = {14.5, 61.7, 18.9, 2.4, 0.54};

size = ELEMENTS(a);

printf("Array a has 5 elements and macro ELEMENTS returns %d\n", size);

size = ELEMENTS(b);

printf("Array b has 20 elements and macro ELEMENTS returns %d\n", size);

return 0;

}

Output:

Array a has 5 elements and macro ELEMENTS returns 5

Array b has 20 elements and macro ELEMENTS returns 20

Exercise D

Output:

TESTING strlen FUNCTION ...

Expected to display: my\_string length is 0.

my\_string length is 0.

Expected to display: my\_string size is 100 bytes.

my\_string size is 100 bytes.

Expected to display: my\_string contains banana.

my\_string contains banana

Expected to display: my\_string length is 6.

my\_string length is 6.

Expected to display: my\_string contains "".

my\_string contains:""

Expected to display: my\_string length is 0.

my\_string length is 0.

Expected to display: my\_string size is still 100 bytes.

my\_string size is still 100 bytes.

TESTING strncat FUNCTION ...

Expected to display: my\_string contains "tic"

my\_string contains "tic"

Expected to display: my\_string length is 3.

my\_string length is 3.

Expected to display: my\_string contains "tic-tac"

my\_string contains:"tic-tac"

Expected to display: my\_string contains "tic-tac-toe"

my\_string contains:"tic-tac-toe"

Expected to display: my\_string has 11 characters.

my\_string has 11 characters.

Using strcmp - C library function:

Expected to display: "ABCD" is less than "ABCDE"

"ABCD" is less than "ABCDE"

TESTING strcmp FUNCTION ...

"ABCD" is less than "ABND" ... strcmp returns -11

"ABCD" is equal "ABCD" ... strcmp returns 0

"ABCD" is less than "ABCd" ... strcmp returns -32

"Orange" is greater than "Apple" ... strcmp returns 106

Exercise E

Output:

Enter a double or press Ctrl-D to quit: 23.4

Your double value is: 23.4000000

Enter a double or press Ctrl-D to quit: .56

Your double value is: 0.5600000

Enter a double or press Ctrl-D to quit: -.23

Your double value is: -0.2300000

Enter a double or press Ctrl-D to quit: -0.45

Your double value is: -0.4500000

Enter a double or press Ctrl-D to quit: -0.0000067

Your double value is: -0.0000067

Enter a double or press Ctrl-D to quit: 564469999

Your double value is: 564469999.0000000

Enter a double or press Ctrl-D to quit: +8773469

Your double value is: 8773469.0000000

Enter a double or press Ctrl-D to quit: +.5

Your double value is: 0.5000000

Enter a double or press Ctrl-D to quit: 12abc

12abc is an invalid Double.

Enter a double or press Ctrl-D to quit: 12..9

12..9 is an invalid Double.

Enter a double or press Ctrl-D to quit:

Good Bye.