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LAB 2

Exercise One:

1. Yes, the values of the variables printed is the same because the data in the variables is the same for everyone.
2. No, the addresses were not the same because a different memory block is allocated for everyone. The addresses also change after each execution.
3. g2 will have a bigger address as it is called first. The variables in g2 will be put in the call stack first.

```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;
}
```

Output:

```
g1: 7 23 690
a's address is 0061FED0
b's address is 0061FED4
c's address is 0061FEBC
g2: 4 34 690
a's address is 0061FF00
b's address is 0061FF04
c's address is 0061FEEC
main: 5 17 656
a's address is 0061FF1C
b's address is 0061FF18
c's address is 0061FF14
```

Question Two:

```
(gdb) f 1
#1  0x00000000004005c0 in g2 (a=4, b=34) at p1.c:18
(gdb) f 0
#0  g1 (a=7, b=23) at p1.c:8
(gdb)
```

- g2 has 1 frame
- g1 has 0 frames.

Question Three: