

ES. 1

- 1.
1. LOAD R<sub>1</sub> a
  2. LOAD R<sub>2</sub> b
  3. SUB R<sub>1</sub> R<sub>2</sub> R<sub>1</sub>
  4. LOAD R<sub>2</sub> 1
  5. STORE<sup>VAL</sup> R<sub>2</sub> C
  6. JUMP R<sub>1</sub> 9
  7. LOAD<sup>VAL</sup> R<sub>2</sub> 0
  8. STORE<sup>VAL</sup> R<sub>2</sub> C
  9. HALT

2.

0									
1									
2									1
3	LOAD R <sub>1</sub> a								
4	LOAD R <sub>2</sub> b								
5	SUB R <sub>1</sub> R <sub>2</sub> R <sub>1</sub>								
6	LOAD <sup>VAL</sup> R <sub>2</sub> 1								
7	STORE R <sub>2</sub> C								
8	JUMP R <sub>1</sub> 9								
9	LOAD <sup>VAL</sup> R <sub>2</sub> 0								
10	STORE R <sub>2</sub> C								
11	HALT								
PC	3	4	5	6	7	8	9	10	11
IR		LOAD R <sub>1</sub> a	LOAD R <sub>2</sub> b	SUB R <sub>1</sub> R <sub>2</sub> R <sub>1</sub>	LOAD <sup>VAL</sup> R <sub>2</sub> 1	STORE R <sub>2</sub> C	JUMP R <sub>1</sub> 9	LOAD <sup>VAL</sup> R <sub>2</sub> 0	STORE R <sub>2</sub> C
R <sub>1</sub>		3	3	0	1				
R <sub>2</sub>									

ES. 2

1. FIFO: ABC    2. SJF: ACB  
RR(20): ABCB    RR(10): ABCACBB

2. TEMPI DI ATTESA:

$$\begin{aligned} \text{FIFO} &= 0 + 10 + 35 = 45 \\ \text{SJF} &= 0 + 5 + 25 = 30 \\ \text{RR}(20) &= 0 + 25 + 25 = 50 \\ \text{RR}(10) &= 20 + 25 + 25 = 70 \end{aligned}$$

TEMPO DI RISPONSA:

$$\begin{aligned} \text{FIFO} &= 0 + 10 + 35 = 45 \\ \text{SJF} &= 0 + 5 + 25 = 30 \\ \text{RR}(20) &= 0 + 40 + 25 = 65 \\ \text{RR}(10) &= 0 + 0 + 5 = 5 \end{aligned}$$

ELAPSED TIME:

$$\begin{aligned} \text{FIFO} &= 20 + 40 + 50 = 110 \\ \text{SJF} &= 20 + 20 + 55 = 95 \\ \text{RR}(20) &= 20 + 55 + 40 = 115 \\ \text{RR}(10) &= 40 + 55 + 40 = 135 \end{aligned}$$

3.  $\star$  RR(10) = A B A C B      RR(10) = A B C A B A C B

ES. 3

1. RAM = 256 MB =  $2^8 \cdot 2^{20}$  BYTE  $\Rightarrow$  28 bit per indirizzo

MEM. VIRTUALE = 512 MB =  $2^9 \cdot 2^{20}$  BYTE  $\Rightarrow$  29 bit per indirizzo

GRANDEZZA PAGINA 4 KB =  $2^2 \cdot 2^{10}$  = 7 indirizzi da 12 bit per pagina

NUM. PAGINE FISICHE =  $2^{28-12} = 2^{16}$

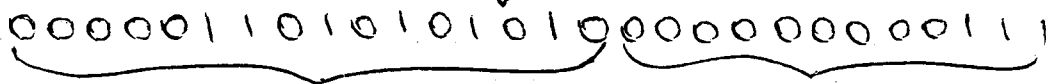
NUM. PAGINE LOGICHE =  $2^{29-12} = 2^{17}$

2. ESEMPIO DI INDIRIZZO LOGICO



NUM. DI PAGINA LOGICA  
17 bit

OFFSET  
12 bit



NUM. DI PAGINA FISICA  
16 bit

OFFSET

↓  
CORRISPONDENTE  
~~INDIRIZZO~~  
INDIRIZZO FISICO