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CS 382 - A

I pledge my honor that I have abided by the Stevens Honor System - RW

1.

```
MOV X9, XZR
LOOP SUBIS XZR, X9, #12
B.GE Exit
LSL X11, X9, #3
LDUR X10, [X19, X11]
SUB X10, X10, X9
STUR X10, [X19, X11]
ADDI X9, X9, #1
B LOOP
Exit:
```

2.

```
ADD X10, X20, X21
LSL X10, X10, #3
LDUR X11, [X22, X10]
STUR X11, [X23, #48]
```

3.

```
CMP X19, X20
B.GE L1
ADD X19, X19, X20
B Exit
L1: LSL X19, X20, #3
Exit:
```

4.

X1 = 9

The code begins by comparing 36 to 20. Then it checks to see if 36 is greater than 20, and it is, so it then moves it to the else statement. In the else, 36 is bit shifted to the right 2 times, which makes X1 = 9.

5.

X10 = 16

The loop iterates until X11 is equal to 5, adding 1 to X11 each iteration. Also in each iteration, X10 bit shifts to the left by one, because the loop runs four times. Therefore X10 = 16

6.

```
SUB SP, SP, #8
STUR X30, [SP, #0]
MOV x2, #2
MOV X3, #3
BL add
LDUR X30, [SP, #0]
ADD SP, SP, #8
Br x30
Add:
ADD x1, x3, x2
Br x30
```