

CS2253 Assignment 2 – Isaac Shoebottom

```
0011 000 000000000 ;start point x3000
0101 110 110 1 00000 ;clean R6
0101 101 101 1 00000 ;clean R5

;load memory addresses into registers
1010 011 000001101
1010 100 000001101

;NOT the dividant to get negative value and then add one
1001 101 100 1 11111 ; NOT(R4) => R5
0001 101 101 1 00001 ; R5+1 => R5;

0000 1 1 1 000000001 ; skip first increment
0001 110 110 1 00001 ;increment divison count
0001 011 011 000 101 ;subtract
0000 0 1 0 111111101 ;if exact division we can skip final loop
0000 0 0 1 111111100 ;loop back 3 instructions to keep dividing
0001 011 011 000 100 ; get the remainder of the division

;store values in memory;
1011 110 000000101
1011 011 000000101

1111 0000 00100101 ;halt
```

Please note, you must have these values entered at these addresses manually, I could not find a way to fill these in binary. With asm I could use .fill but I do not have that in binary. This is due to using LDI/STI commands to load to and from memory

```
x3010 = x4000
x3011 = x4001
x3012 = x5001
x3013 = x5001
```