CWP2 LT

- CW2 **2020,21,22 BB test** with multiple choice & fill in blank questions

- CW2 2019 & before written 'class' test

- TODAY: Review a couple* of 2019 questions, then on to CWP 2 **2022**.

2019 Qn 2, Qn 3*

* Two Memory Hierachy Properties:

registers in processor

main memory

USB (etc)

Tapes / Cloud

* (binary)

DA carry =

DA sum =

ALU sum =

```
  1011
+ 1010
------
------
------
```

1.1

```
    r := 15
    c := 1
L   r := r - c
    c := c + 1
    if r ≠ 0 then L
    exit
```

r	c
?	?

1.2 See p.② (& slides)

Memory Hierachy

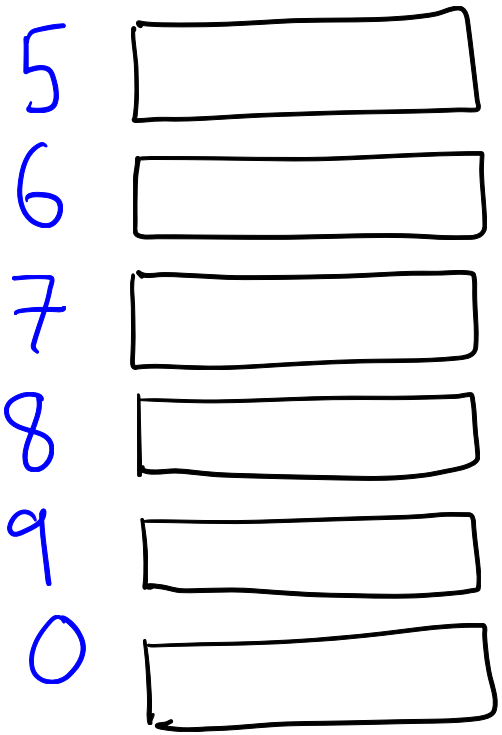
1.4 (a)

(b)

(c)

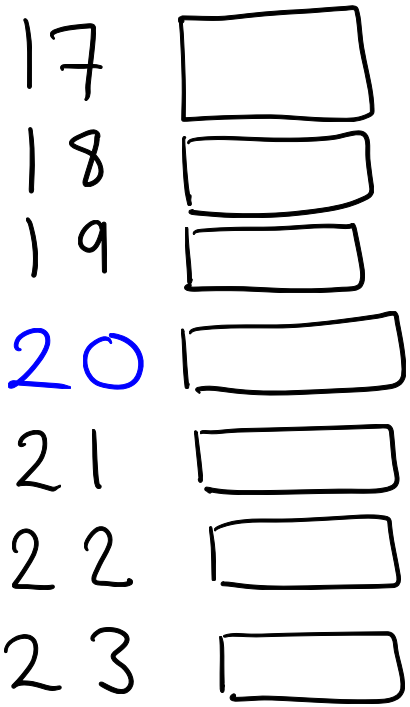
(d)

Word Locations of 4 cells ∂

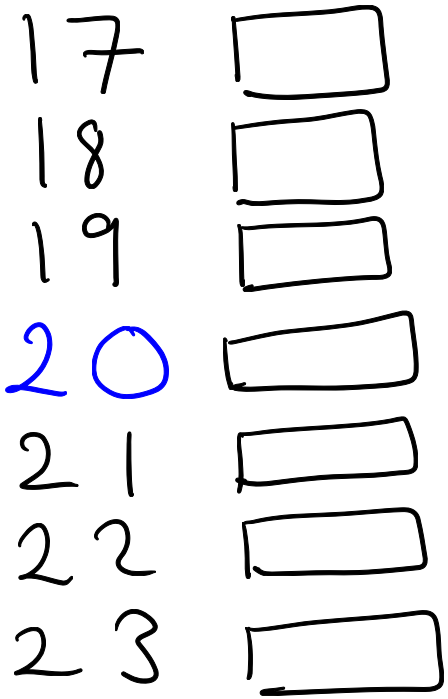


Address = 7

Circle the cells



Address (WL) ____



Address (WL) ____

Revision Question: Give ALU computation of $3 - (-7)$ in 4-bit signed binary. (5)

-8 4 2 1

A: 3_d = _____ s

-7_d = _____ s

Binary Negation of ↗

= _____

So we have _____ Correct denary result = _____

in ↑ + _____

ALU binary _____

ALU result in denary = _____ = _____ = _____

ALU result correct? Y / N

1.5 First, quick quiz:

0	0 1 1
1	1 1 0
2	0 1 1
3	1 1 1
4	0 0 1
5	1 0 0

Words of 2 cells

°° Content of W.L.

1 BE = _____

3 LE = _____

0 BE = _____

Show 1111 0001 1010

if WL consist of 3 cells

for both BE° & LE*

stored in WL 66

	°*
65	
66	
67	
68	
69	

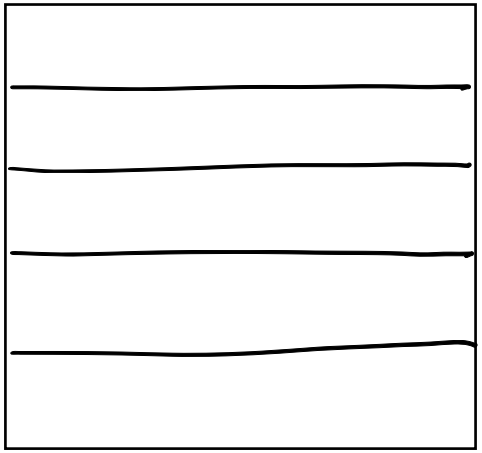
1.5 (a) Addresses must be

a+6 , (a+6)-1 , , , .

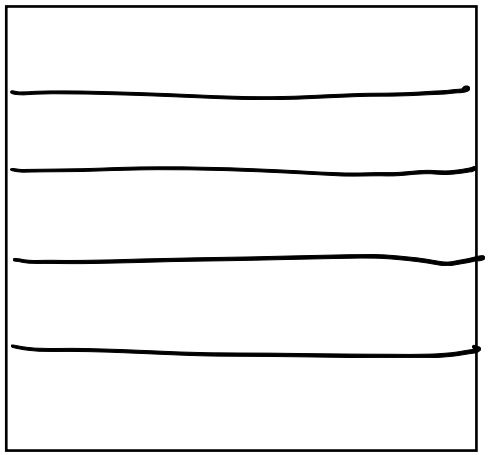
(b) Store 000 111 000 101 010 BE

(c) LE

(d)

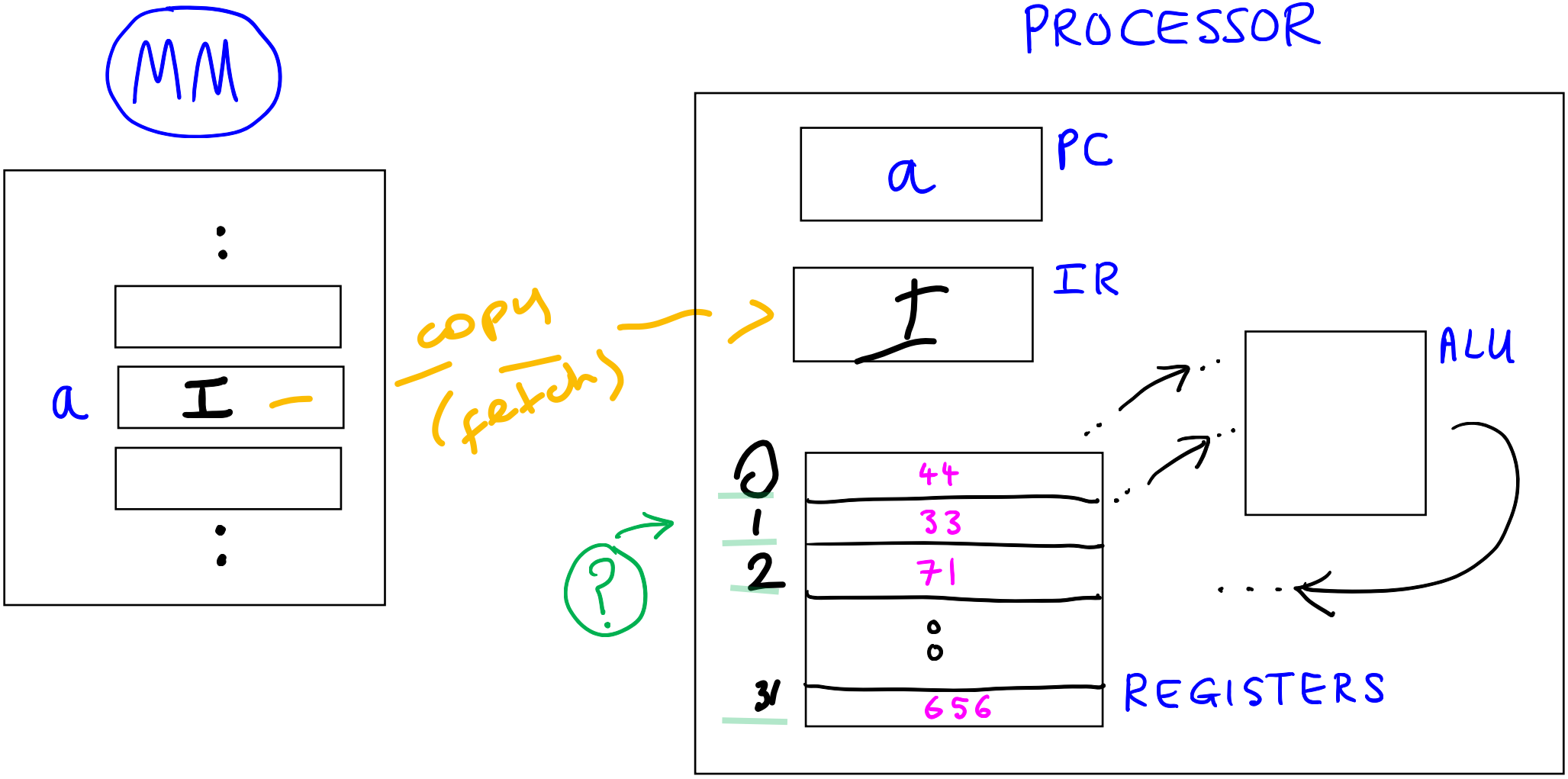


BE



LE

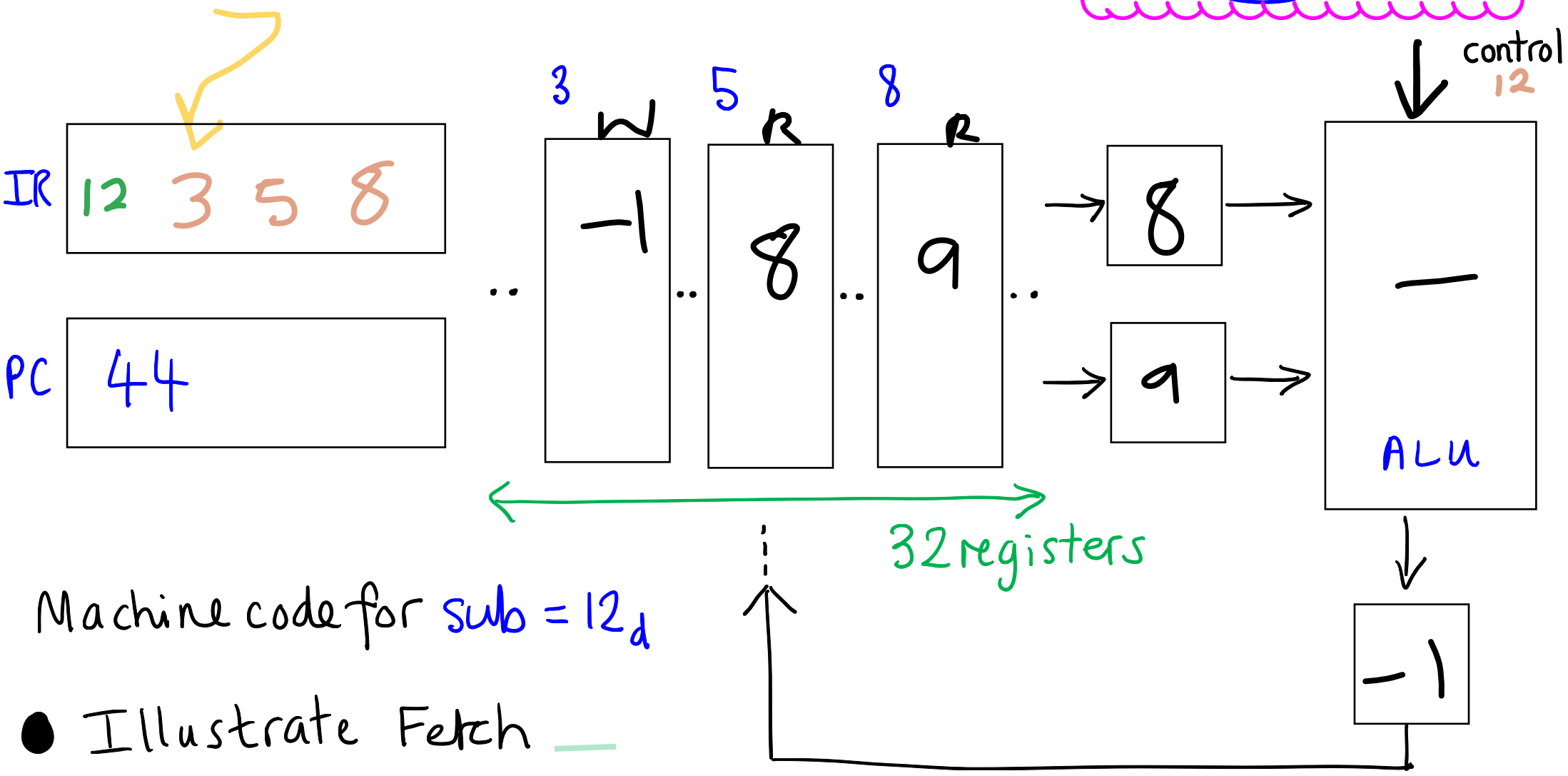
Recall Fetch step (of FDE cycle)



What happens at instruction fetch?

What are !X0 , !X1 , !X31 ? (Write down the addresses above)

1.9 I = sub X3 X5 X8 @ MM # 44 (9)



Machine code for sub = 12_d

- Illustrate Fetch
- Illustrate Decode
- Illustrate Execution

{ X3 := !X5 - !X8
ALT: