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Abstract: Our multiplication program was written with only cardinal integers in mind, and while it does indeed suffice at doing this, assuming the answers don't overflow, it also seems to work on many negative integers as well. Overflows can cause significant errors in our answer but if the answer can fit, it seems to work for any combination of integers, cardinal or 2's comp. This assignment was a good introduction into not only assembler with the PDP11 but the proper assignment format. Without limited operations I think we'll really feel the growth of our instruction set and knowledge as we continue to do more complex assignments.

Title: Simple Multiplication Algorithm (Program One)

Purpose: To familiarize students with the basics of the PDP-11 simulator, assembly code, and its accompanying debugging. This assignment also gives students experience understanding and converting pseudo code to assembly, and sets the expected format for future assignments.

Inputs: Two positive 2's complement integers (M and N as described in the pseudocode)

Outputs: 1 positive 2's complement integer ($M * N$)

Discussion of Results and Lessons Learned: The pseudocode was given under the impression of the inputs being only positive integers. Somewhat surprisingly the algorithm got the correct result for many negative numbers as well. Overflows were consistently an error, as expected, in both the positive and negative test cases. This really shows the "magic" of 2's complement.

Attached is the generated list file of my program and a copy of the log file running through the majority of my test cases showing both input and output.