IC221 Lab: Makefiles and Debugging Name: George Prielipp

Worksheet / Gradesheet AY22S, 95 points total

Part 1 Gradesheet

(15) Task 1 -- Simple compilation makefile: done :)

(30) Task 2 -- Multi-part makefile: done :)

Part 2 Worksheet / Gradesheet

(10) A loop is often identified with an increment of a variable value by one (0x1) using the add instruction. There are two loops in the program. Identify an example of this kind of increment-by-one instruction in each loop, and copy the examples into your worksheet.

|  |
| --- |
| 0x00000000000011d7 <+142>: addl $0x1,-0x54(%rbp)  0x0000000000001200 <+183>: addl $0x1,-0x54(%rbp) |

(10) Give one example of an assembly instruction from main() that assigns a local variable its value using the mov instruction, which copies a value to memory.

|  |
| --- |
| 0x0000000000001155 <+12>: mov %fs:0x28,%rax |

info locals

(10) What are the local variable names?

|  |
| --- |
| i, s1, s2 |

(10) Now that s1 is not obfuscated, what is its secret value?

|  |
| --- |
| ‘NINETYTWO!!\377’ |

(10) Looking at the source code, describe the means by which the string is obfuscated:

|  |
| --- |
| It inverts the bits then reverts at the end. |