Coding Exercise 1

```
        LEA $6000, A1
        MOVE.B #0, D0
LOOP1   MOVE.W (A1)+, D1
        AND.W #$00FF, D1
        MOVE.W D1, -(SP)

        ADDQ.B #1,D0
        CMP.B #5, D0
        BLT LOOP1


        LEA $6000, A1
        MOVE.B #0, D0
LOOP2   MOVE.W (SP)+, (A1)+

        ADDQ.B #1,D0
        CMP.B #5, D0
        BLT LOOP2
```
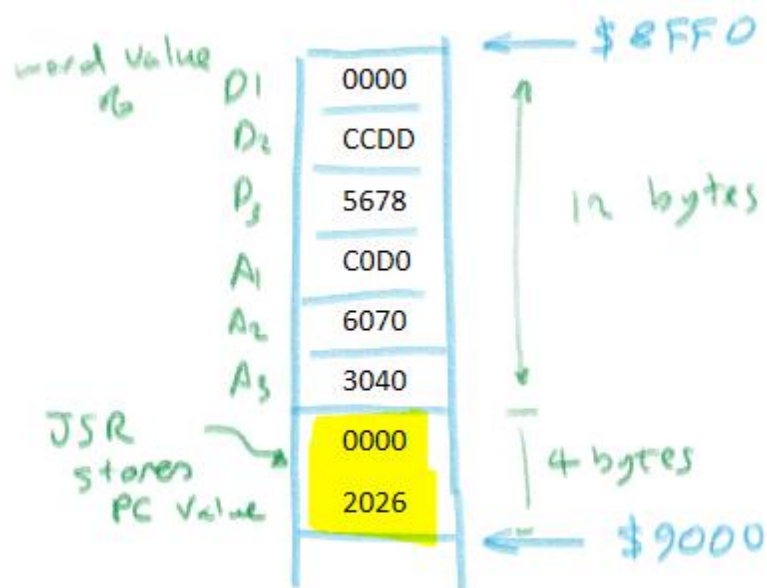
Exercise 2

What's the value of SP? $9000 – 16 = $8FF0

What's the longword value in (SP)? $ 0000 CCDD

What's the value of PC? 0000308E

What's the displacement value in hexadecimal? 0000308E - 000030D2 = -68 IN DECIMAL = 10111100 = BC

How does the stack look like?

Coding Exercise 2

```
        MOVE.W #5, D0 ; calculating Factorial 5
        MOVE.W #1, D1 ; Result in D1

        JSR FACT

FACT    MULU.W D0, D1
        SUB.W #1, D0

        CMP #1, D0
        BEQ DONE    ; base case

        JSR FACT    ; Recursive call
        BRA EXIT

DONE    RTS FACT

EXIT
```