

1) What does the following do?

```

        LEA    R3,Binary
        LD     R6,ASCII
        LD     R7,COUNT
AGAIN   TRAP   x23
        ADD   R0,R0,R6
        STR   R0,R3,#0
        ADD   R3,R3,#1
        ADD   R7,R7,#-1
        BRp   AGAIN
        BRnzp NEXT_TASK
ASCII   .FILL  xFFD0
COUNT .FILL  #10
Binary .BLKW  #10
    
```

2) What does the following code do?

```

START   LDI    R1, KBSR
        BRzp   START

        LDI    R0, KBDR

EO       LDI    R1, DSR
        BRzp   EO
        STI    R0, DDR

        BRnzp  NEXT_TASK
KBSR    .FILL  xFE00
KBDR    .FILL  xFE02
DSR     .FILL  xFE04
DDR     .FILL  xFE06
    
```

3) What does the following code do?

```

        .ORIG  x0450
        ST     R7, SaveR7
        ST     R0, SaveR0
        ST     R1, SaveR1
        ST     R3, SaveR3
Loop    LDR    R1, R0, #0
        BRz   Return
        LDI    R3,DSR
        BRzp  L2
        STI   R1, DDR
        ADD   R0, R0, #1
        BRnzp Loop
Return  LD     R3, SaveR3
        LD     R1, SaveR1
        LD     R0, SaveR0
        LD     R7, SaveR7
        RET

DSR     .FILL  xFE04
DDR     .FILL  xFE06
SaveR0  .FILL  x0000
SaveR1  .FILL  x0000
SaveR3  .FILL  x0000
SaveR7  .FILL  x0000
        .END
    
```

4)

5) What does the following code do?

```
AtoB          AND    R0,R0,#0
              ADD    R1,R1,#0
              BRz   DoneAtoB
              LD    R3,NegASCIIOffset
              LEA   R2,ASCIIBUFF
              ADD   R2,R2,R1
              ADD   R2,R2,#-1
              LDR   R4,R2,#0
              ADD   R4,R4,R3
              ADD   R0,R0,R4
              ADD   R1,R1,#-1
              BRz   DoneAtoB
              ADD   R2,R2,#-1
              LDR   R4,R2,#0
              ADD   R4,R4,R3
              LEA   R5,LookUp10
              ADD   R5,R5,R4
              LDR   R4,R5,#0
              ADD   R0,R0,R4
              ADD   R1,R1,#-1
              BRz   DoneAtoB
              ADD   R2,R2,#-1
              LDR   R4,R2,#0
              ADD   R4,R4,R3
              LEA   R5,LookUp100
              ADD   R5,R5,R4
              LDR   R4,R5,#0
              ADD   R0,R0,R4
DoneAtoB      RET
NegASCIIOffset .FILL  xFFD0
ASCIIBUFF     .BLKW  4
LookUp10      .FILL  #0
              .FILL  #10
              .FILL  #20
              .FILL  #30
              .FILL  #40
              .FILL  #50
              .FILL  #60
              .FILL  #70
              .FILL  #80
              .FILL  #90
;
LookUp100     .FILL  #0
              .FILL  #100
              .FILL  #200
              .FILL  #300
              .FILL  #400
              .FILL  #500
              .FILL  #600
              .FILL  #700
              .FILL  #800
              .FILL  #900
```