

# 如何讓電腦聽話

## --- 何為程式設計

# 程式 program

學園都市一日遊:

柵川中學

長點上機學園

霧之丘女子學院

Seventh Mist

繚亂家政學校

常盤台中學

# 程式 program

1. 表演會俄國舞
2. 湖上漁歌
3. 公車浮沉錄
4. 吉他彈唱
5. 威尼華爾滋
6. Song without Words
7. 諸神的會議--時代諷刺劇
8. 鋼琴獨奏
9. 義大利鈴鼓舞

# 程式 program

蛋塔皮的作法:

將奶油打軟

把糖粉和蛋加入打至白色

加低筋麵粉和泡打粉後揉軟

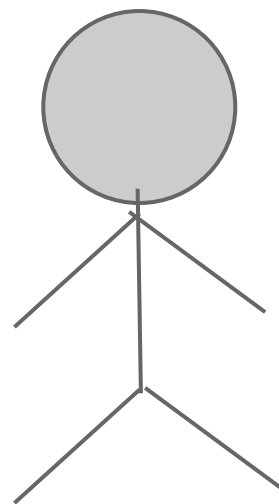
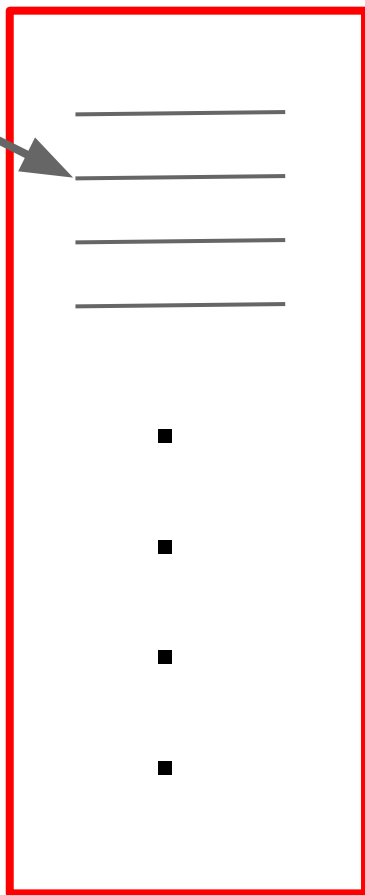
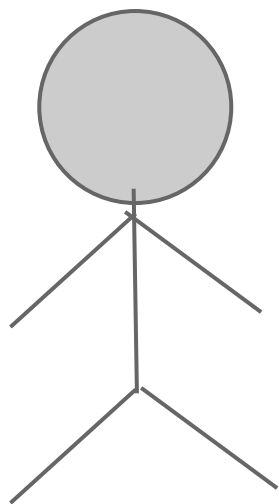
將皮放置冰箱冰5到10分鐘

取出, 至模型中壓緊

# 程式 program

- Merriam Webster:  
a brief usually printed outline of the order to be followed
- American Heritage Dictionary:  
an ordered list of events to take place or procedures to be followed; a schedule
- 一序列的指令

指令, instruction

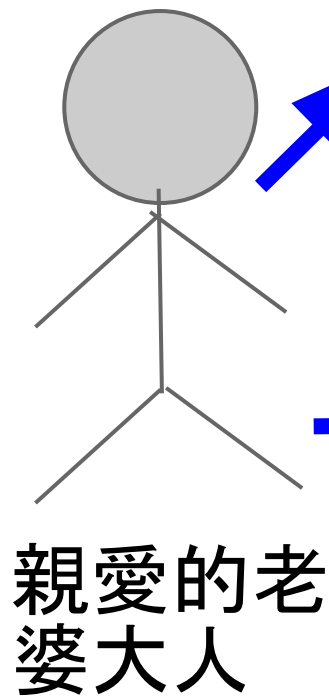


程式設計師

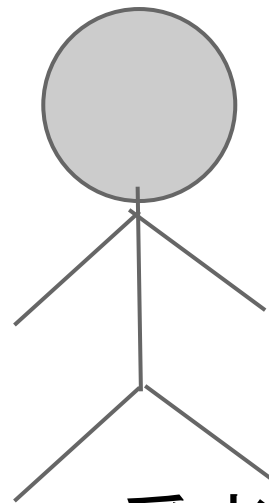
程式執行者

程式

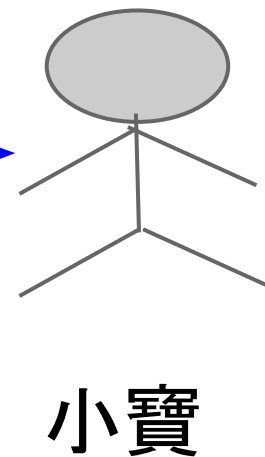




.....  
**煮五碗飯**  
.....



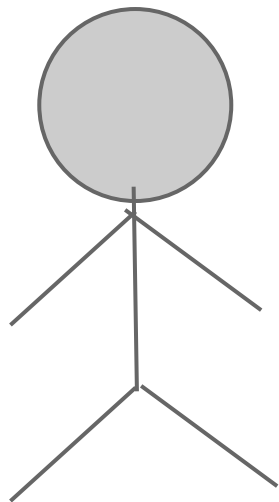
.....  
**內鍋加三碗米  
泡三十分  
水倒掉  
再加三碗水  
外鍋加二碗水  
按下煮飯鍵**  
.....



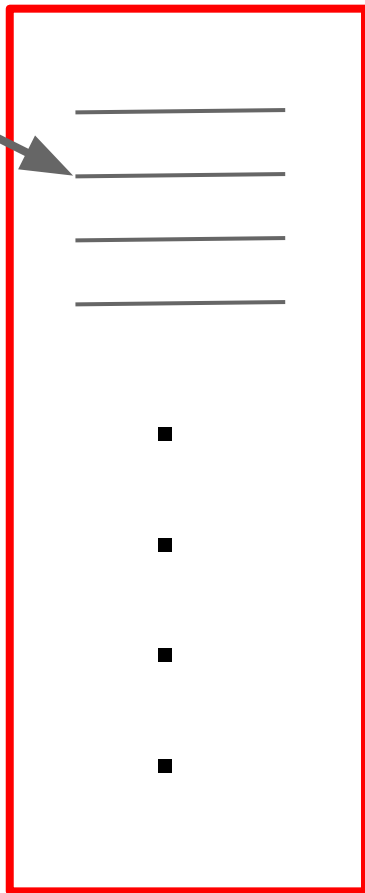
程式之長短，繁簡，難易，取  
決於程式設計者與程式執行  
者之間的差異。



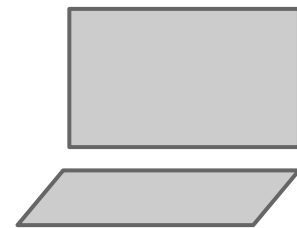
指令, instruction



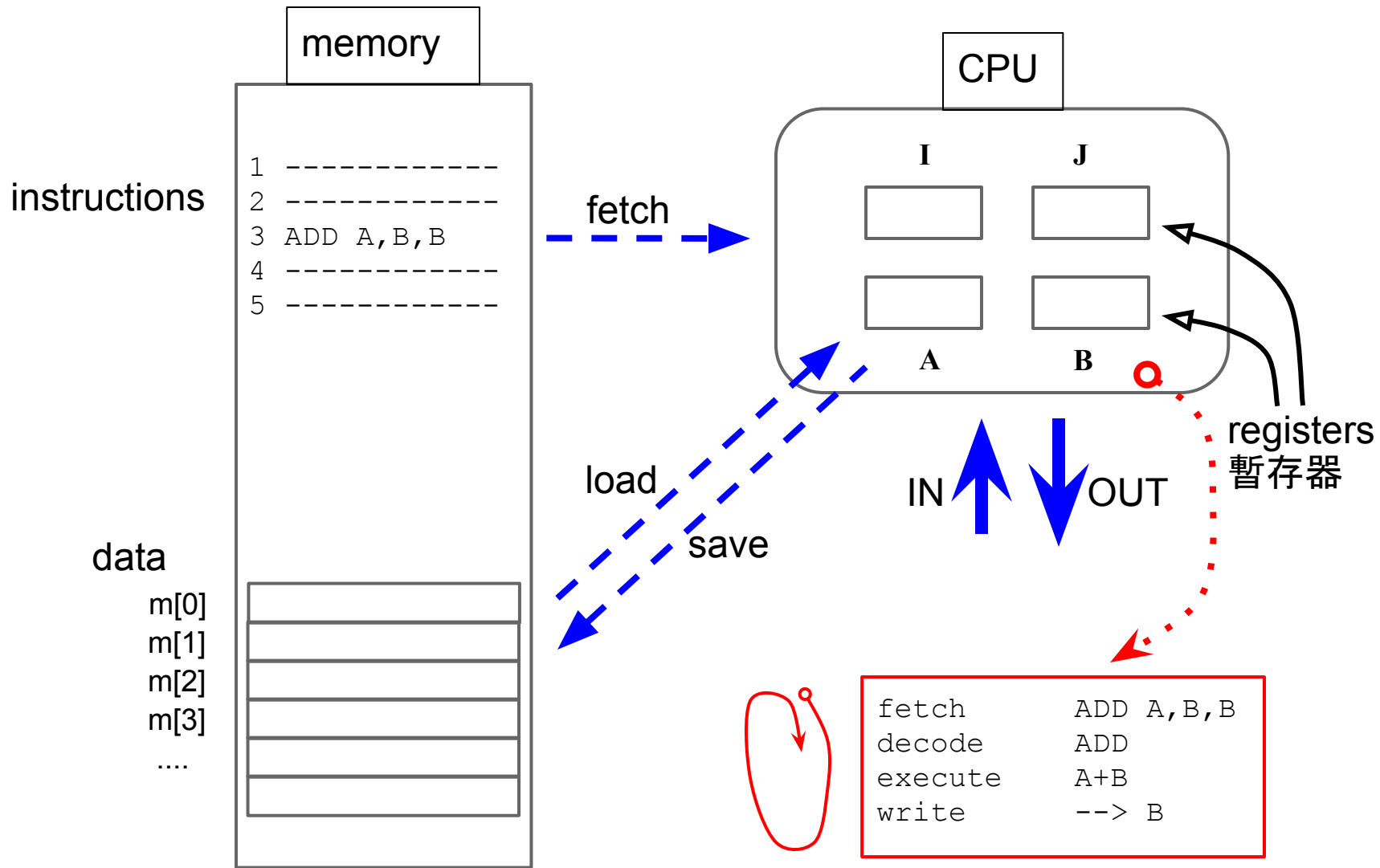
程式設計師

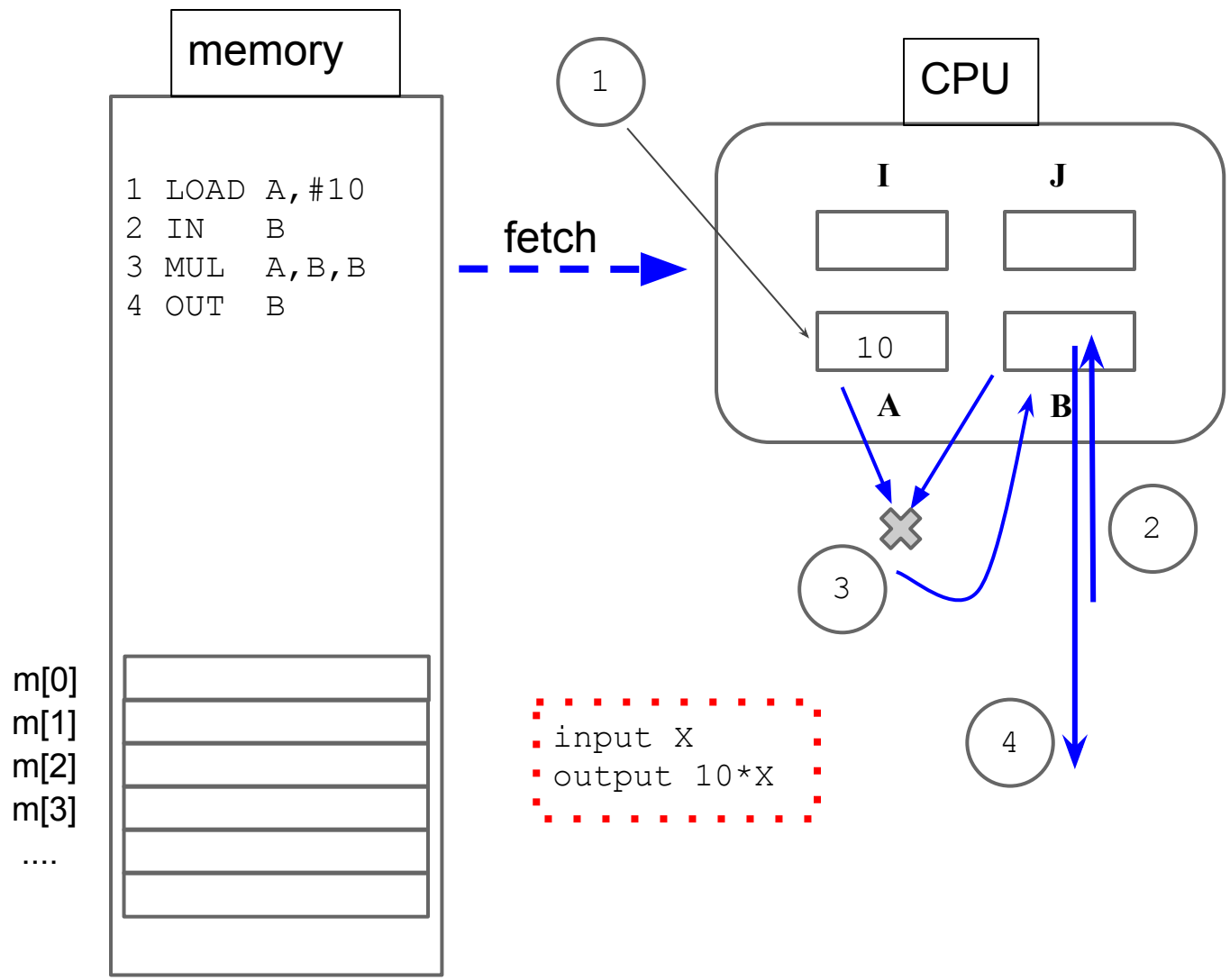


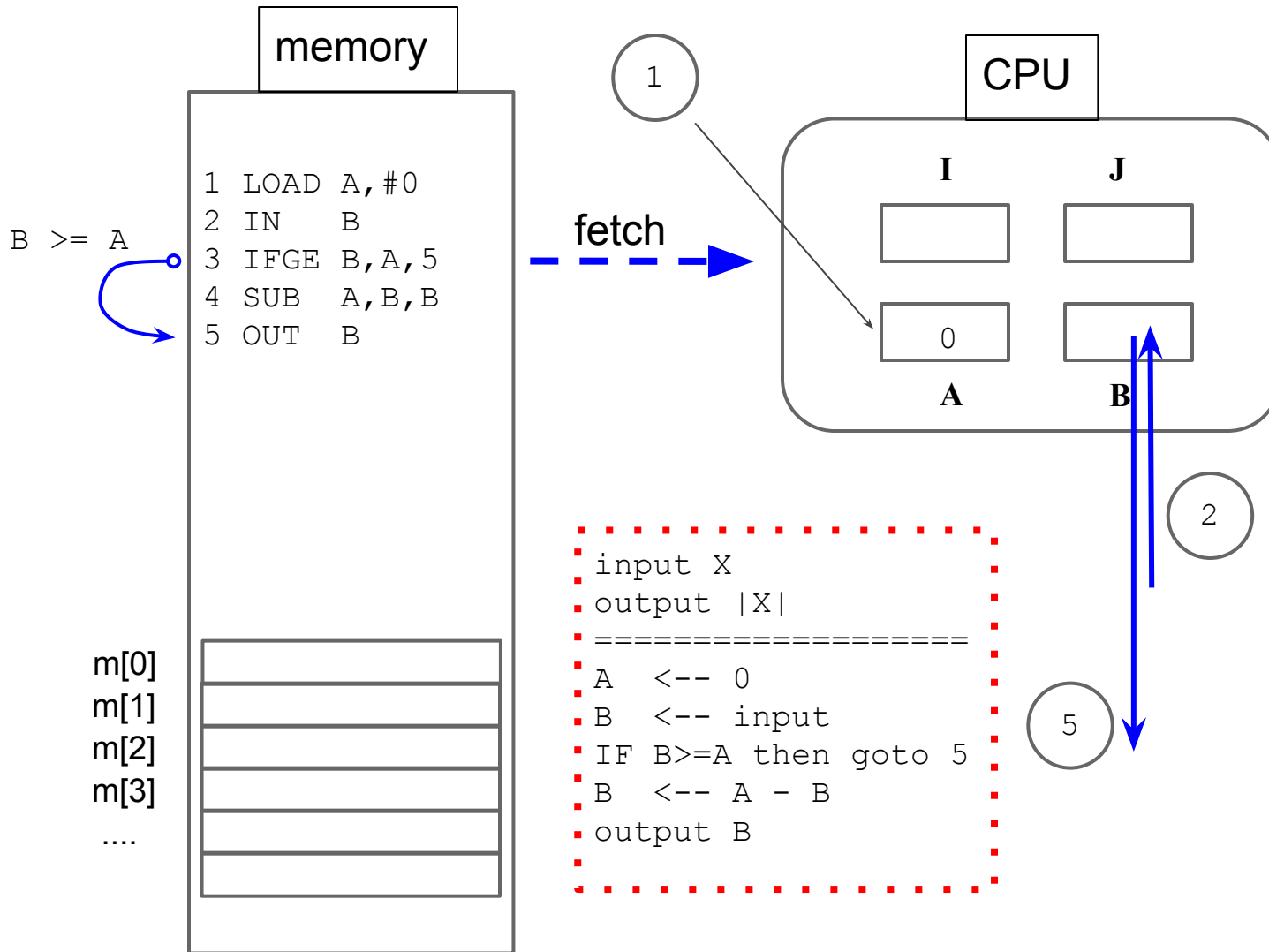
程式

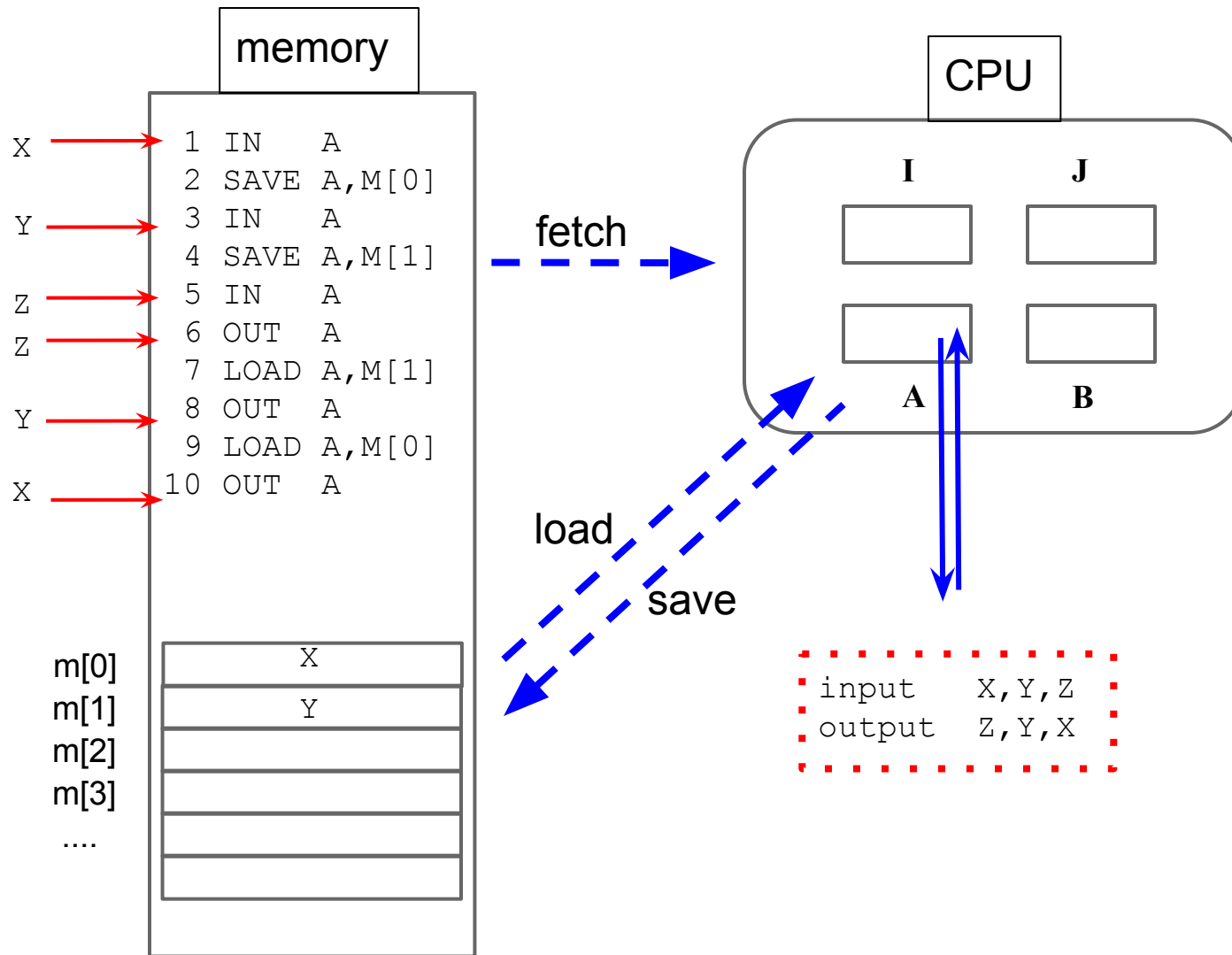


電腦  
computer

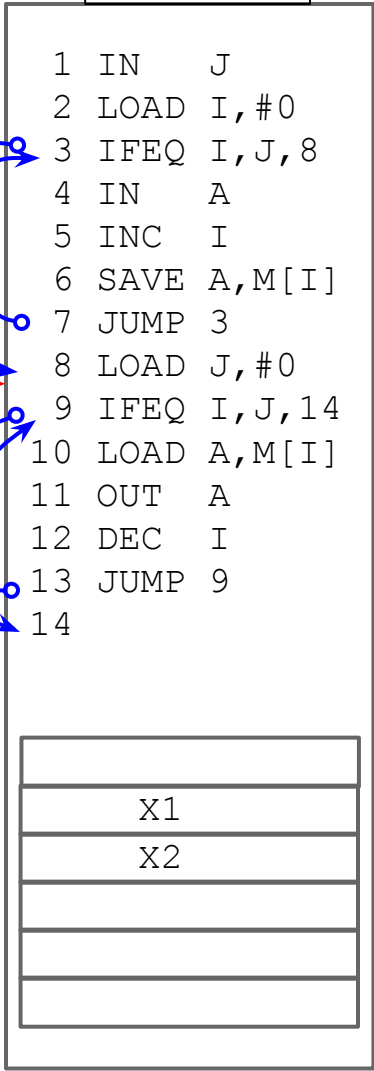








memory



I=J=n



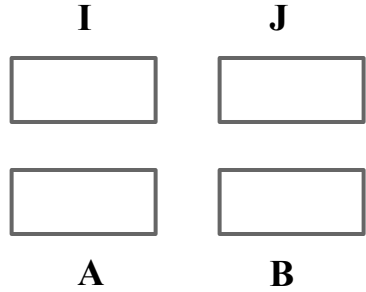
```
J <-- n
I <-- 0

I = I+1, I = 1, 2, ... n
SAVE XI to M[I]
```

```
J <-- 0, I=n

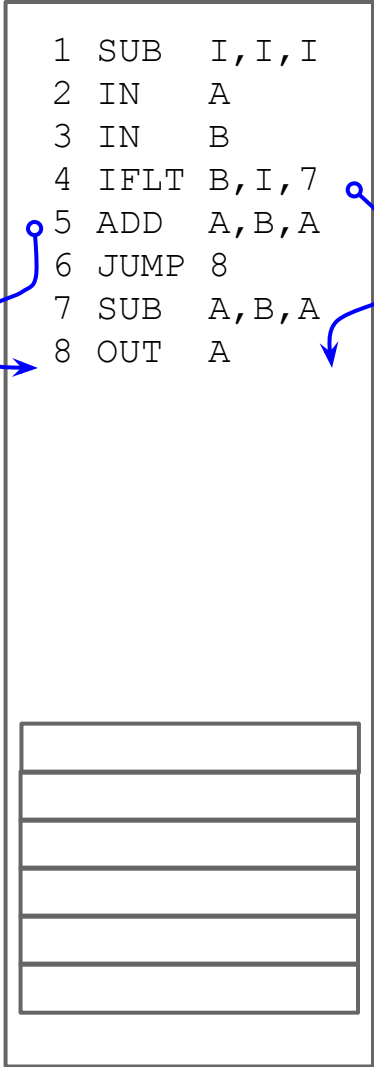
A <-- M[I], XI

I = I-1, I=n-1, ... 1, 0
```

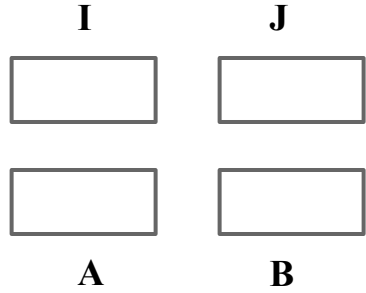


input n, X<sub>1</sub>, X<sub>2</sub>, ... X<sub>n</sub>  
output X<sub>n</sub>, ... X<sub>2</sub>, X<sub>1</sub>

memory



```
I <-- 0  
A <-- X  
B <-- Y  
IF B<0 THEN GOTO 7
```

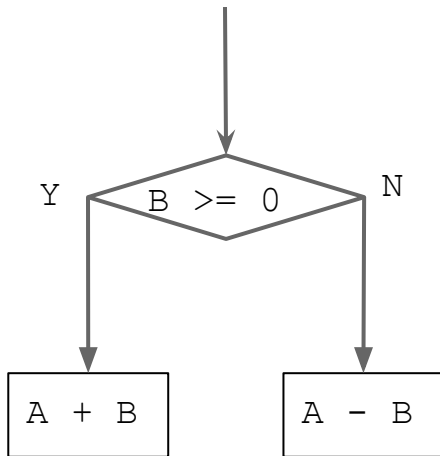


```
input X, Y  
output X + |Y|
```

```

1 SUB  I, I, I
2 IN   A
3 IN   B
4 IFLT B, I, 7
5 ADD  A, B, A
6 JUMP 8
7 SUB  A, B, A
8 OUT  A

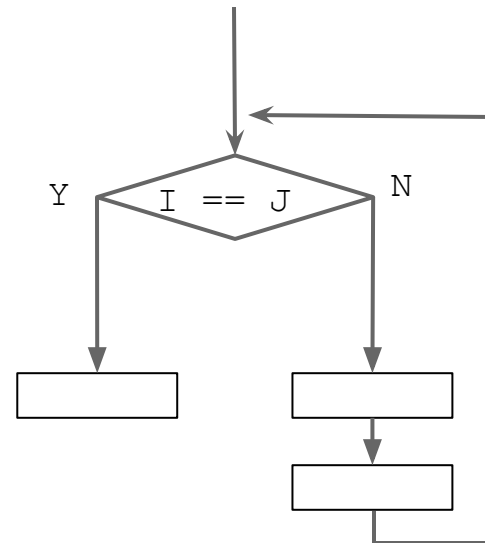
```



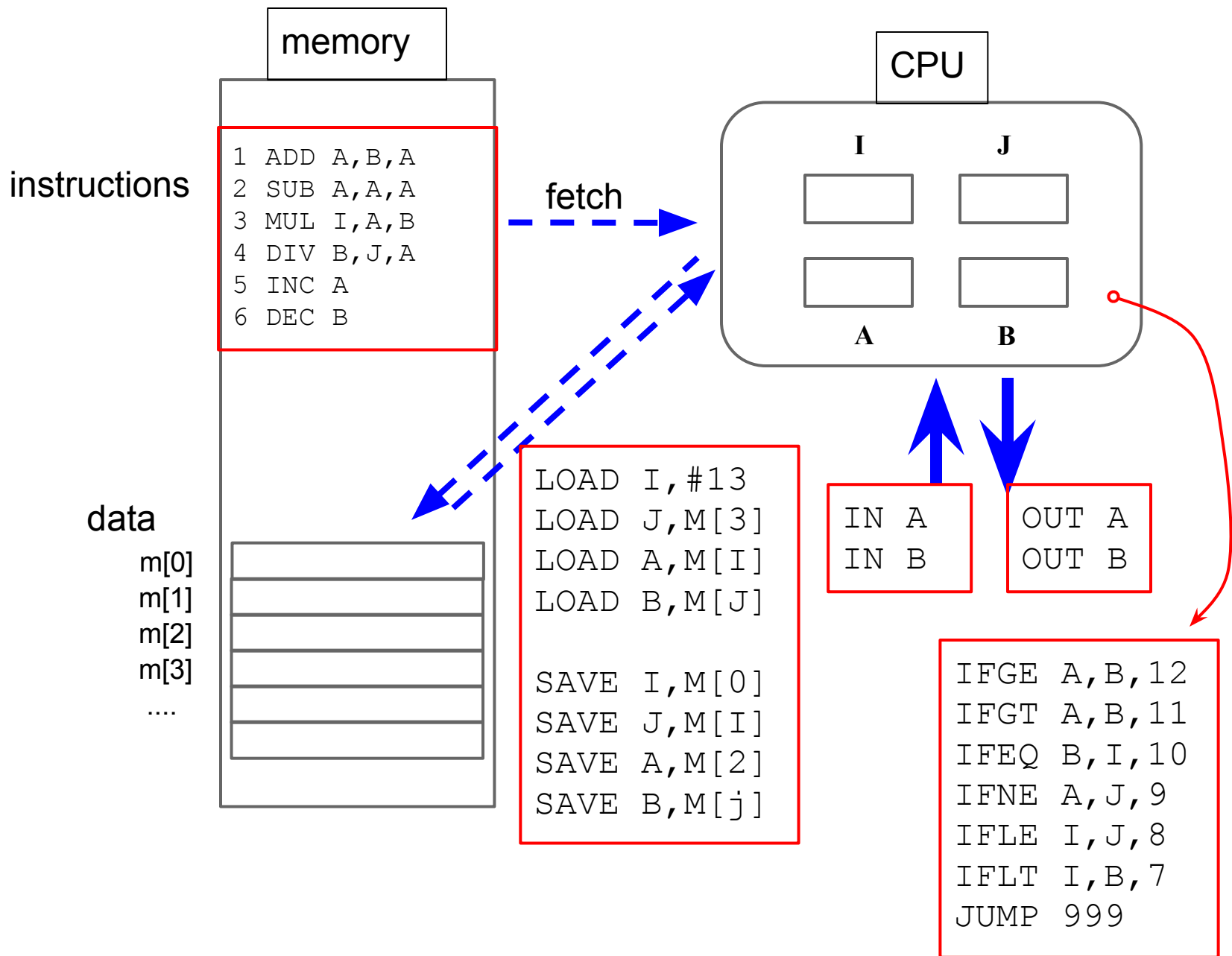
```

1 IN   J
2 LOAD I, #0
3 IFEQ I, J, 8
4 IN   A
5 INC  I
6 SAVE A, M[I]
7 JUMP 3
8

```







1

input X  
output X平方

2

input X, Y  
output X平方+Y平方

3

input X, Y  
output X, Y 二者中較大者

4

把 M[1] 與 M[2] 中的  
值交換

5

input n, X1, X2...Xn,  
output 此 n 個數的和