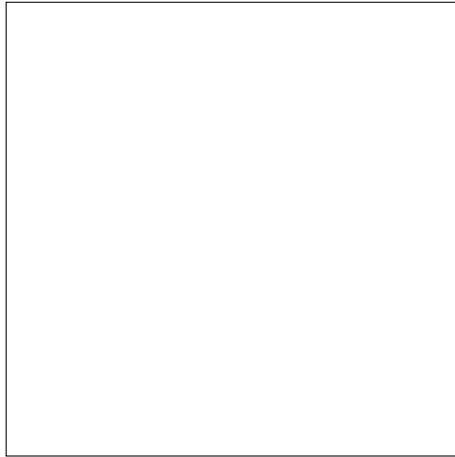
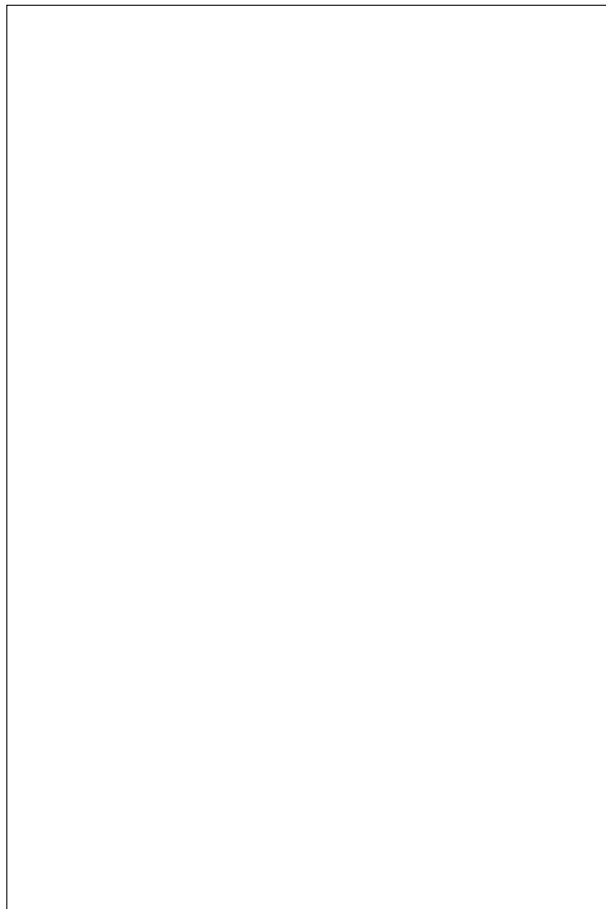


Question 4 Write a program which sets register 4 to the value 0xCAFE. You cannot use the `let i` instruction.



Question 5 The Hamming weight of an integer is defined as the number of bits equal to one in its binary representation. For instance, the Hamming weight of $42 = 0b101010$ is three, and the Hamming weight of $0xFFFFFFFF$ is 32. Write a program which computes the Hamming weight of any number (initially stored in R1) then halts. In a comment, indicate which register holds the result.



Question 6 Given two arrays A and B of the same (known) length, we define their *element-wise distance* as the array C such that for all n , $C[n]=|A[n] - B[n]|$. In other words, each element of C is defined as the absolute value of the difference between corresponding elements of A and B.

The program below allocates two arrays A and B of length 10. Complete the code so that it computes their element-wise distance in array C.

```
start:
    jmp main

A:     .word 13, 50, 2, 42, 27, 12, 1, 8, 37, 19
B:     .word 1, 5, 24, 42, 51, 21, 36, 2, 71, 7
C:     .word 0, 0, 0, 0, 0, 0, 0, 0, 0, 0

main:
```

Question 7 In 25 lines or less, write a program which fills the bottom right quarter of the screen in cyan, like illustrated below.

