Andy Alvarenga

CSE031

Lab 7

TPS Activity #1:

1. “j SUM” is located at line 12. When the program encounters this line, it will move to the statement at the address of the label “SUM”.
2. Yes, we can “j” instead of “jr” only if we create another label that begins at the line after “j SUM”.
3. The return address is supposed to be saved at line 11. It is saved to register $ra. $ra is saved with the return address of 0’. No, this does not make sense because address 0 does not exist.
4. The program runs correctly until it reaches the line “jr $ra.” The error within this line causes the program to not finish running.
5. The program should return the address: 0x00400020.
6. The address is no longer correct because to two statements were added. One was added at the address: 0x0040001c and the other at address: 0x00400020.
7. The new return address is: 0x00400028. The program returns 15.
8. We should use the “jal” operator instead of “j” to save the correct return address.

TPS Activity #2:

1. The output will be: 38.
2. Sum knows where to return because we are jumping with “jal” which saves the address of the line directly after “jal SUM” as the return address. After “jal SUB”, the return address is saved to the address of the line directly after “jal SUB”.
3. The original value is overwritten and $s0 is saved as 15. This is a problem because we can longer access the value of x, since m was stored at the same address.