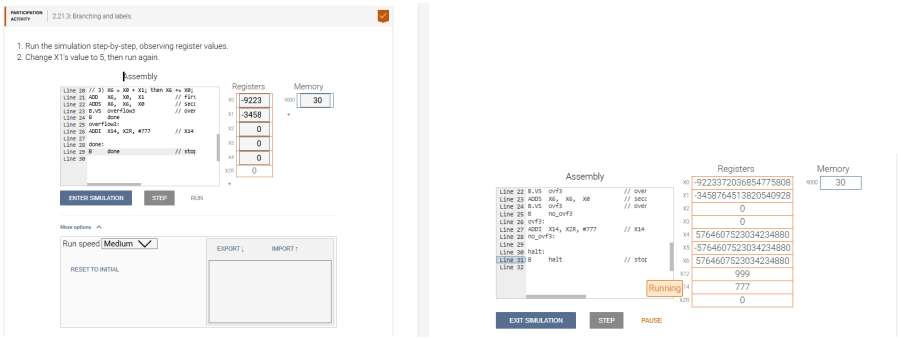

(a) Before (b) After

Figure 1: Comparison of system state before and after.

Answers

1. $X4 = 5{,}764{,}607{,}523{,}034{,}234{,}880$
2. Overflow: YES
3. $X12 = 999$
4. $X5 = -5{,}764{,}607{,}523{,}034{,}234{,}880$
5. Overflow: NO
6. $X13$ unchanged
7. $X6 = -3{,}458{,}764{,}513{,}820{,}540{,}928$
8. Overflow: YES
9. $X14 = 777$

Summary

This in-class Exercise made me practice careful arithmetic on 64-bit registers and pay attention to overflow. The tricky part was realizing how the first overflowing add affected later values, which I confirmed by single-stepping and watching the flags in CPUlator. I also got quicker at checking ranges and recording final register states. The main takeaways were to verify each step, check carry/overflow early, and keep clear notes for debugging.