4.3 In fact, the program counter does not maintain any kind of count, but contains the next instruction’s address. So the name instruction pointer is more insightful.

4.5

a. Location 3 contains 0000 0000 0000 0000

Location 6 contains 1111 1110 1101 0011

b.(1) Location0: 0001 1110 0100 0011=7747

Location1:1111 0000 0010 0101 = -4059

(2) Location4:0000 0000 0110 0101=101=’e’

(3)0000 0110 1101 1001 1111 1110 1101 0011

=1.101 1001 1111 1110 1101 0011\*2^-114

(4) Location0: 0001 1110 0100 0011=7747

Location1:1111 0000 0010 0101 =61477

c. Location0: 0001 1110 0100 0011=Add R7 R1 R3

d. Location 5:0000 0000 0000 0110 refers to Location 6 which contains 1111 1110 1101 0011.

4.8

a.8

b.7

c.3

4.9 Loading the address of next instruction to the PC.