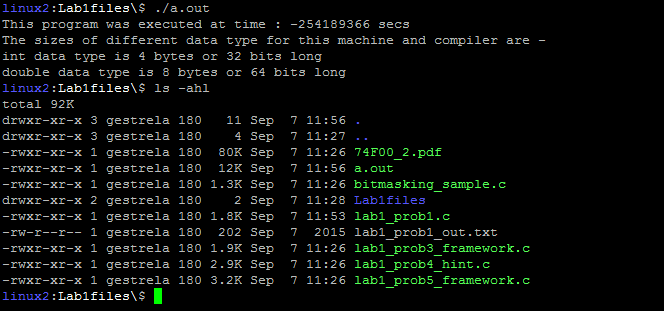
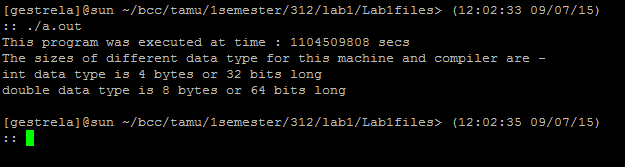
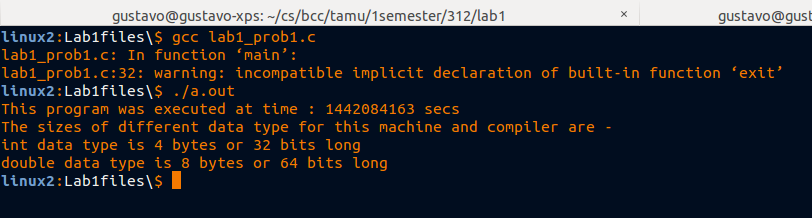
**Gustavo Estrela de Matos CSCE312 LAB1 7 September 2015**

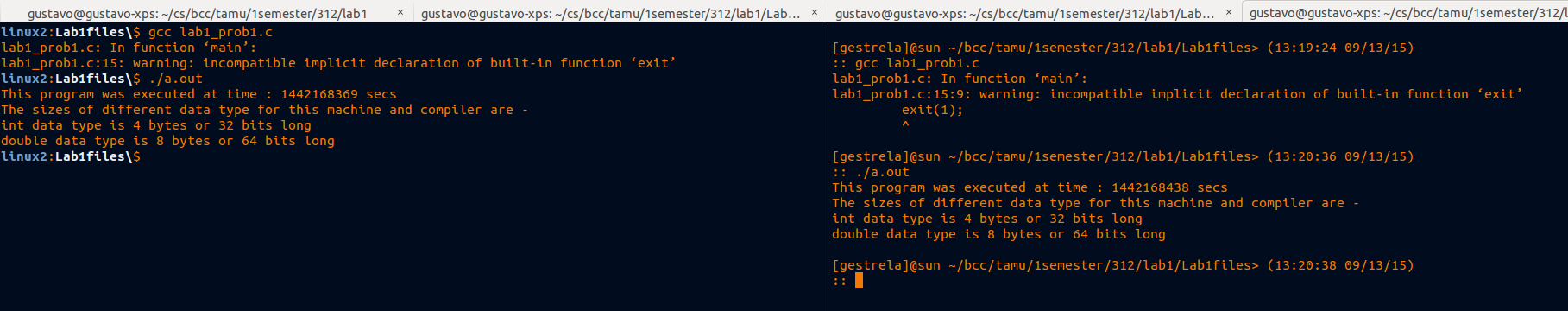
**Problem 1**

1. The statement in “Tag1” creates an integer variable named “int\_var” and the statement in “Tag2” prints the size of “int\_var”, in other words how many bits the variable occupies in the memory
2. The sizeof() function receives as parameters an identifier name or a datatype and give as output the size of the datatype or the size of the datatype of the variable associated to the identifier. This is a standard library, I recompiled the program without including sys libraries and the sizeof function still worked
3. Print:
4. Print:
5. The value was negative because we used double variable and tried to print it as an integer, but integer and double variables have different representations in memory. A possible fix for that is using a casting “(int)” before the variable, which will put the double value in a temporary place using the int data representation. The problem is that, this fix wont work for numbers bigger then the biggest positive number an int can represent (2^31 – 1). We can also try using “unsigned” and “long”, but the type double would still be able to represent numbers bigger then the biggest integer.

Using only casting we get the result:



1. The values are consistent with the one observed i­n the fixed version of the algorithm seen on question e).



1. The timeval structure may have different implementations or different plataforms. On windows, timeval is defined as:

*typedef struct timeval {*

*long tv\_sec;*

*long tv\_usec;*

*} timeval;*

While in linux:

*struct timeval {*

*time\_t tv\_sec;*

*suseconds\_t tv\_usec;*

*};*

**Problem 2**

* The type long is actually “long int”, otherwise long is a prefix for other types that creates a new type, which is not necessarily bigger than the prefixed type.
* The type “long long” has the same size as “long”. Since “long long” can store larger number than “long” there are probably gaps between the integers that “long long” can store.