

1) What is the output of the following program?

```
.ORIG x3000
LD      R1, LETA
LEA     R0, BUFFER
STR     R1, R0, #0
ADD     R1, R1, #1
STR     R1, R0, #1
ADD     R1, R1, #1
STR     R1, R0, #2
ADD     R1, R1, #1
STR     R1, R0, #3
TRAP   x22
LD      R0, LF
TRAP   x21
LEA     R0, STRING
TRAP   x22
TRAP   x25
LF      .FILL    x000A
LETA    .FILL    x0041
BUFFER  .BLKW   #4
STRING  .STRINGZ "EFGH"
.END
```

2) What does the following program do?

```
.ORIG x3000
AND R5, R5, #0
AND R3, R3, #0
ADD R3, R3, #8
LEA R0, BB
LDR R1, R0, #1
LDR R1, R1, #0
ADD R2, R1, #0
AGAIN  ADD R2, R2, R2
      ADD R3, R3, #-1
      BRp AGAIN
LDR R4, R0, #0
AND R1, R1, R4
NOT R1, R1
ADD R1, R1, #1
ADD R2, R2, R1
BRnp NO
ADD R5, R5, #1
NO     TRAP x25
BB     .FILL xFF00
      .FILL x4000
      .END
```