CPSC 3300 Test 2
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1.) passed by "value": ① the number of elements in the array.
② size of each element
③ sort flag
passed by "reference": ① the base address of the array.

2.) Instruction 1: BX LR

Instruction 2: MOV PC, LR

3.) LDMIA SP!, {R2 = R4} ← Reads {R2 - R4}

4.) A) Not Taken
Reason: because the N flag is set to 1. This makes the result negative and the BGT instruction requires the result to be greater than 0.

B) Not Taken
Reason: because the C flag is set to 0. This shows that the result of the comparison did not produce a carry.

(5.)

```asm
        .syntax unified
        .text

        LDR   r0, =K
        LDR   r0, [r0]
        LDR   r1, =P
        LDR   r1, [r1]

        CMP   r1, #50
        BLE   div8
        LSL   r0, #2

        b     loop

(6)  FindA:
        POP{r0}
        POP{r1}
        POP{r2}
        mov r3, #0

    LOOP:
        cmp r1, #0
        BEQ   end_loop

        LDRB r4, [r0], #1
        SUBS r1, #1
        cmp   r4, #0x41
        BNE   LOOP
        ADDS  r3, #1
        b     LOOP
    end_loop   str r3, [r2]
            bx  lr
```

⑦
```
                        .data

Codes:          .space     5

                .syntax unified
                .text
                .global main

Main:
                Mov r1,#0

loop:           LDR     r0, =GPIOB_IDR
                LDRB    r2, [r0,#0]
                LDRB    r3, [r0,#8]
                CmP     r3, #0
                BEQ     loop
                STRB    r2, [r4,r1]
                ADD     r1, #1
                STR     r3, [r0,#12]
                CmP     r1, #5
                BNE     loop
end:
                b       end
```