CS2263 Lab 1

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Exercise 1

p1.c

/\* p1.c \*/

#include <stdio.h>

#include <stdlib.h>

int g1(int a, int b)

{

int c = (a + b) \* b;

printf("g1: %d %d %d \n", a,b,c);

printf("a's address is %p\n ", &a);

printf("b's address is %p\n ", &b);

printf("c's address is %p\n ", &c);

return c;

}

int g2(int a, int b)

{

int c = g1(a + 3, b - 11);

printf("g2: %d %d %d \n", a,b,c);

printf("a's address is %p\n ", &a);

printf("b's address is %p\n ", &b);

printf("c's address is %p\n ", &c);

return c - b;

}

int main (int argc, char \* \* argv)

{

int a = 5;

int b = 17;

int c = g2(a - 1, b \* 2);

printf("main: %d %d %d \n", a,b,c);

printf("a's address is %p\n ", &a);

printf("b's address is %p\n ", &b);

printf("c's address is %p\n ", &c);

return EXIT\_SUCCESS;

}

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Questions:

Are the values of the variables printed from your program the same as obtained by your colleagues? Why?

Yes, they are the same because the values in the program were explicitly set.

Are the addresses printed from your program the same as obtained by your colleagues? Why?

No, they are not the same because we are using different operating systems and different sections of memory were allocated.

Are the addresses printed for the variables in the function g1 bigger or smaller than the addresses printed from the function g2? Why?

The addresses in g2 are larger than the addresses of g1 because the stack frame for g2 was created before g1.

Question 2

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Questions

The stack address is the position relative to the stack, where the variable addresses are their address in memory.

Question 3

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