

5.

```
START:    LOAD      0
LOOP:     OUT       0x8
          ADD       1
          JZ        DONE
          JMP       LOOP
```

DONE: HLT

6.

```
00: 0001 0000 0000 0000
01: 0010 0000 0000 1000
02: 0011 0000 0000 0001
03: 0100 0000 0000 0110
04: 0101 0000 0000 0001
05: 0000 0000 0000 0000
06: 1111 0000 0000 0000
```

7.

```
START: IN      0x100
      STORE    A
      IN      0x100
      STORE    B
```

```
COMPARE: LOAD    A
        SUB      B
        JZ       DONE
        JN       A_LESS_B
```

```
A_MORE_B: LOAD    A
        SUB      B
        STORE    A
        JMP      COMPARE
```

```
A_LESS_B: LOAD    B
        SUB      A
        STORE    B
        JMP      COMPARE
```

```
DONE:  LOAD    A
      OUT     0x200
      HLT
```

```
A:  0
B:  0
```