```
# CSCI 1550: HW 4, Problem 2
# Filename: hw4pr2ex1.hmmm
# Name: Peter Morales
#
# Exercise 1: Smart Swap

00 setn r1 17
01 storen r1 50
02 setn r1 25
03 storen r1 51
04 setn r14 50
05 setn r15 51
06 loadr r3 r14
07 write r3
08 loadr r3 r15
09 write r3
10 copy r13 r14
11 copy r14 r15
12 copy r15 r13
13 loadr r3 r14
14 write r3
15 loadr r3 r15
16 write r3
17 halt

#   1. two
#   2. two
#   3. they are less steps to do the same thing
#   4. it saves time by being able to point and reference rather then copy the entire data into a seperate location.
```

This is exercise 1 on problem2. This is my final solution. I accidently erased and wrote over my original attempt. I honestly found the instructions to be a little confusing but after working through it with a lot of guidance, it makes sense what we were accomplishing.

```
00 setn r1 17
01 storen r1 50
02 setn r1 25
03 storen r1 51
04 setn r14 50
05 setn r15 51
06 setn r10 100
07 setn r11 101
08 setn r1 50
09 storer r1 r10
10 setn r1 51
11 storer r1 r11
12 loadr r3 r10
13 loadr r3 r3
14 write r3
15 loadr r3 r11
16 loadr r3 r3
17 write r3
18 copy r13 r10
19 copy r10 r11
20 copy r11 r13
21 loadr r3 r10
22 loadr r3 r3
23 write r3
24 loadr r3 r11
25 loadr r3 r3
26 write r3
27 halt
```

This is hw4pr2 part 1. It was challenging and I got a lot of help on it during lab. Now that I have the solution, it makes a lot more sense.

```
00 setn r1 17
01 storen r1 50
02 setn r1 25
03 storen r1 51
04 setn r14 50
05 setn r15 51
06 setn r10 100
07 setn r11 101
08 setn r1 50
09 storer r1 r11
10 setn r1 51
11 storer r1 r10
12 loadr r3 r10
13 loadr r3 r3
14 write r3
15 loadr r3 r11
16 loadr r3 r3
17 write r3
18 copy r13 r10
19 copy r10 r11
20 copy r11 r13
21 loadr r3 r10
22 loadr r3 r3
23 write r3
24 loadr r3 r11
25 loadr r3 r3
26 write r3
27 halt
```

Here is part 2. Changed what the pointer registers are pointing to!

Overall, this problem was fun. I enjoyed playing around in assembly.