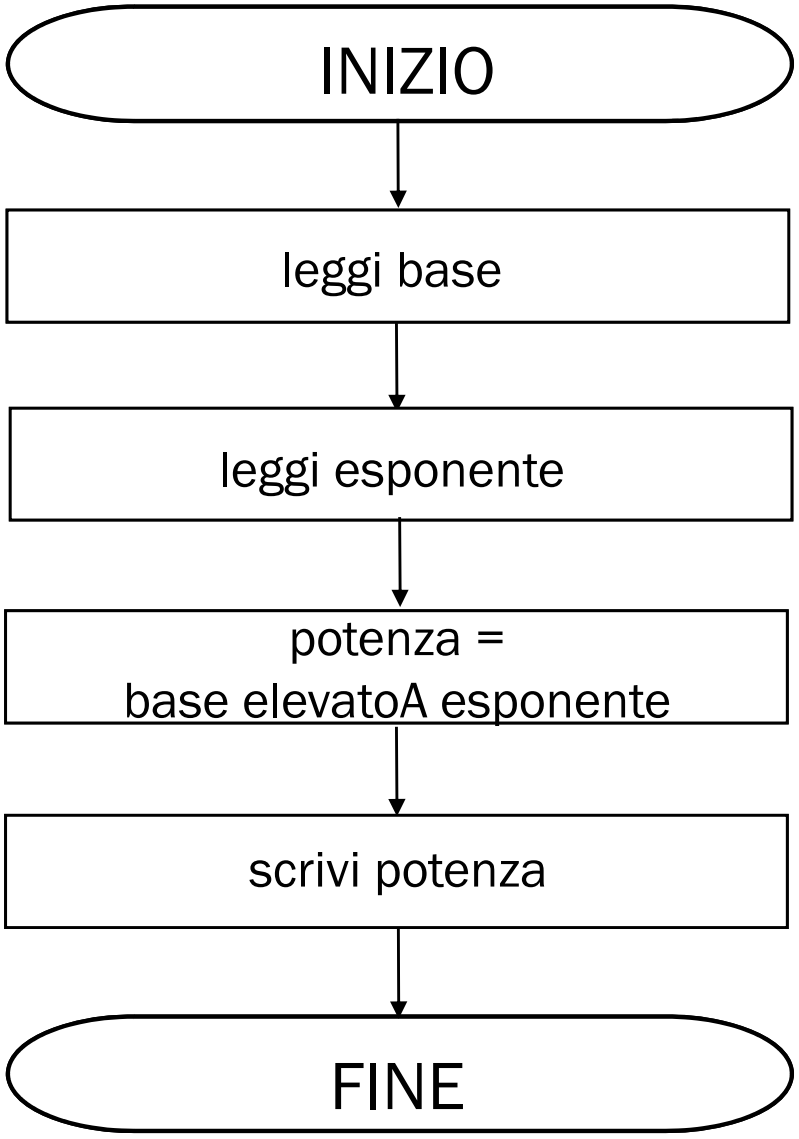
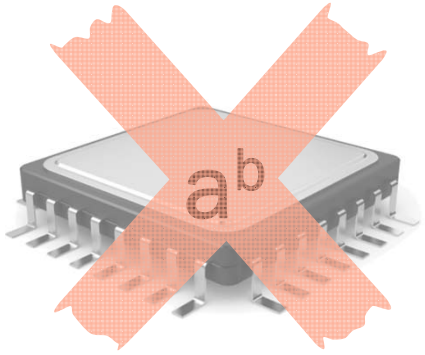
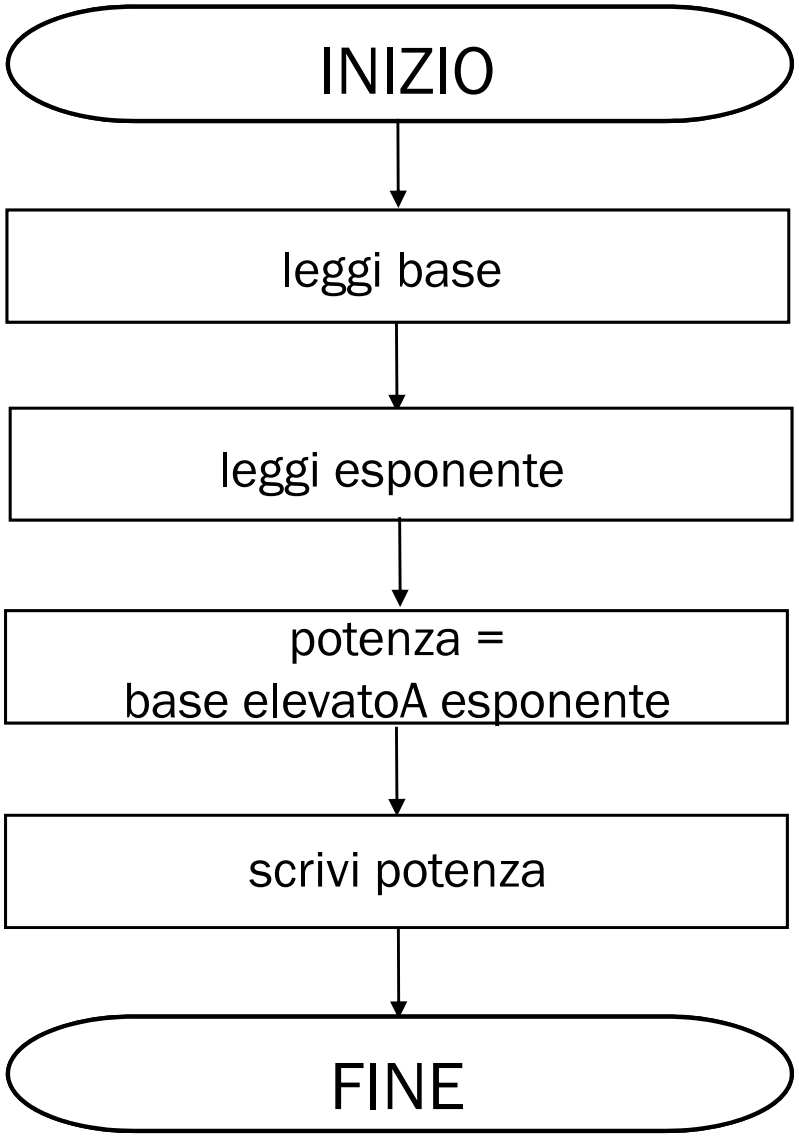
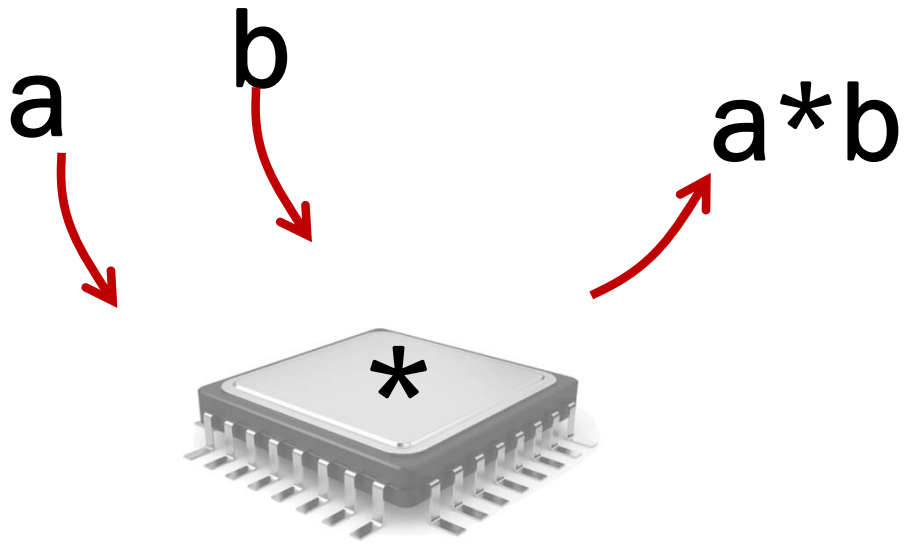

POLITECNICO
DI MILANO
INFORMATICA
La ricerca di una strategia di soluzione


INIZIO
leggi base
leggi esponente
potenza =
base elevatoA esponente
scrivi potenza
FINE

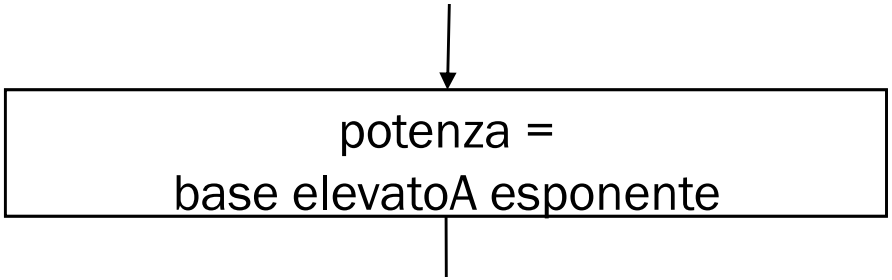

ab

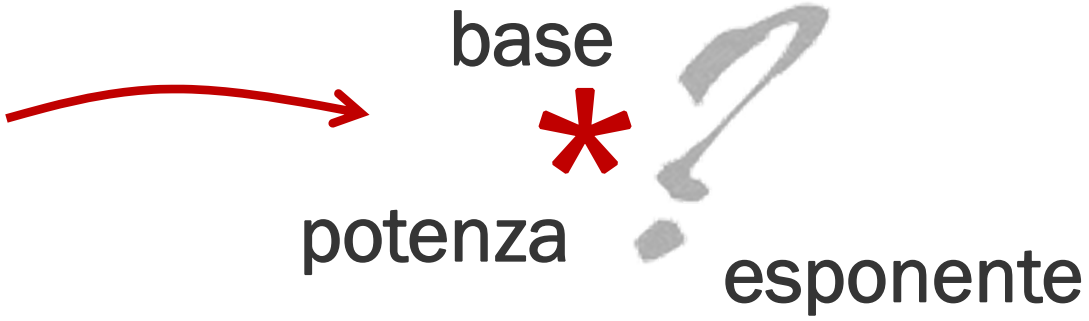



*MOLTIPLICAZIONE



STRATEGIA DI SOLUZIONE



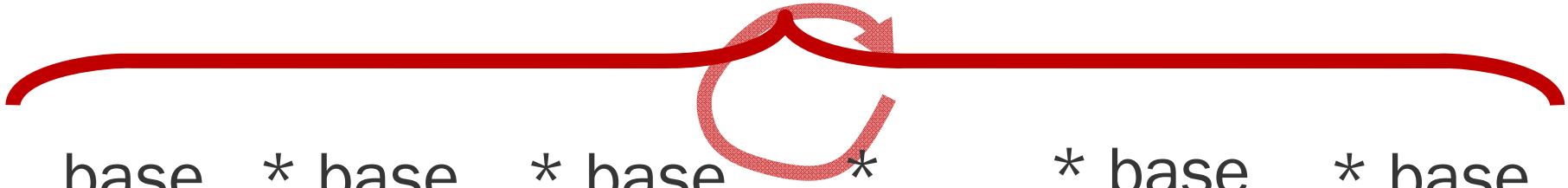
STRATEGIA DI SOLUZIONE

$$base^{esponente}$$

base * base * base * base * . . . * base

STRATEGIA DI SOLUZIONE

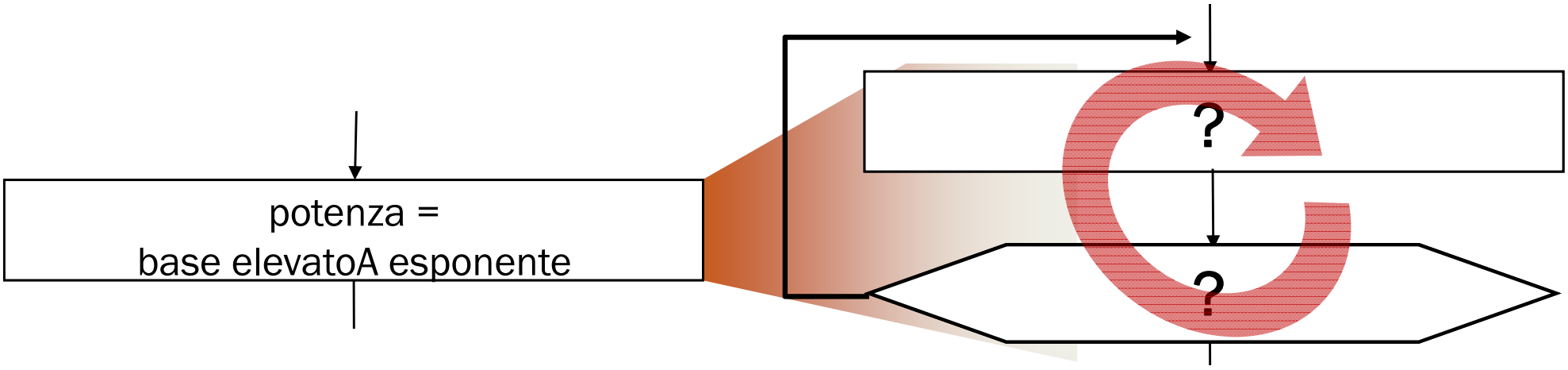
$base^{esponente}$



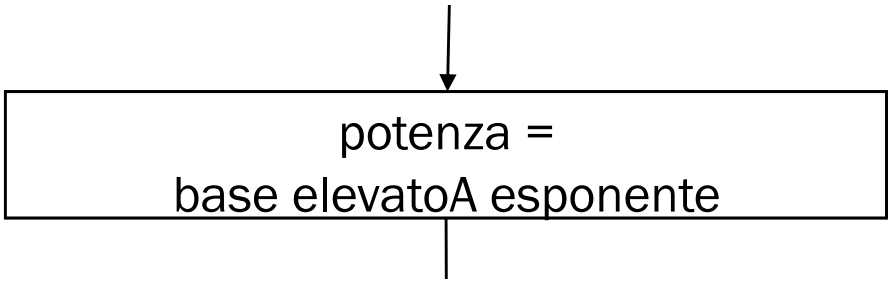
base * base * base * . . . * base * base

*1* *2* *3* *esponente-1* *esponente*

## CICLO



## CICLO




1.*istruzione*

2.*istruzione*

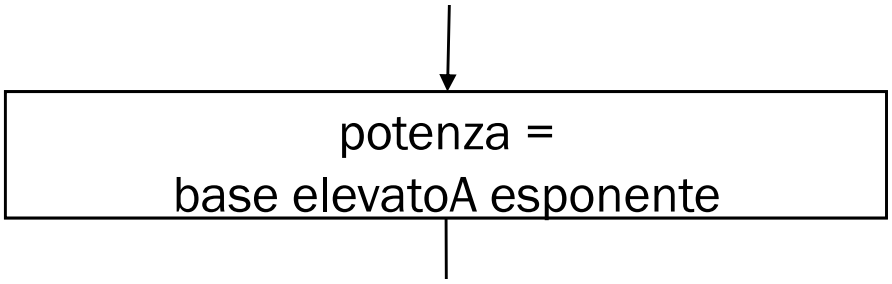
3.*istruzione*

...

n.*istruzione*

*condizioni di permanenza*

## CICLO




*base*

1.*istruzione*

2.*istruzione*

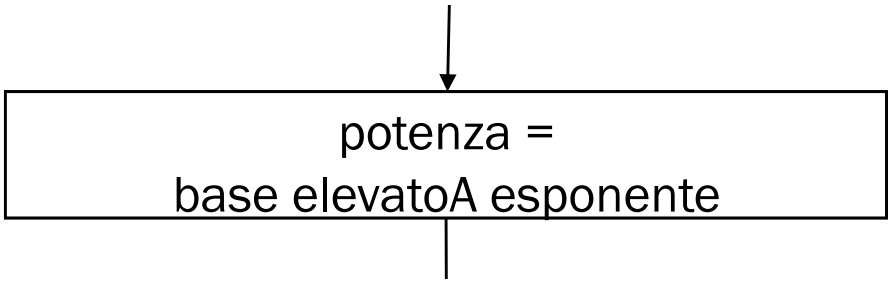
3.*istruzione*

…

n.*istruzione*

$base^{esponente}$

## CICLO



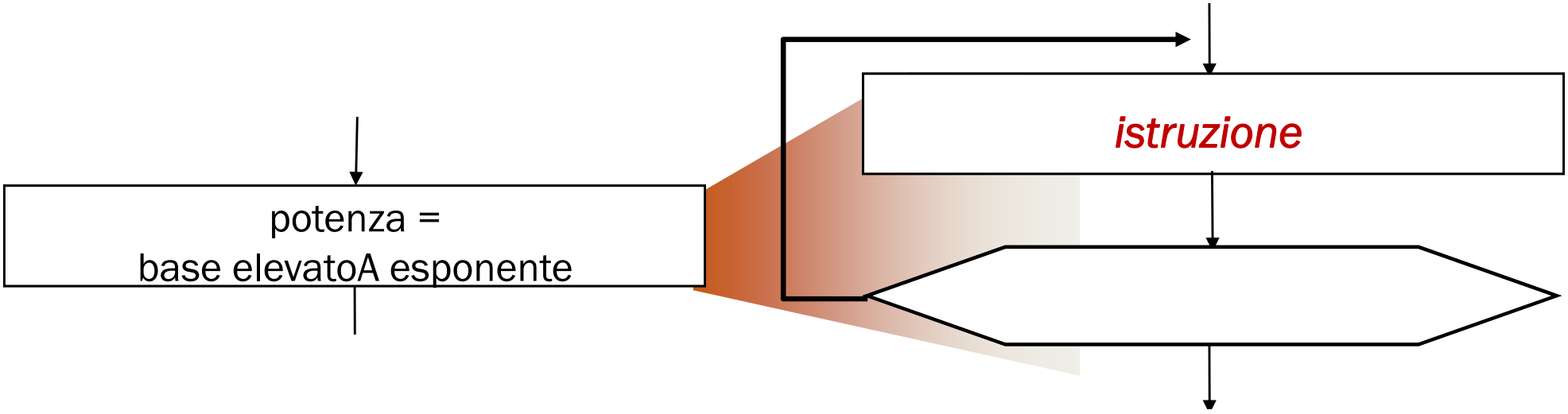

*base*

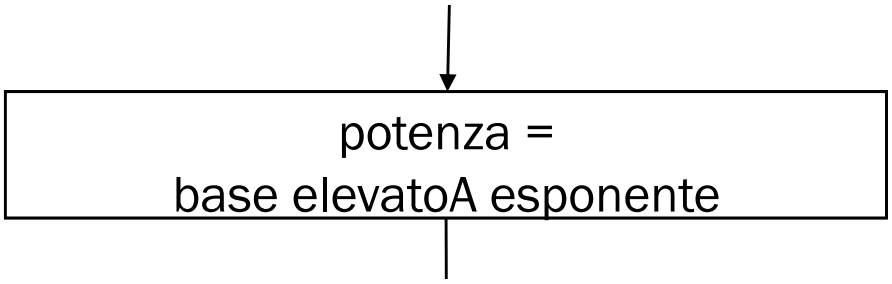
1
2
3
...
n

*istruzione*

*base*$^{esponente}$

## CICLO





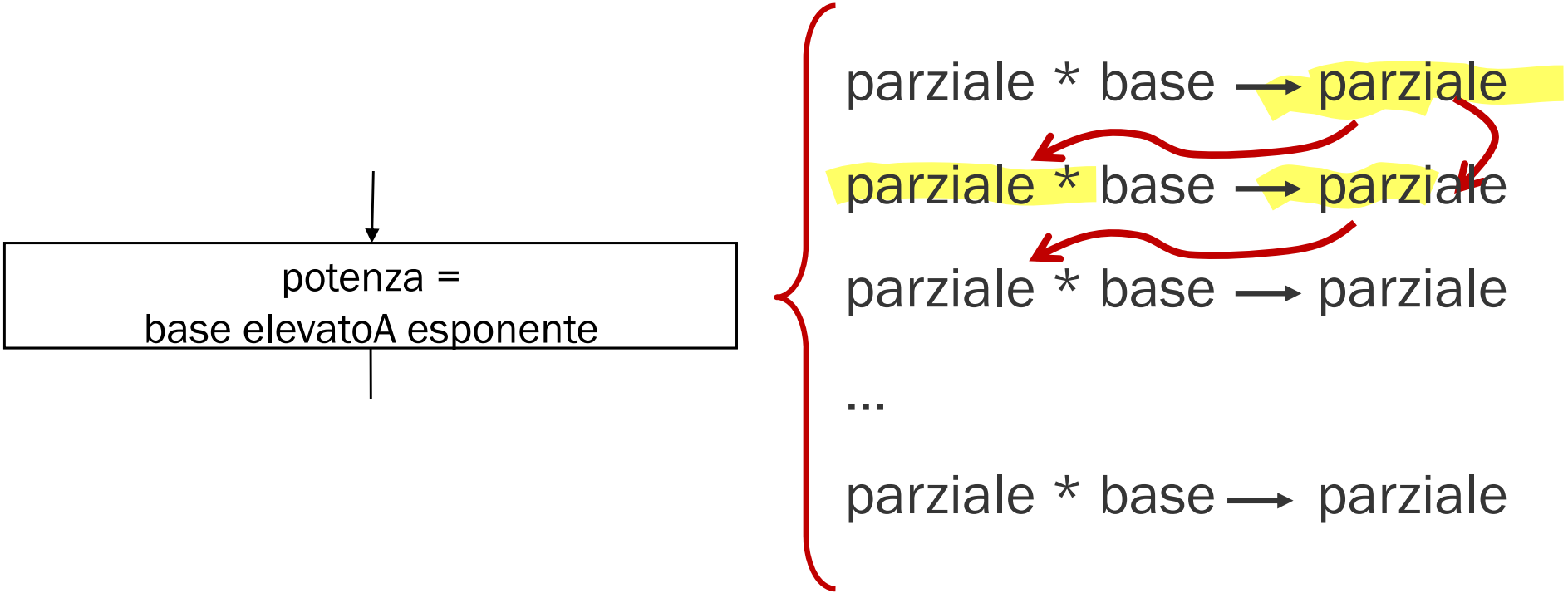

$base * base \rightarrow base^2$

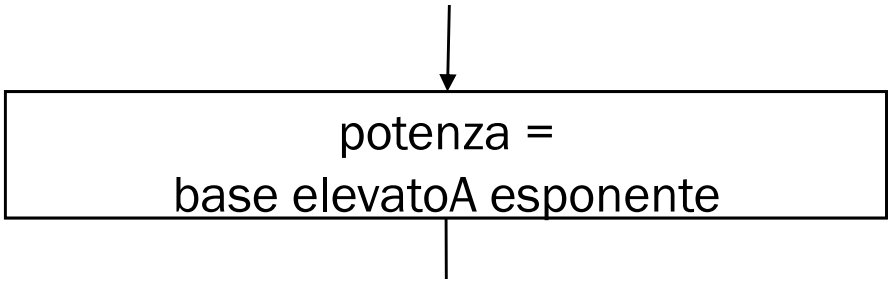
$base^2 * base \rightarrow base^3$

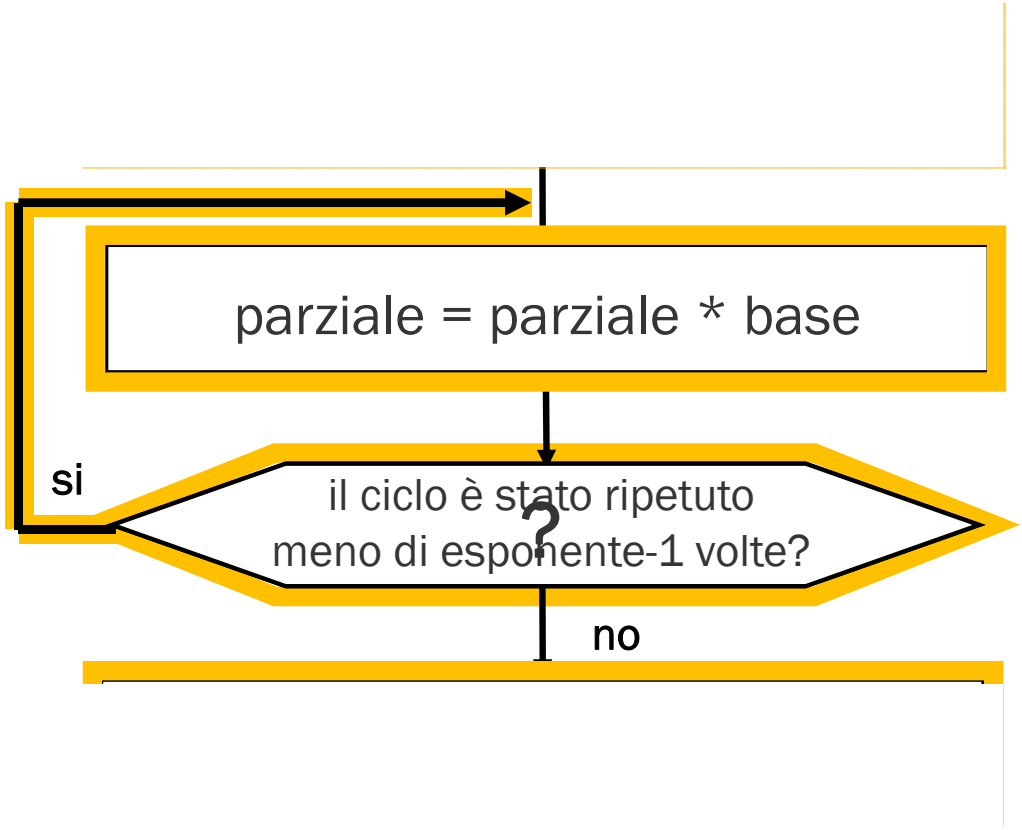
$base^3 * base \rightarrow base^4$

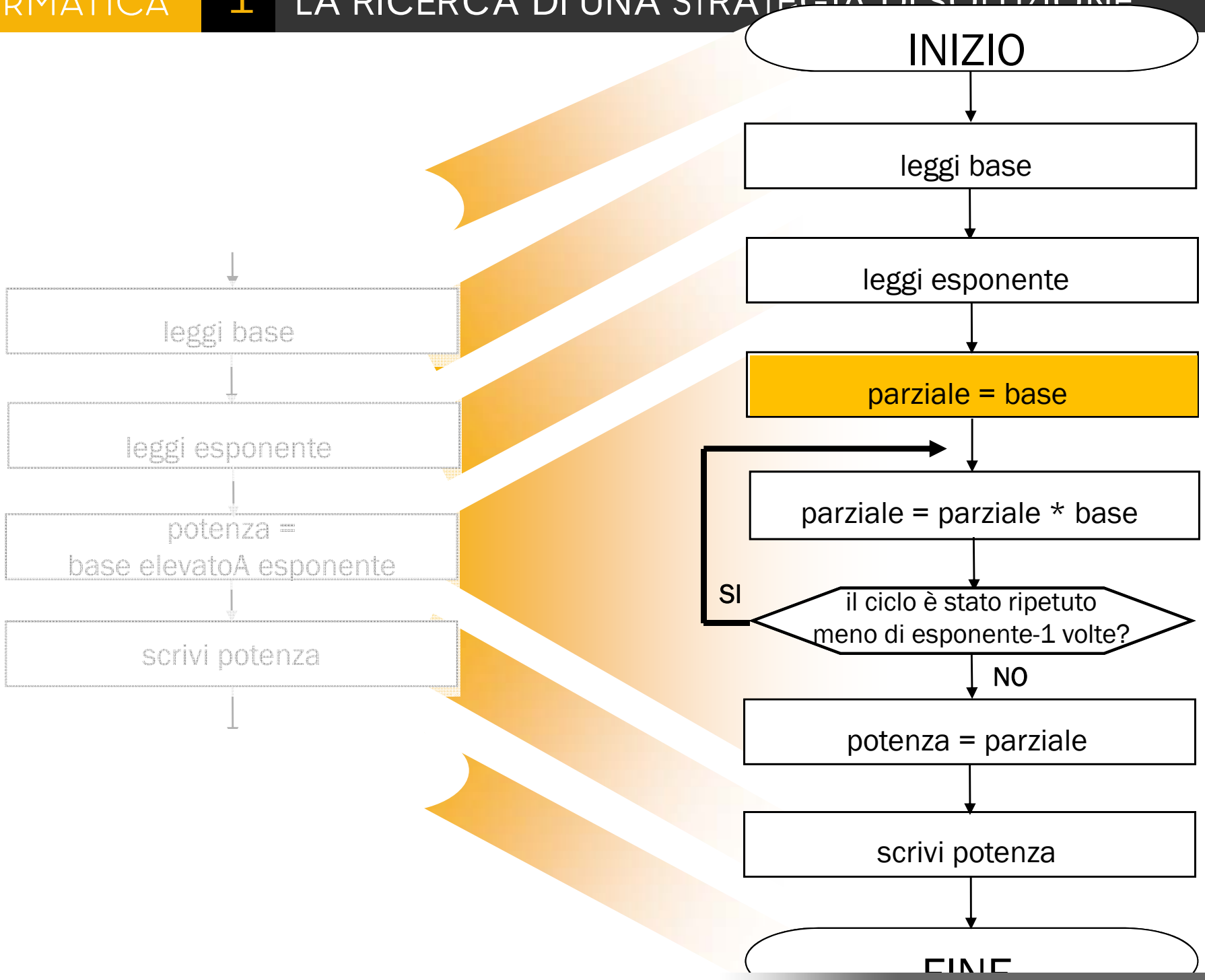
...

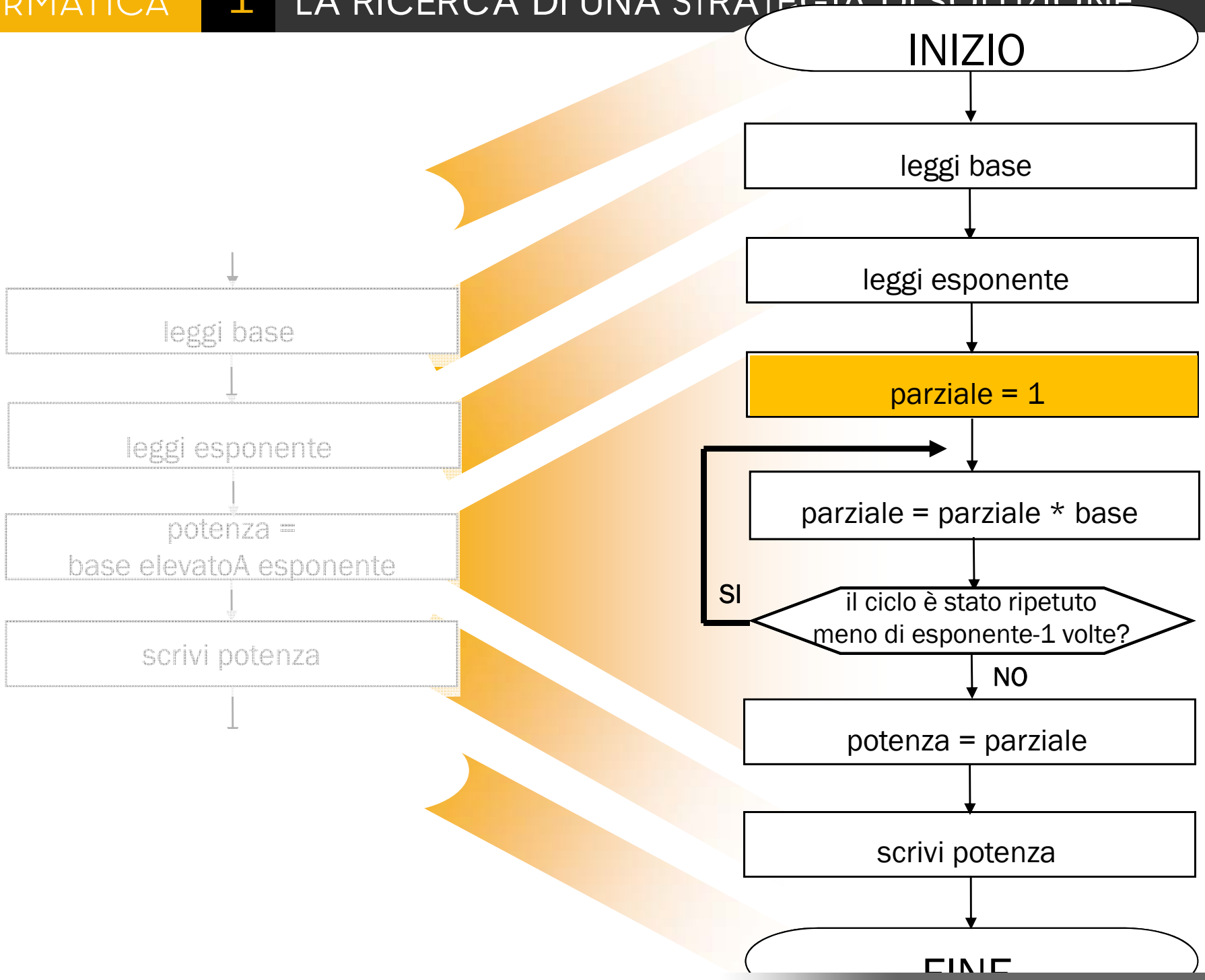
$base^{espon.-1} * base \rightarrow base^{esponente}$

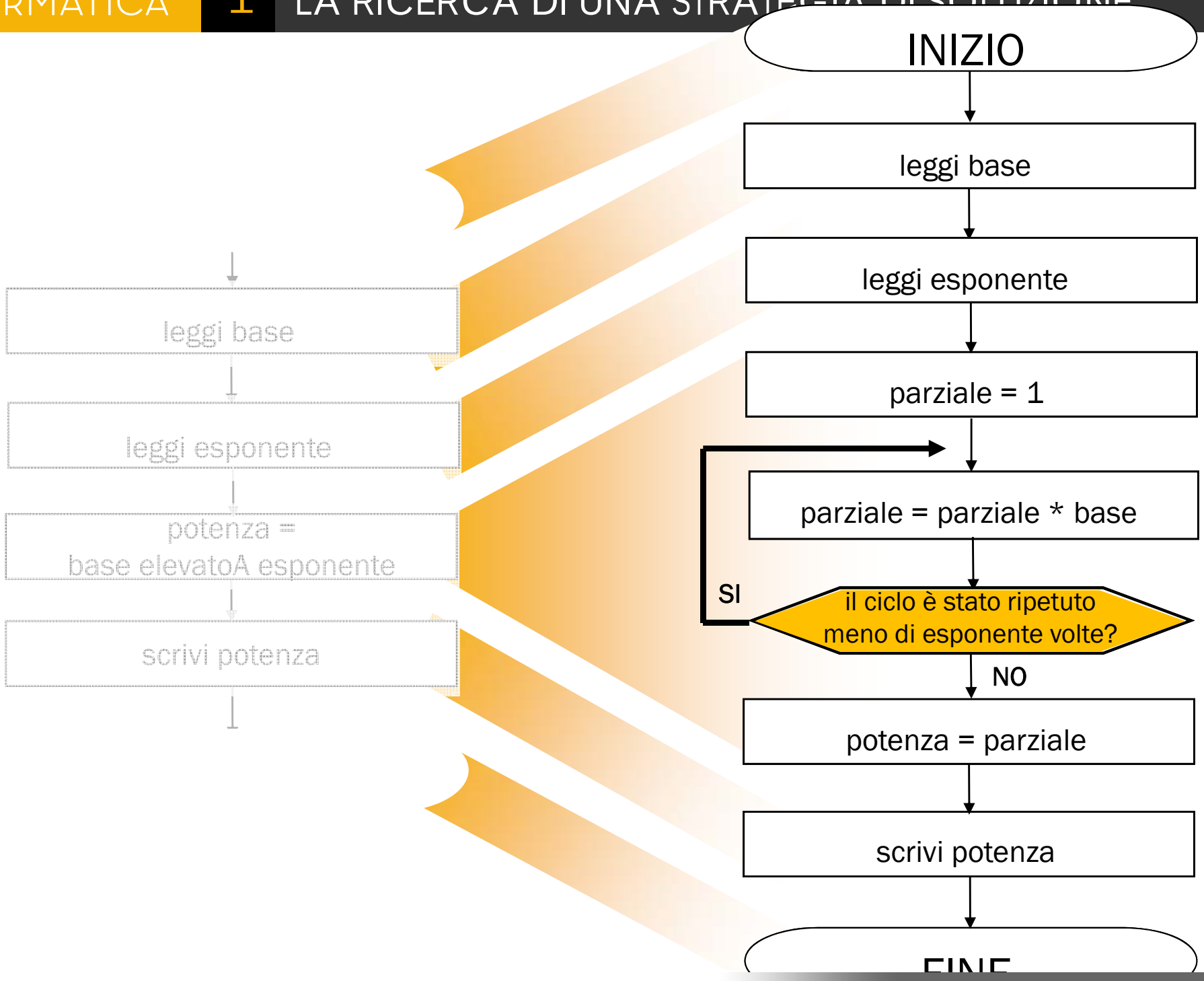

potenza =
base elevatoA esponente
parziale * base → parziale
parziale * base → parziale
parziale * base → parziale
...
parziale * base → parziale


potenza =
base elevatoA esponente

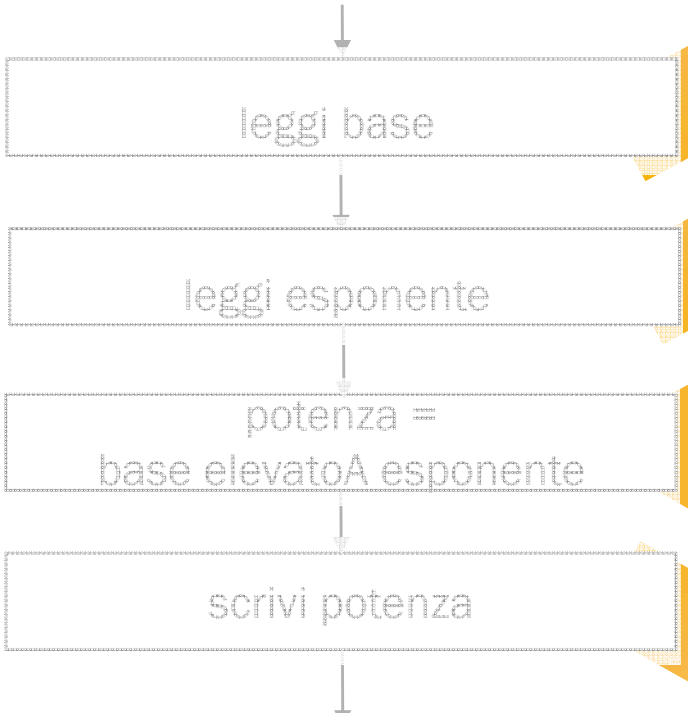

parziale = parziale * base
si
il ciclo è stato ripetuto
meno di esponente-1 volte?
no

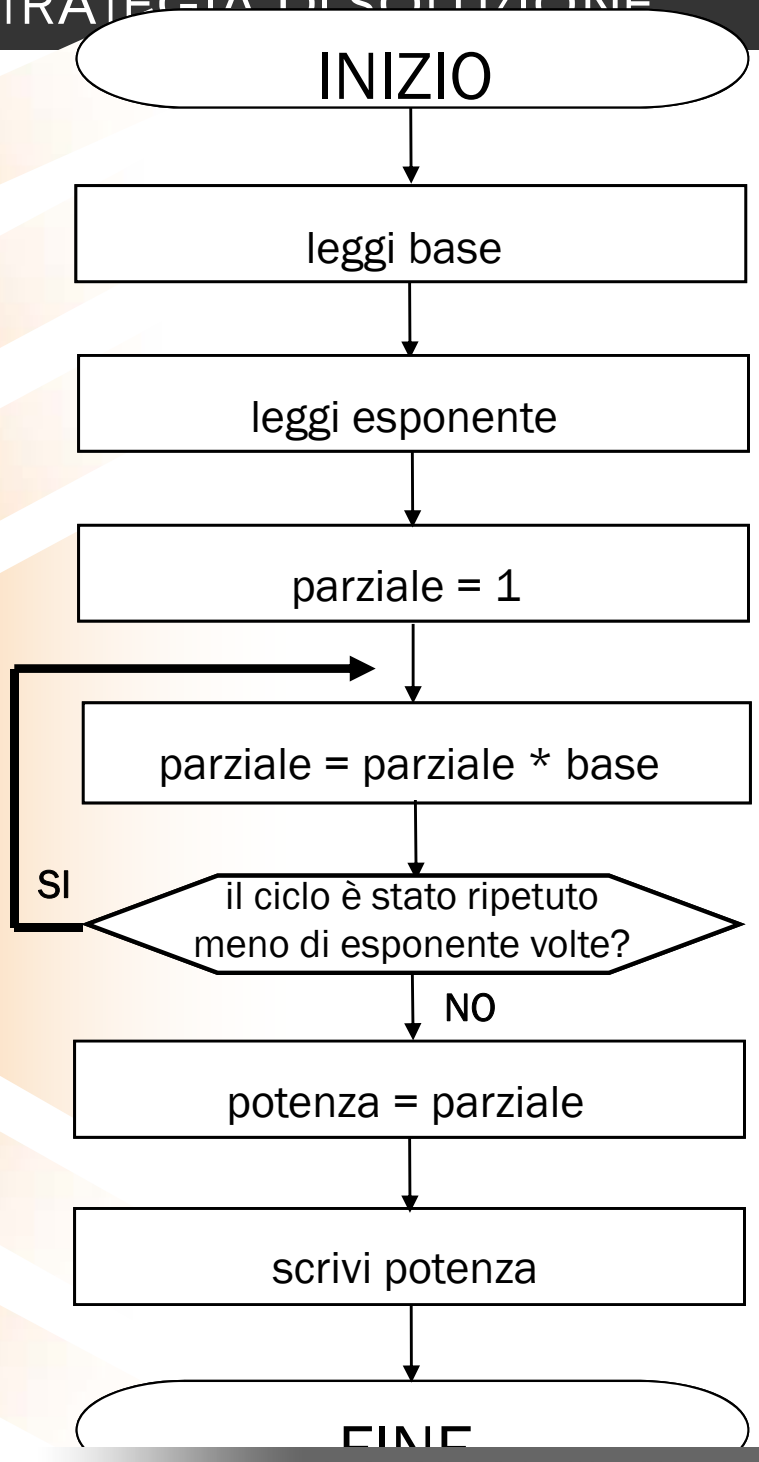

INIZIO
leggi base
leggi esponente
parziale = base
parziale = parziale * base
il ciclo è stato ripetuto meno di esponente-1 volte?
SI
NO
potenza = parziale
scrivi potenza
FINE
leggi base
leggi esponente
potenza = base elevatoA esponente
scrivi potenza


INIZIO
leggi base
leggi esponente
parziale = 1
parziale = parziale * base
il ciclo è stato ripetuto meno di esponente-1 volte?
SI
NO
potenza = parziale
scrivi potenza
FINE
leggi base
leggi esponente
potenza = base elevatoA esponente
scrivi potenza

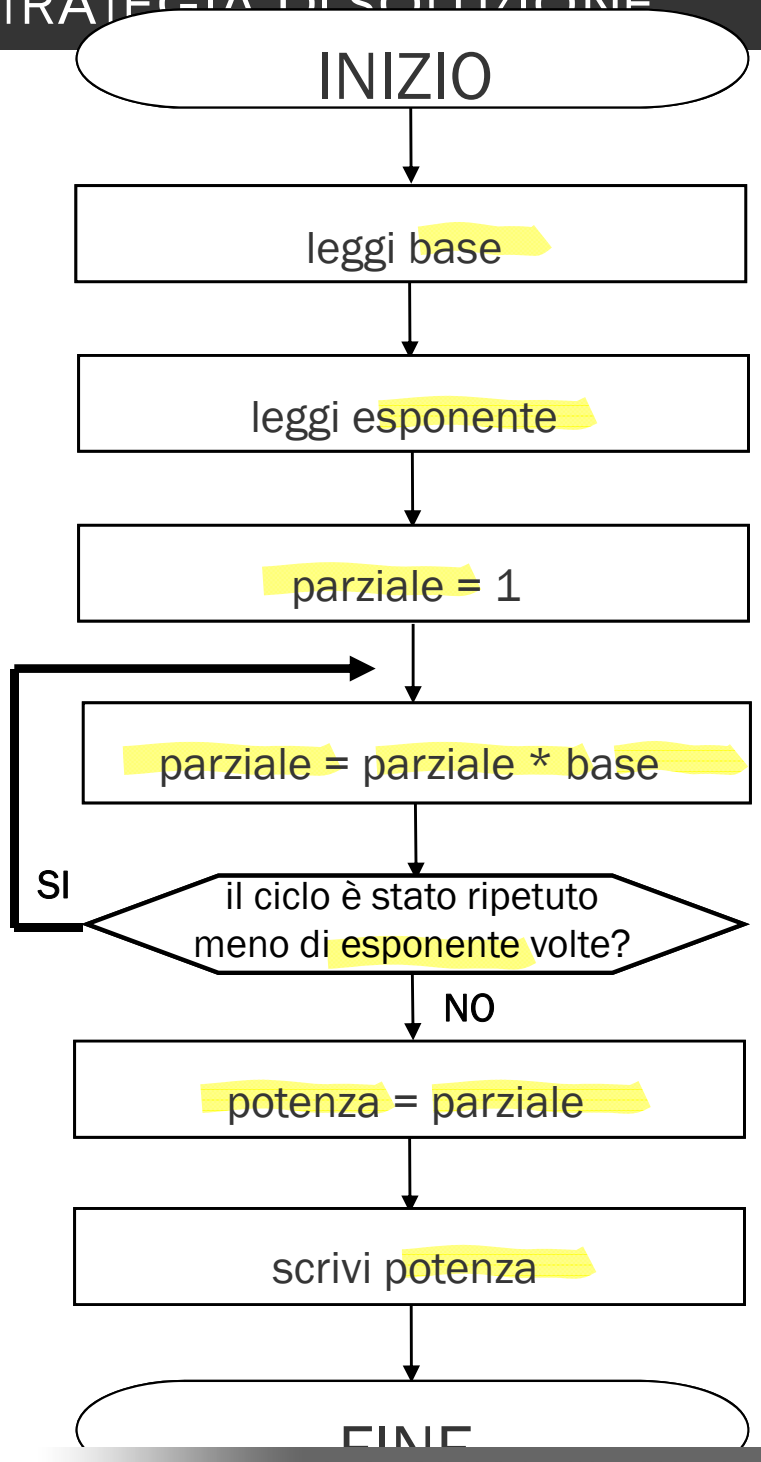

INIZIO
leggi base
leggi esponente
parziale = 1
parziale = parziale * base
il ciclo è stato ripetuto meno di esponente volte?
SI
NO
potenza = parziale
scrivi potenza
FINE
leggi base
leggi esponente
potenza = base elevatoA esponente
scrivi potenza

## 1 - ELEMENTO INDIFFERENTE



## VARIABILI


INIZIO
leggi base
leggi esponente
parziale = 1
parziale = parziale * base
SI
il ciclo è stato ripetuto meno di esponente volte?
NO
potenza = parziale
scrivi potenza
FINE

## VARIABILI

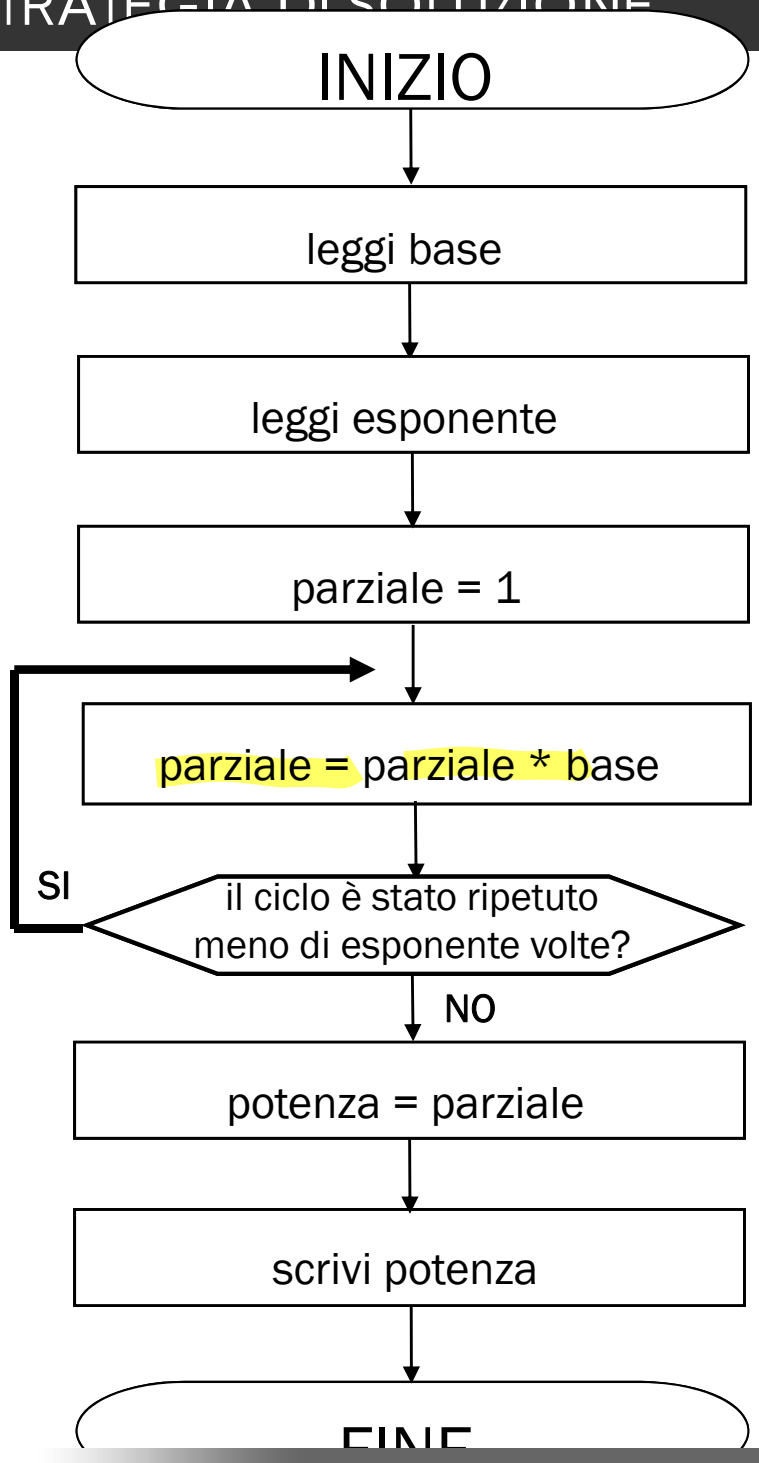
$5^7$

1 5 5
parziale * base = parziale

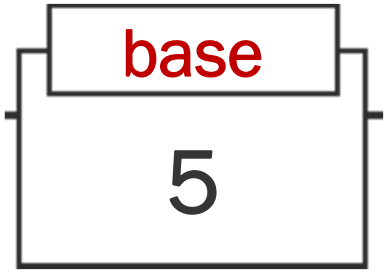
5 5 25
parziale * base = parziale

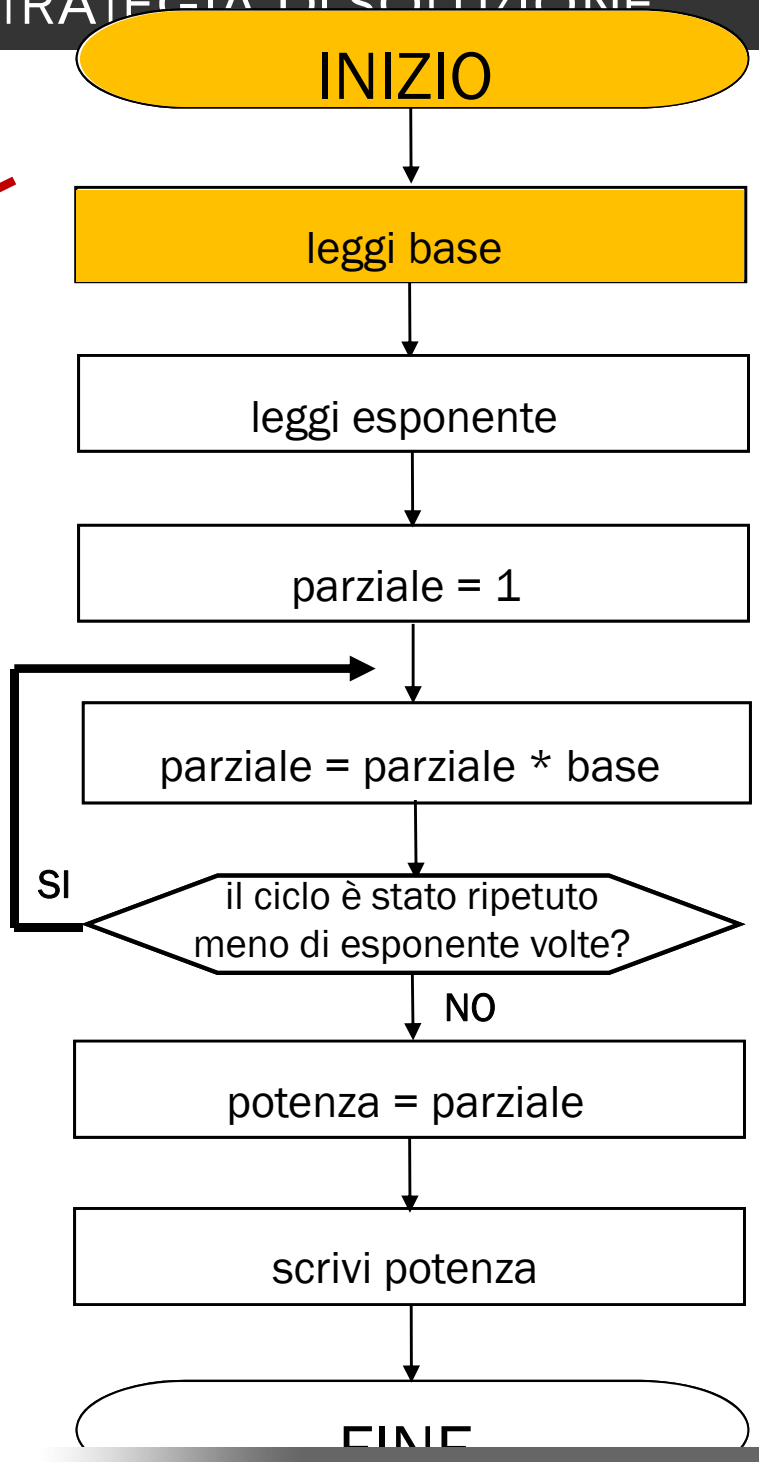
25 5 125
parziale * base = parziale

...



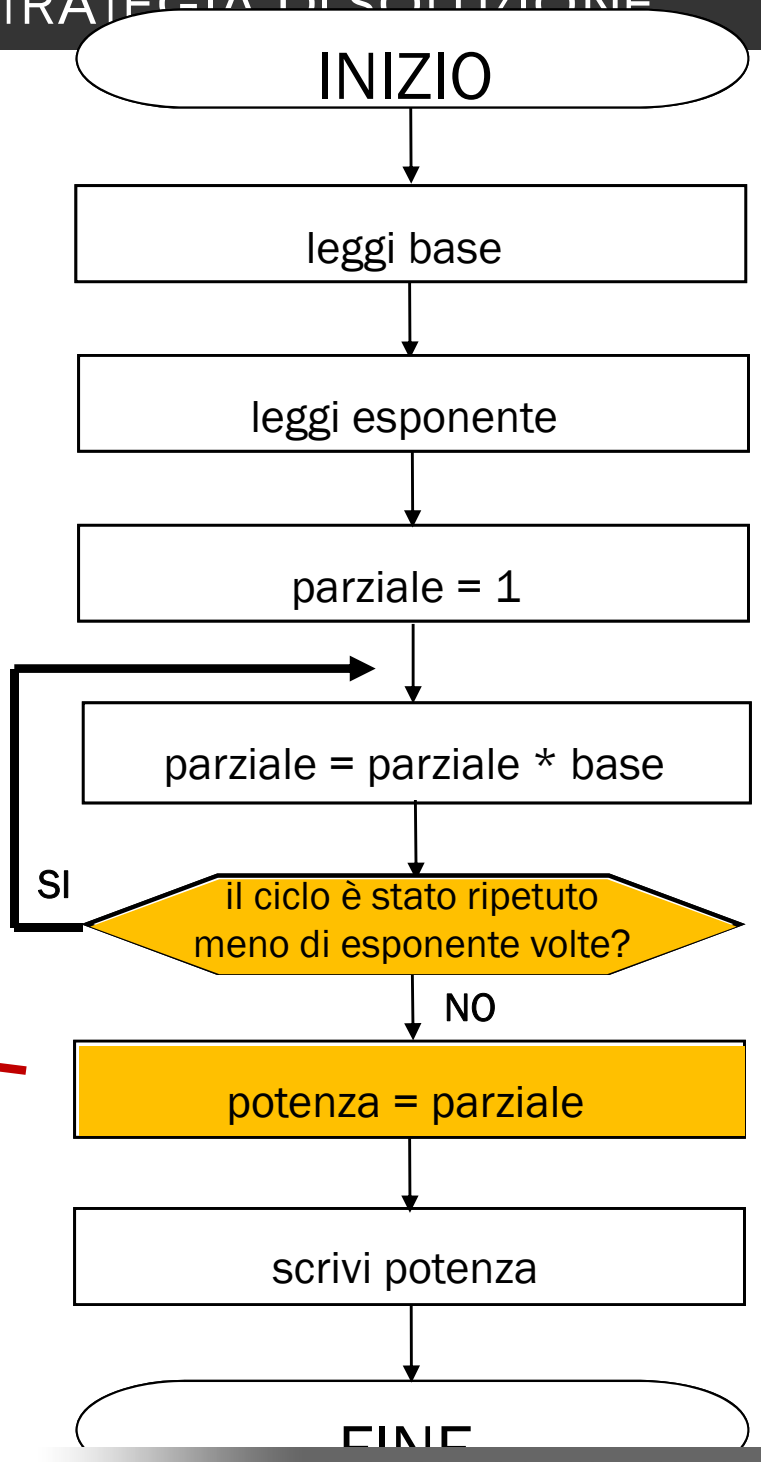
## VARIABILI


base
5


INIZIO
leggi base
leggi esponente
parziale = 1
parziale = parziale * base
SI
il ciclo è stato ripetuto meno di esponente volte?
NO
potenza = parziale
scrivi potenza
FINE

## VARIABILI

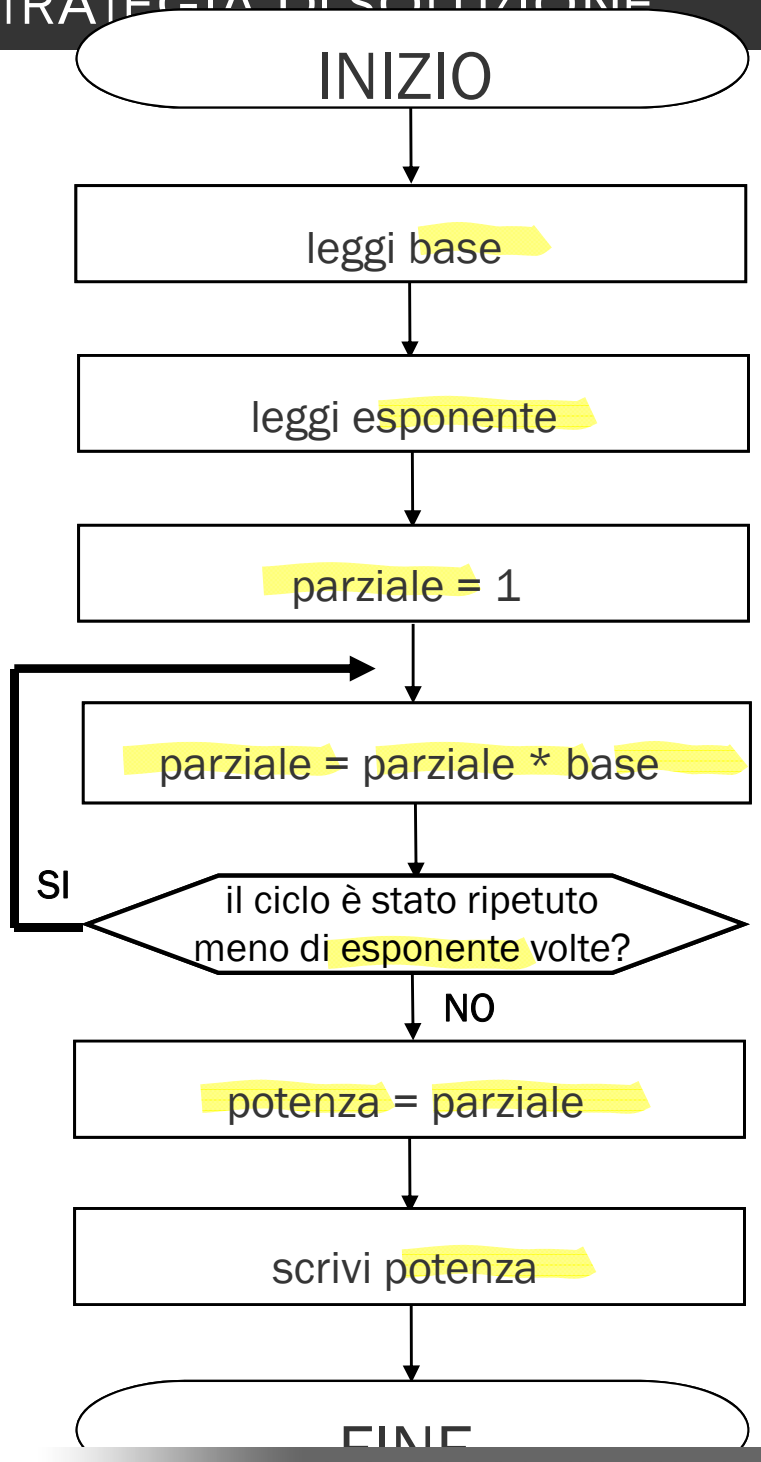

potenza
78125


INIZIO
leggi base
leggi esponente
parziale = 1
parziale = parziale * base
SI
il ciclo è stato ripetuto meno di esponente volte?
NO
potenza = parziale
scrivi potenza
FINE

## VARIABILI

*base, esponente, potenza*

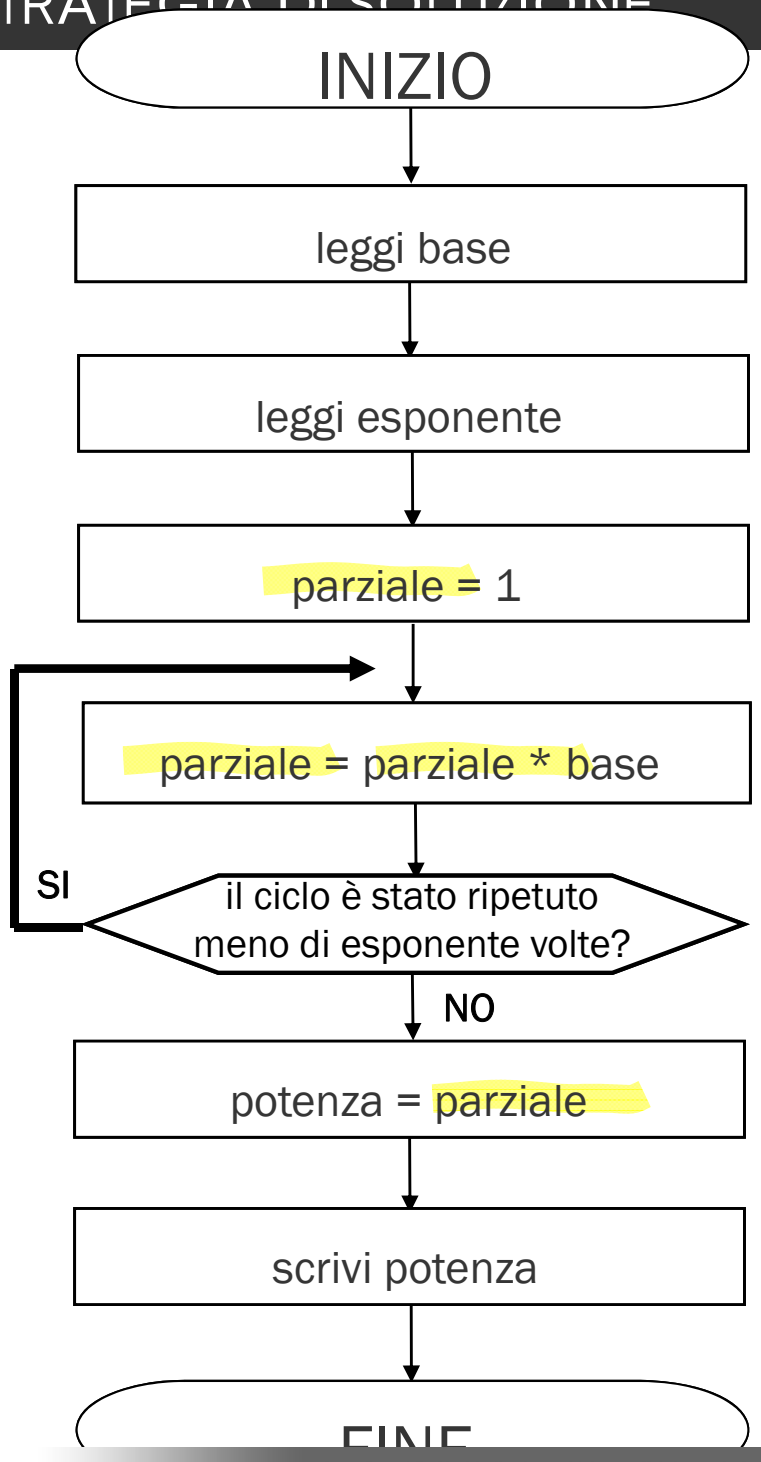
*rappresentano dati e risultati della specifica*

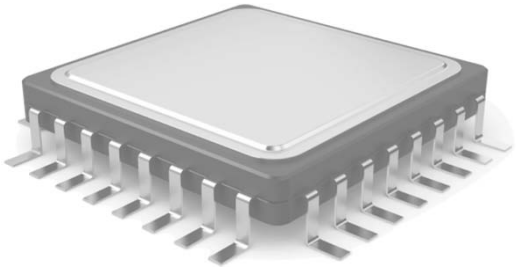


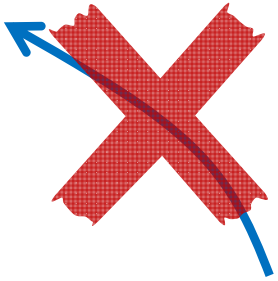
## VARIABILI

*parziale*

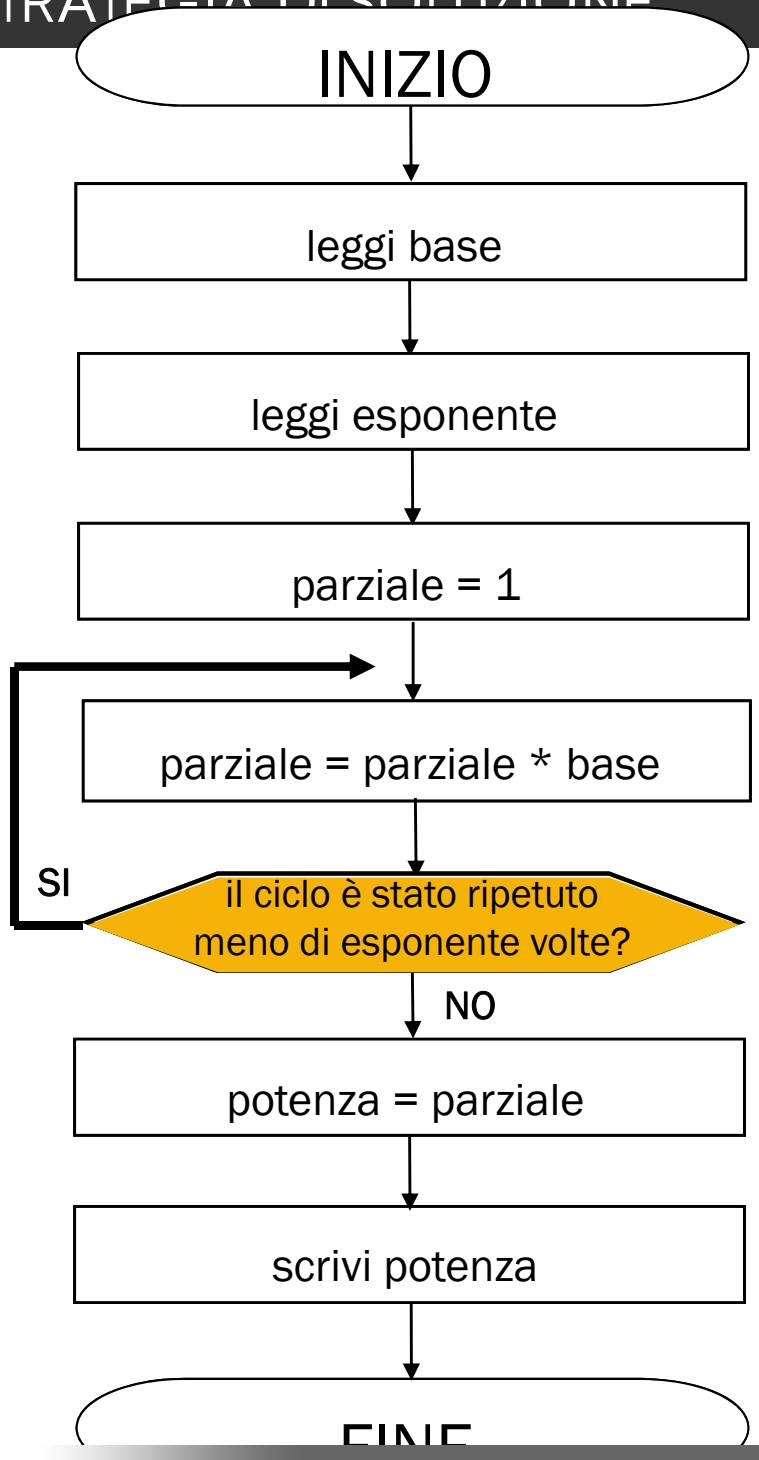
*è legata alla strategia di soluzione*

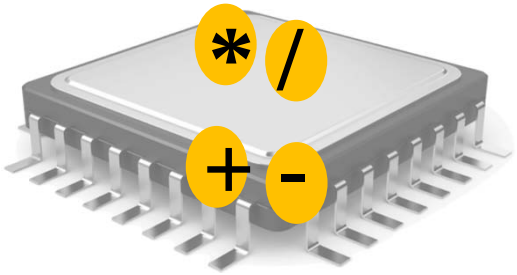


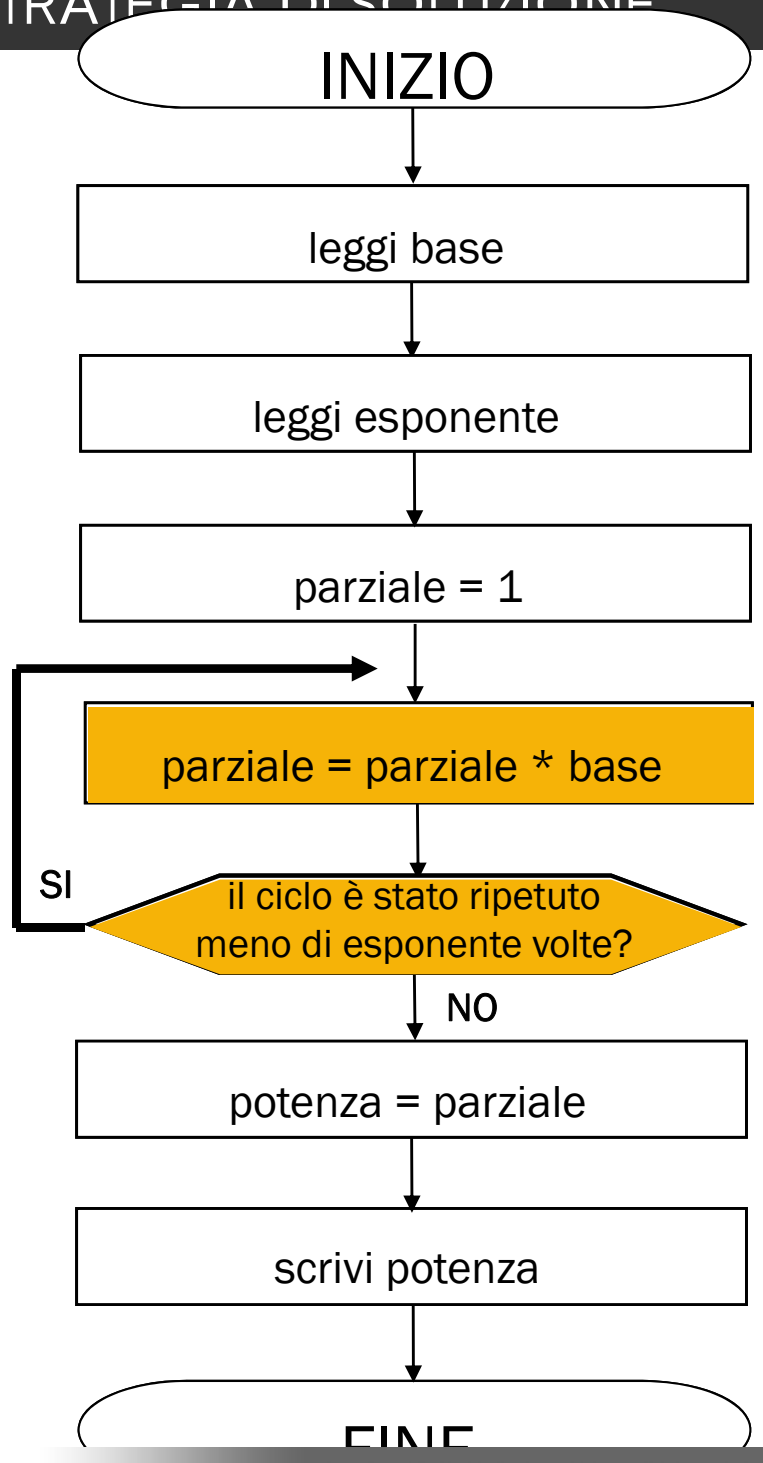


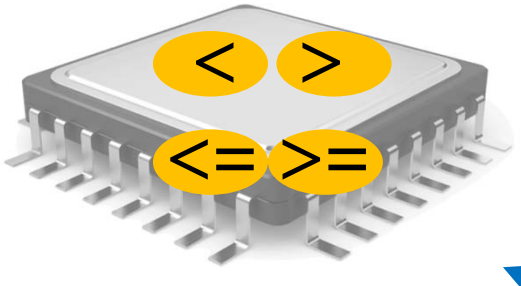


*in lingua italiana*



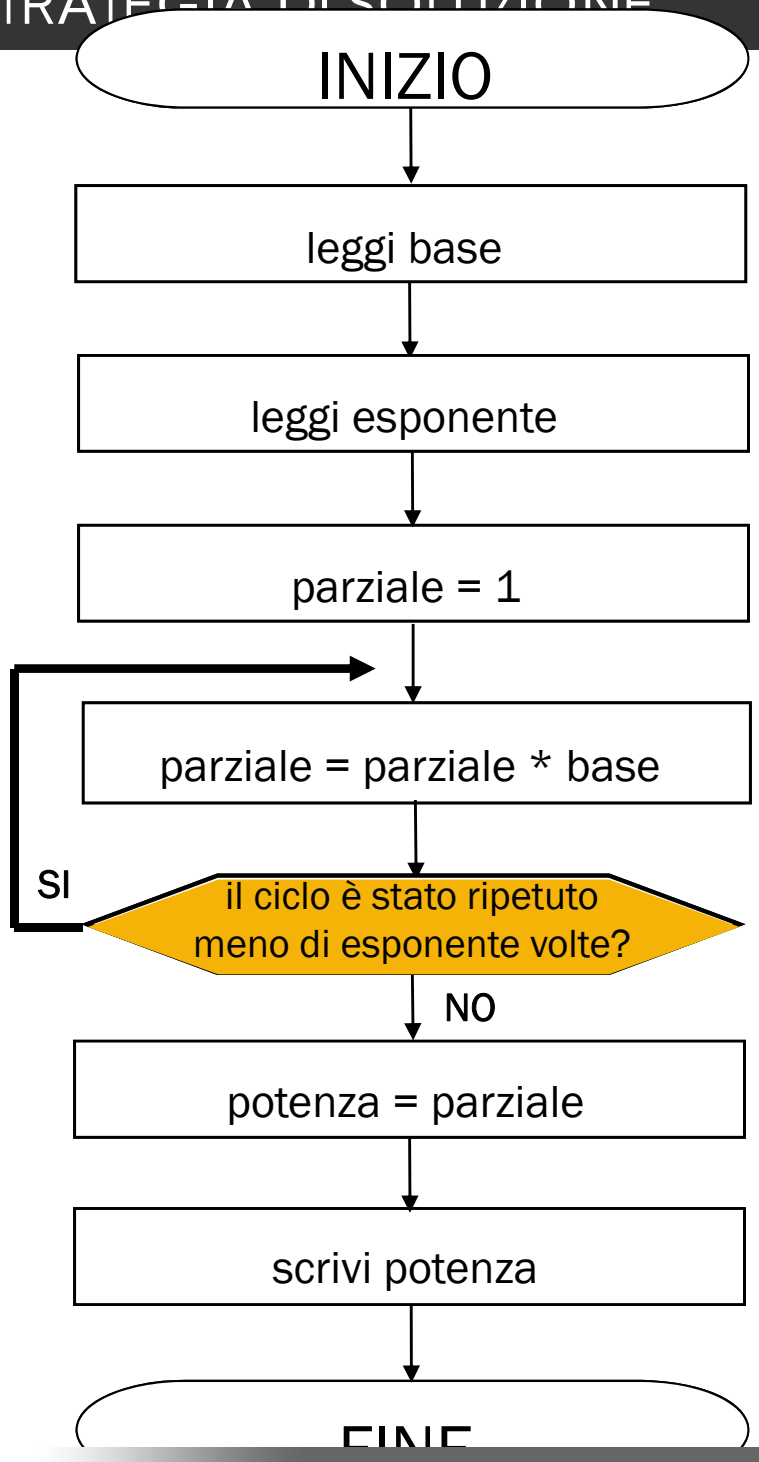

*
/
+
-

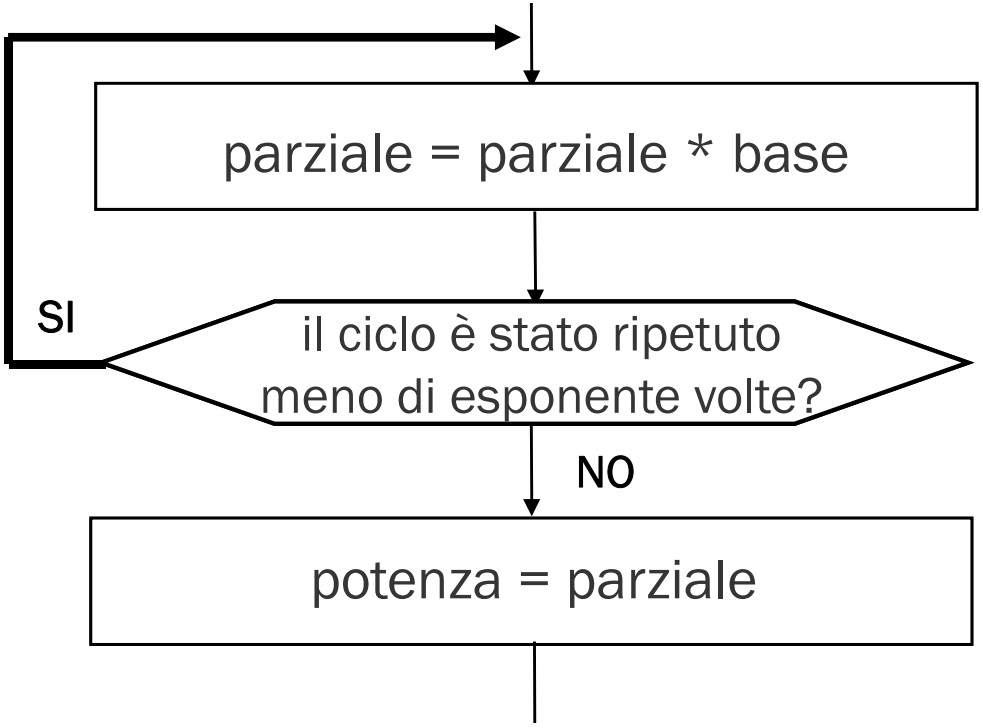

INIZIO
leggi base
leggi esponente
parziale = 1
parziale = parziale * base
SI
il ciclo è stato ripetuto
meno di esponente volte?
NO
potenza = parziale
scrivi potenza
FINE



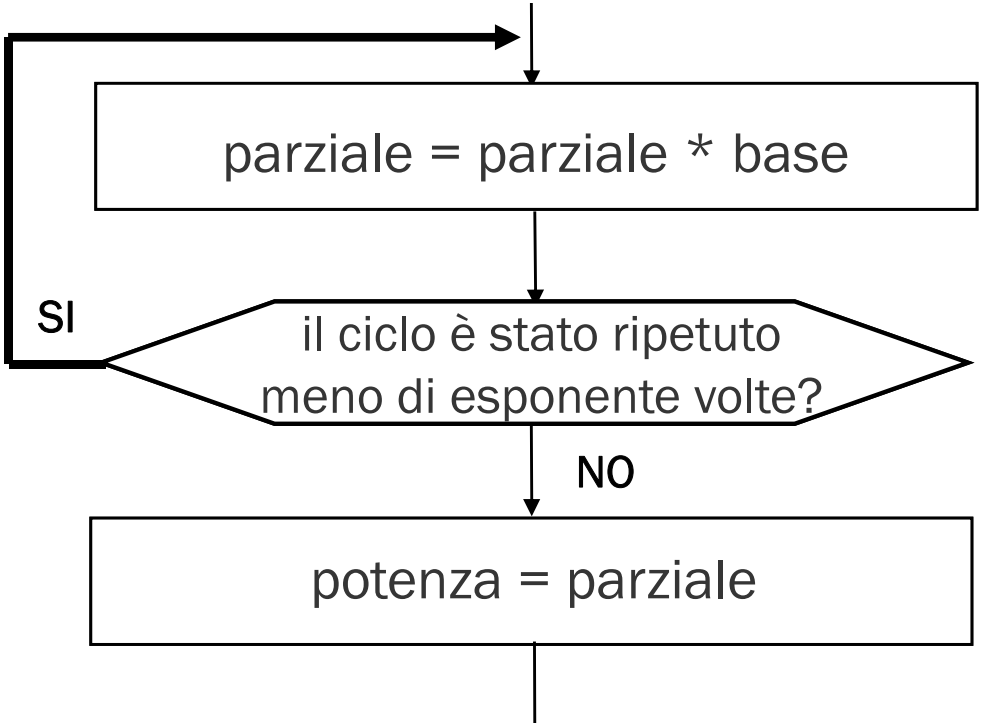

## ISTRUZIONI DI TEST

valore1 operatore valore2
parziale > 100?



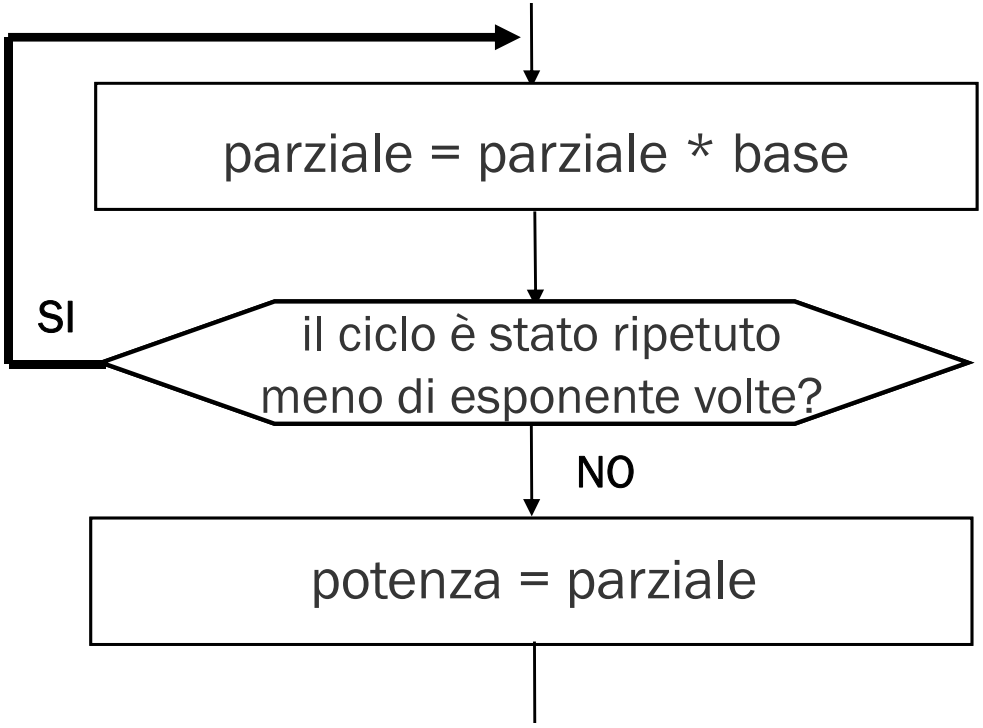



*variabile che funga da contatore*

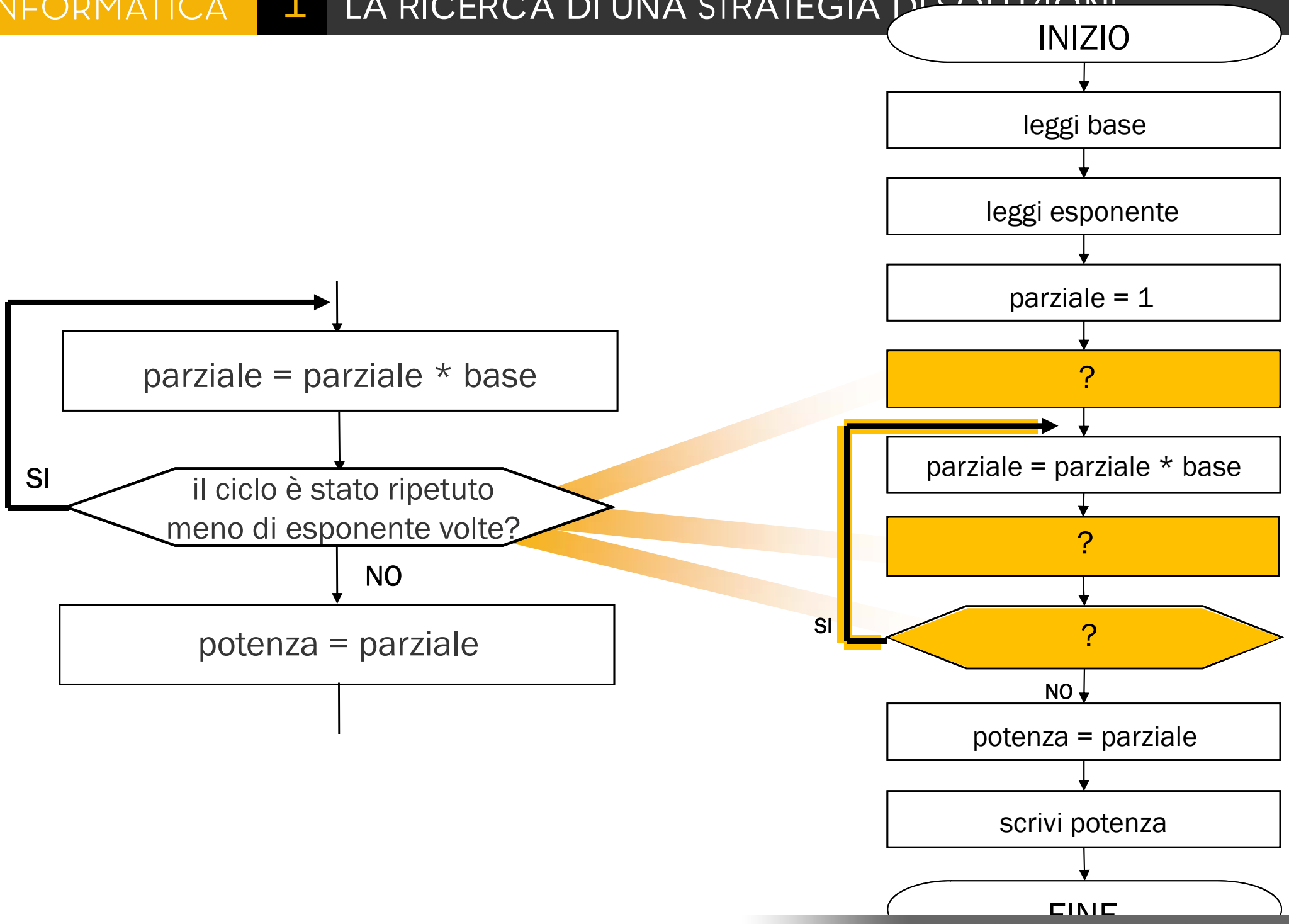


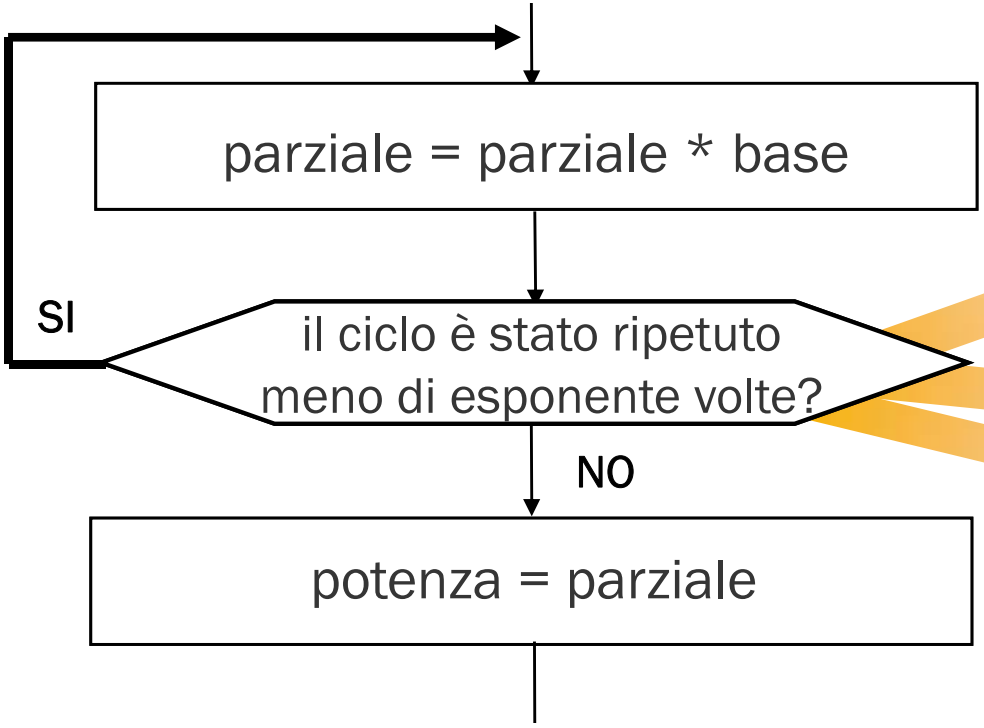

| Fatte: | Mancano: |
|---|---|
| *0 volte* | *n volte* |
| *1 volta* | *n-1 volte* |
| *2 volte* | *...* |
| *3 volte* | *2 volte* |
| *...* | *1 volta* |
| *n volte* | *0 volte* |

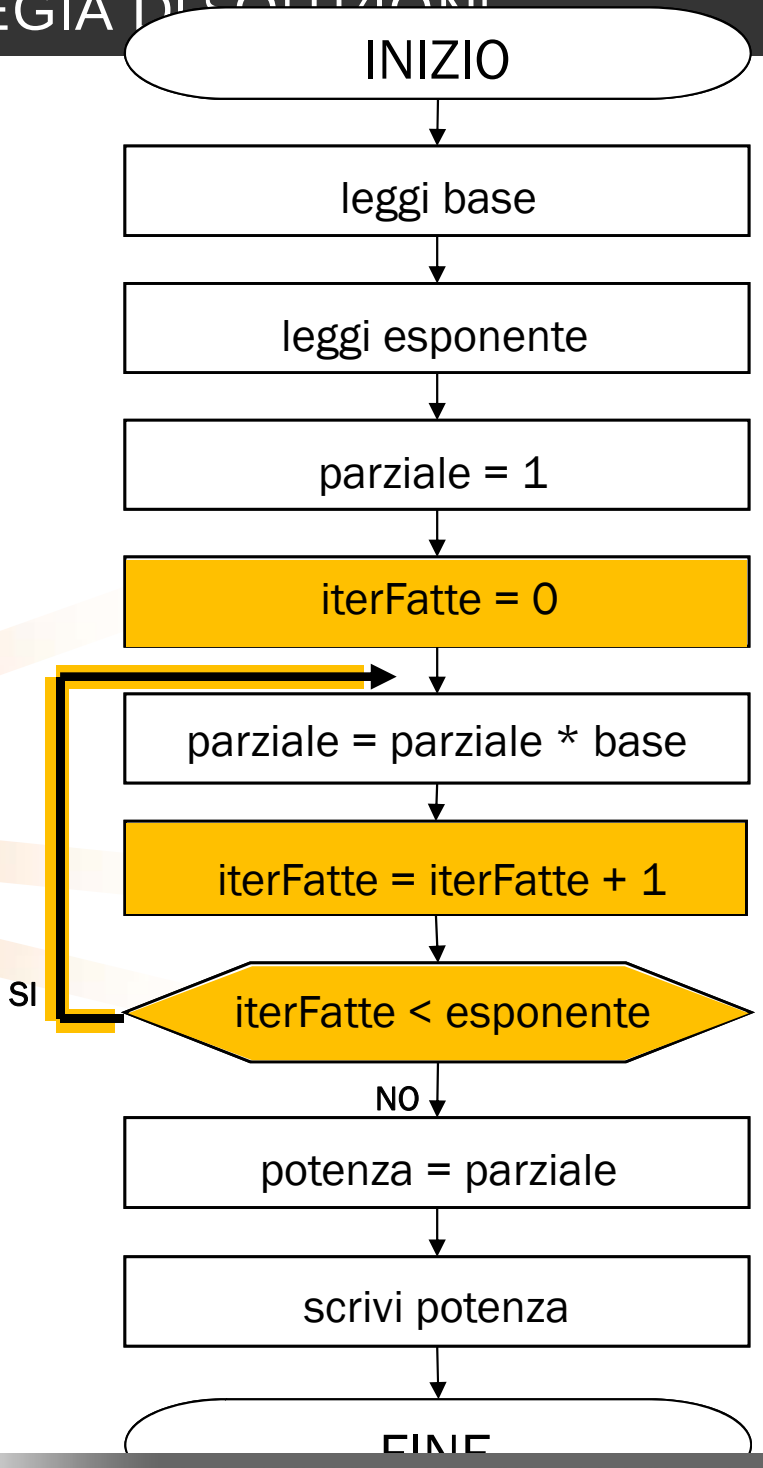
# iter Fatte

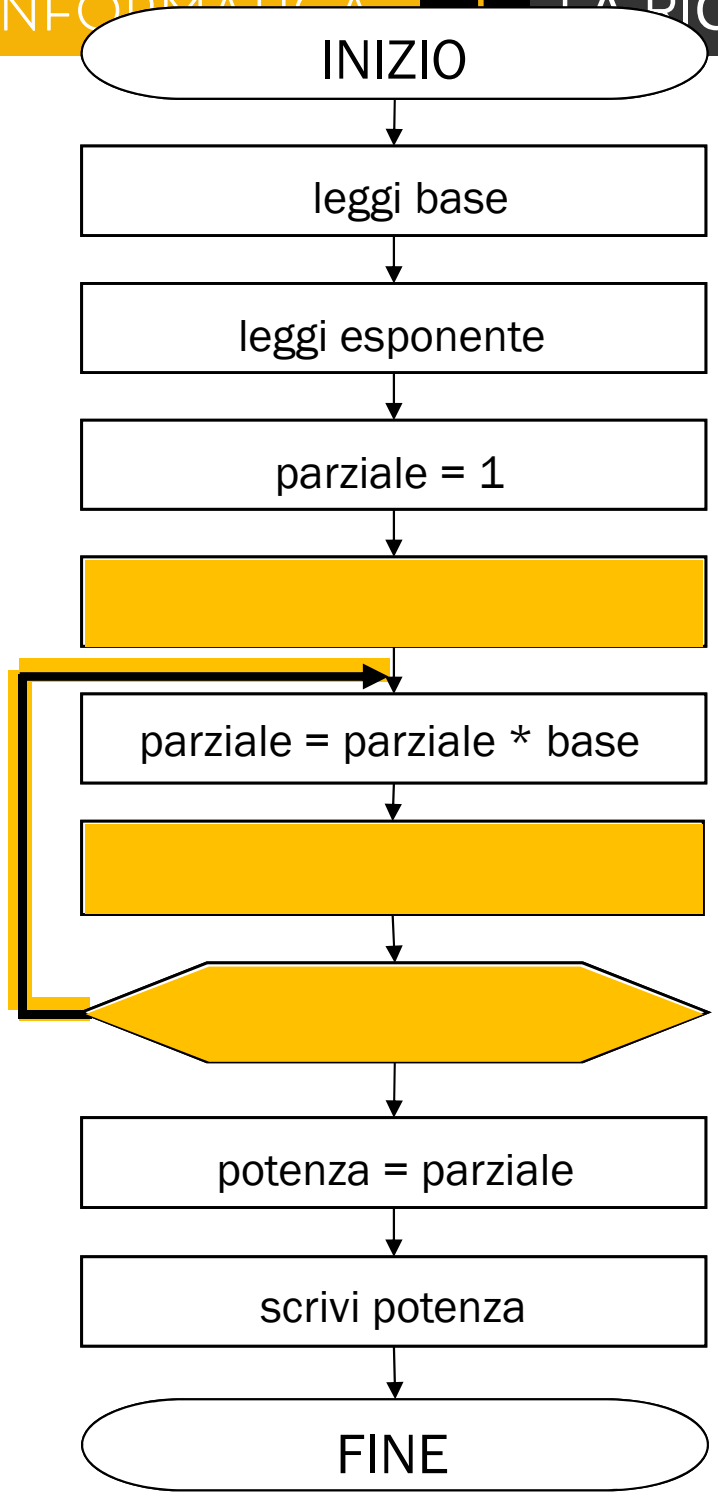



| Fatte: | Mancano: |
|---|---|
| *0 volte* | *n volte* |
| *1 volta* | *n-1 volte* |
| *2 volte* | *...* |
| *3 volte* | *2 volte* |
| *...* | *1 volta* |
| *n volte* | *0 volte* |


INIZIO
leggi base
leggi esponente
parziale = 1
?
parziale = parziale * base
?
?
SI
NO
potenza = parziale
scrivi potenza
FINE
parziale = parziale * base
il ciclo è stato ripetuto
meno di esponente volte?
SI
NO
potenza = parziale

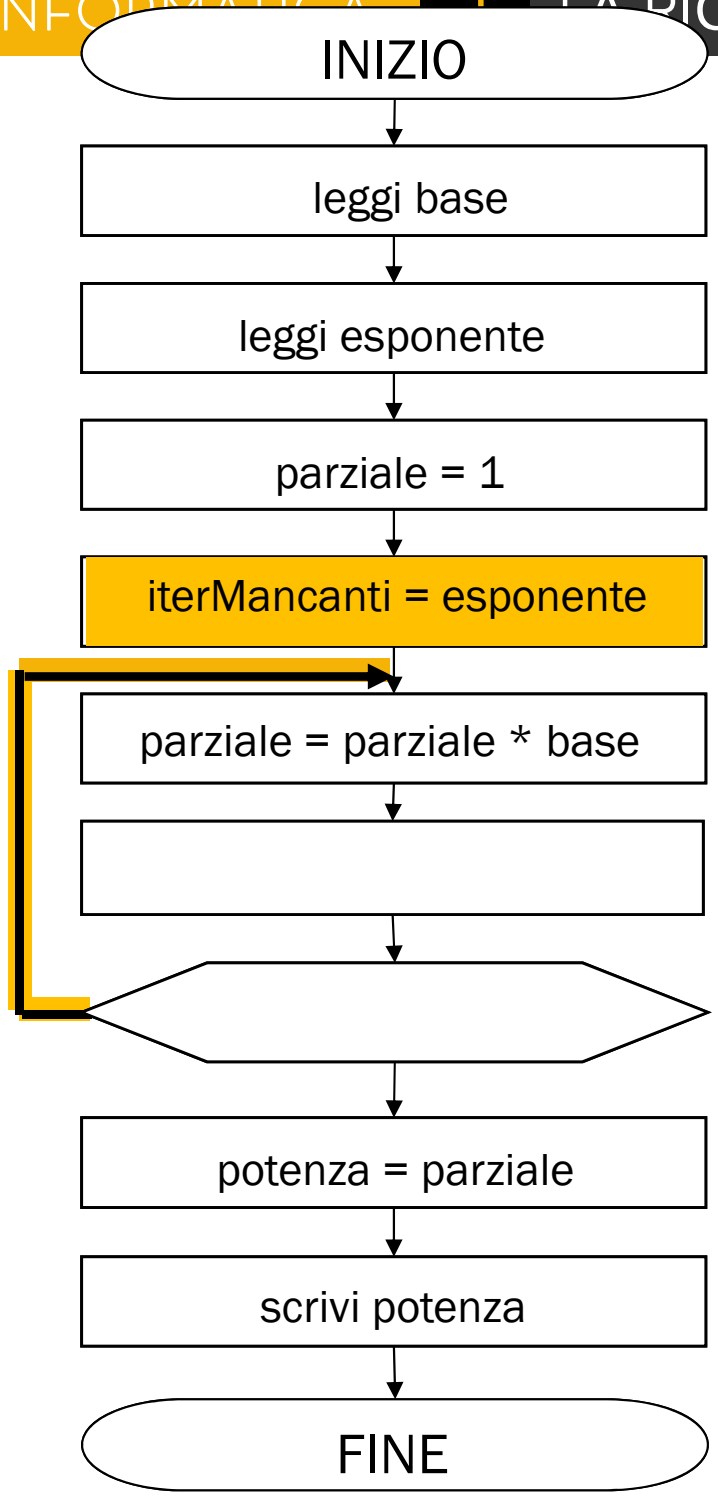

parziale = parziale * base
SI
il ciclo è stato ripetuto
meno di esponente volte?
NO
potenza = parziale


INIZIO
leggi base
leggi esponente
parziale = 1
iterFatte = 0
parziale = parziale * base
iterFatte = iterFatte + 1
SI
iterFatte < esponente
NO
potenza = parziale
scrivi potenza
FINE

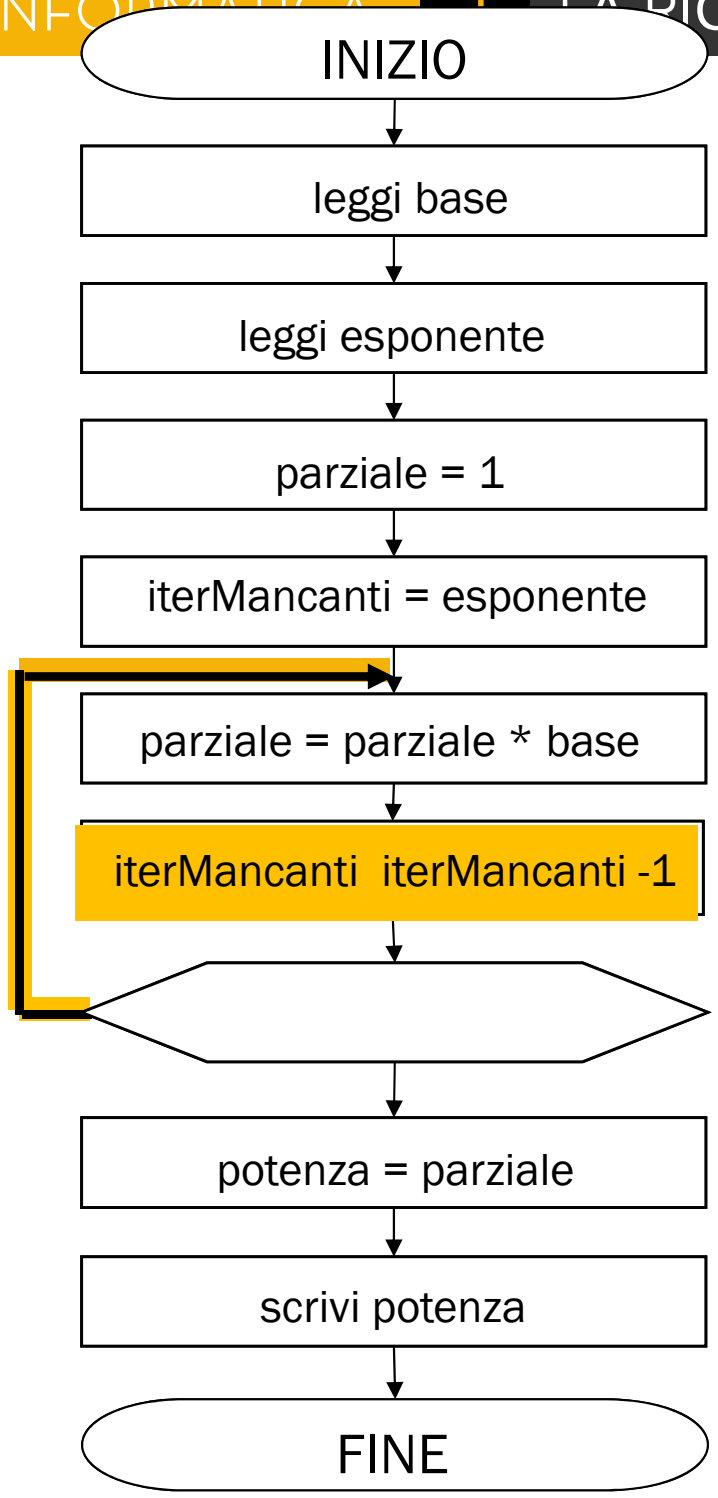



## iterMancanti

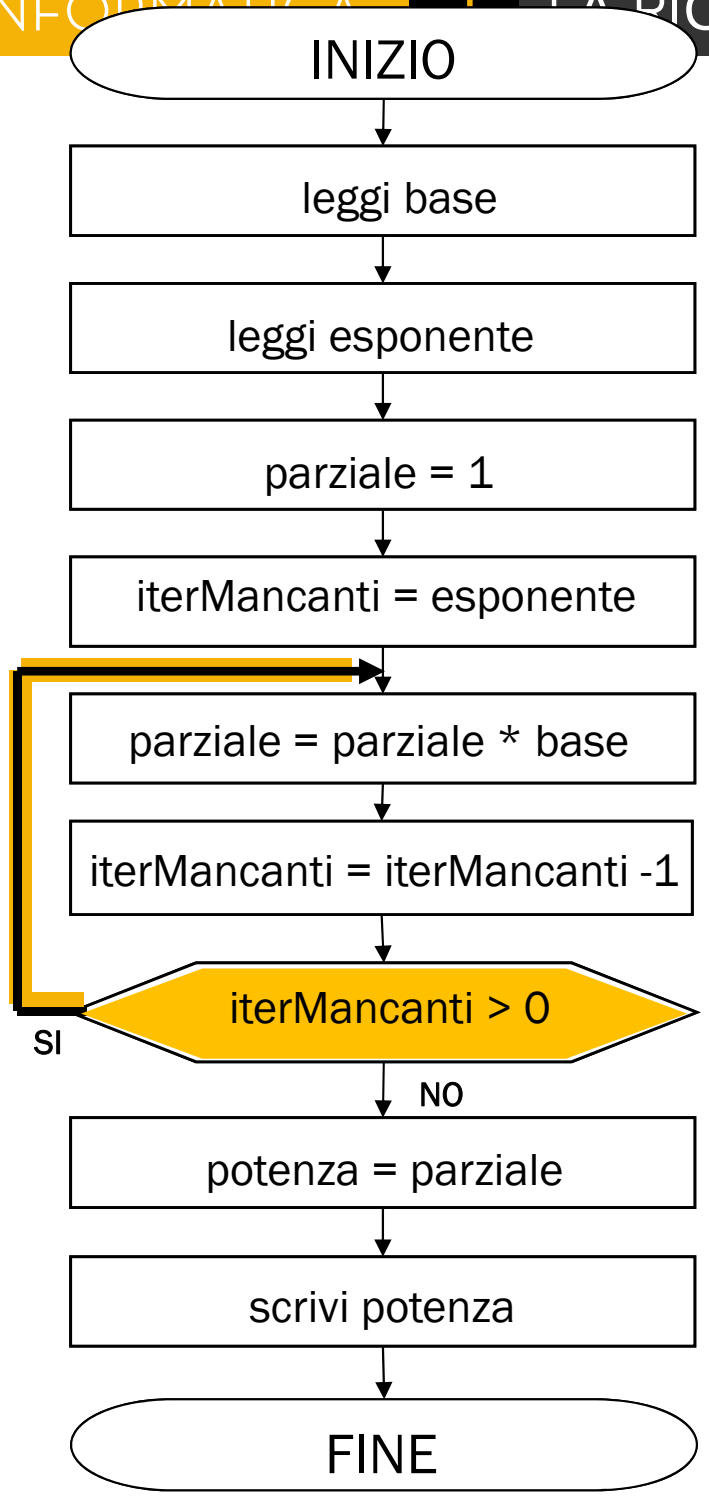
| Fatte: | Mancano: |
|---|---|
| *0 volte* | *n volte* |
| *1 volta* | *n-1 volte* |
| *2 volte* | *...* |
| *3 volte* | *2 volte* |
| *...* | *1 volta* |
| *n volte* | *0 volte* |



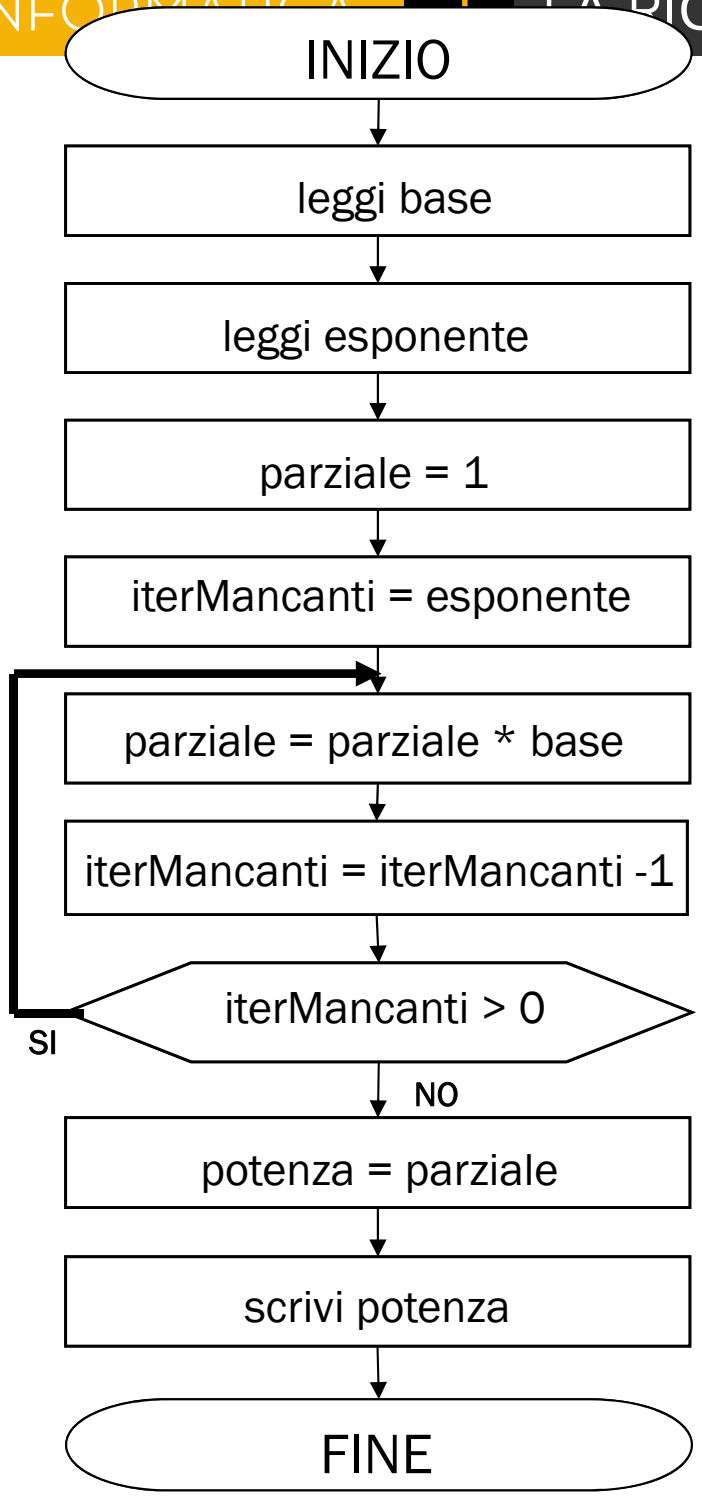

iterMancanti



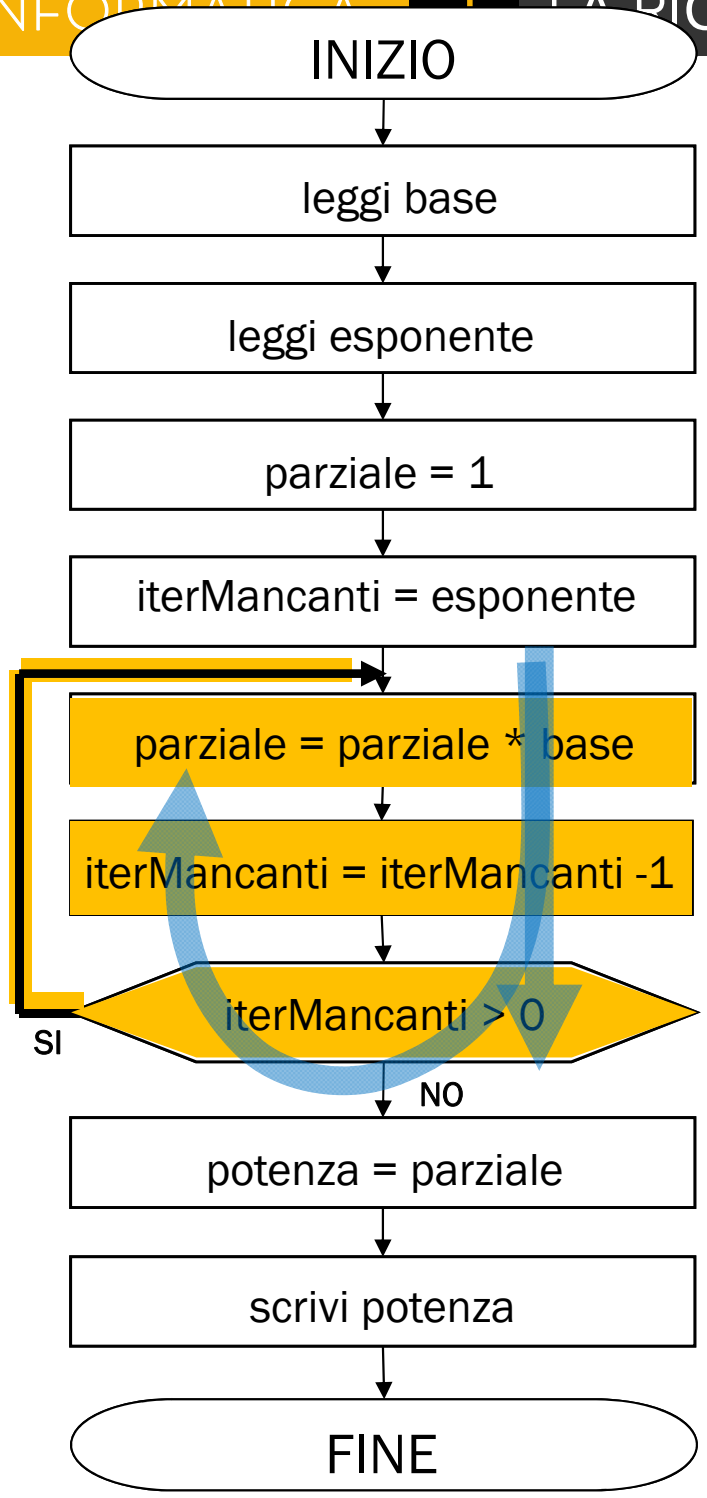

iterMancanti




iterMancanti

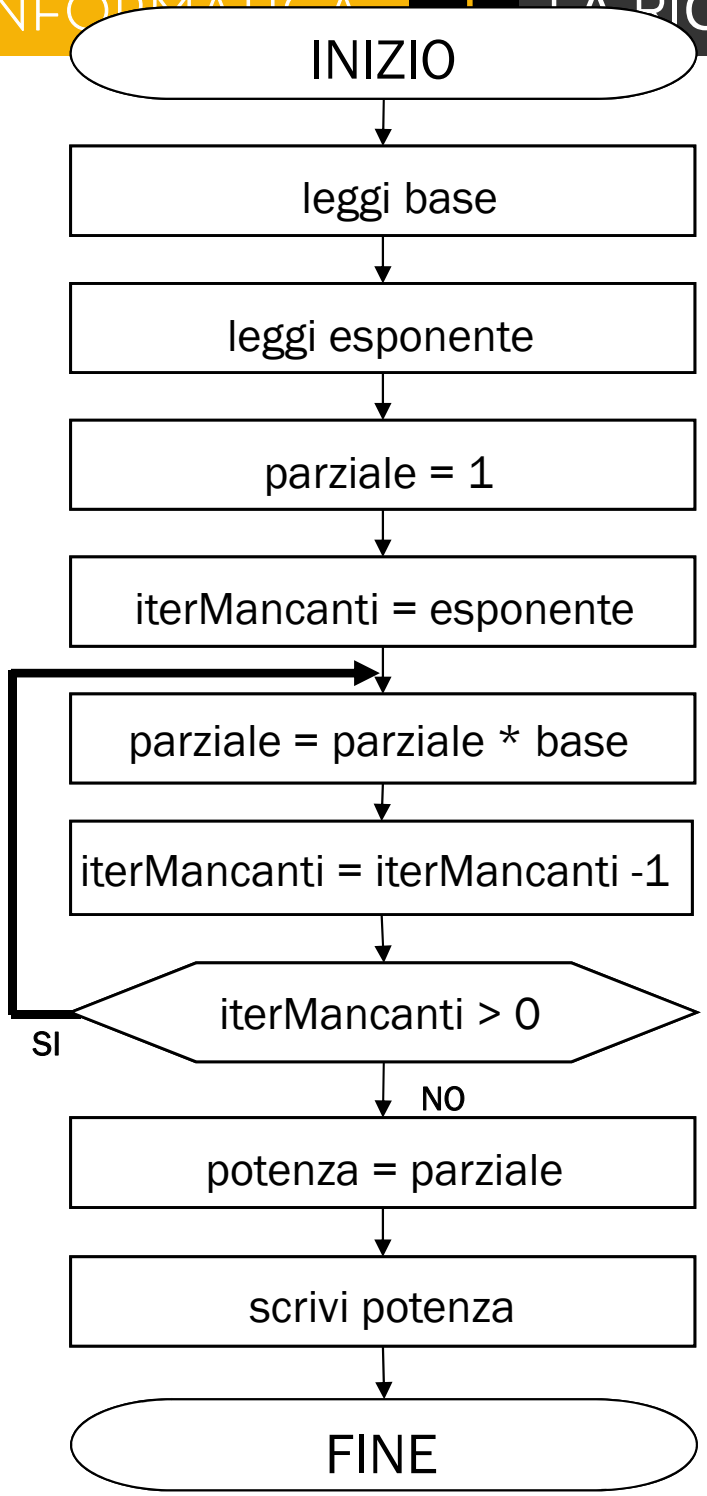

INIZIO
leggi base
leggi esponente
parziale = 1
iterMancanti = esponente
parziale = parziale * base
iterMancanti = iterMancanti -1
iterMancanti > 0
SI
NO
potenza = parziale
scrivi potenza
FINE

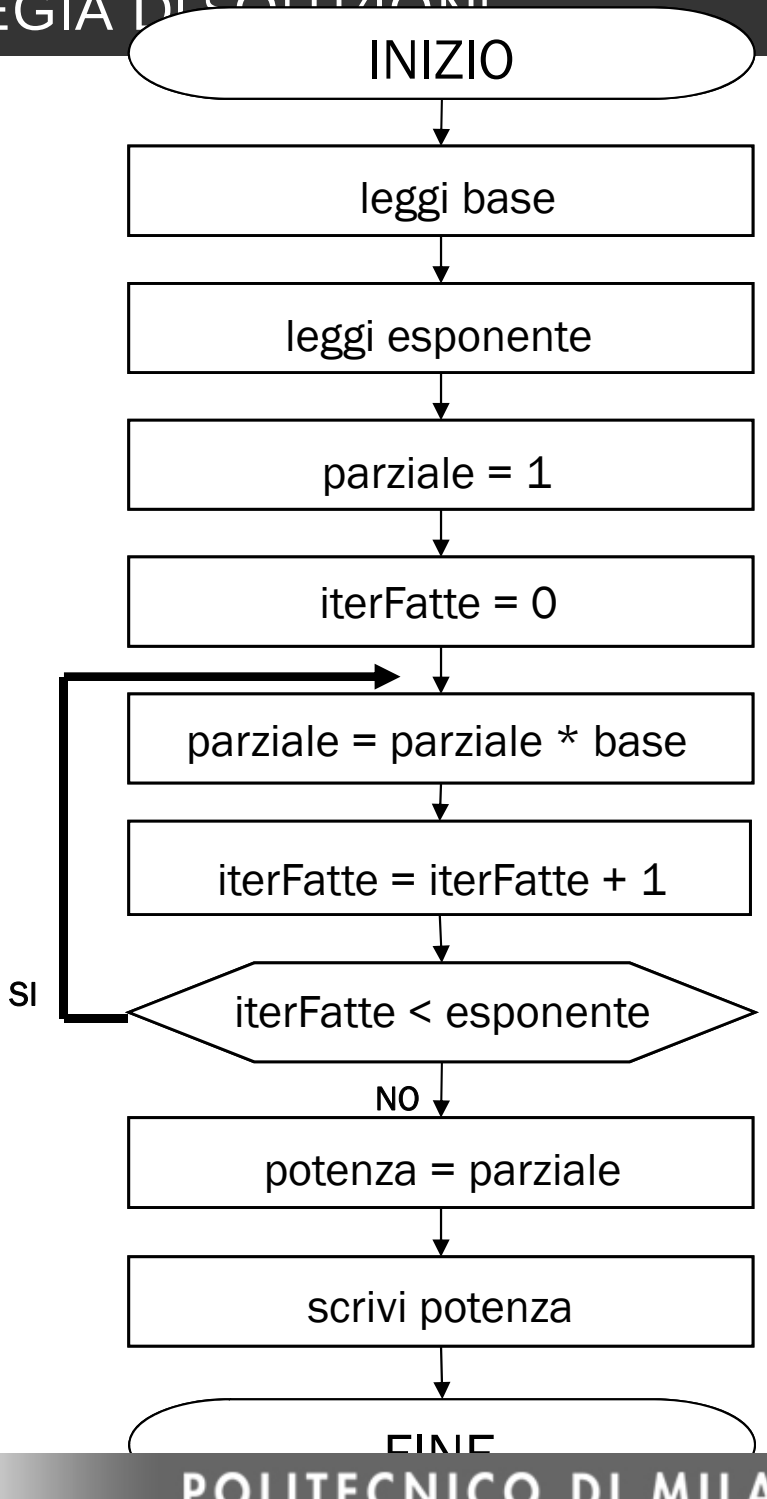

a
b

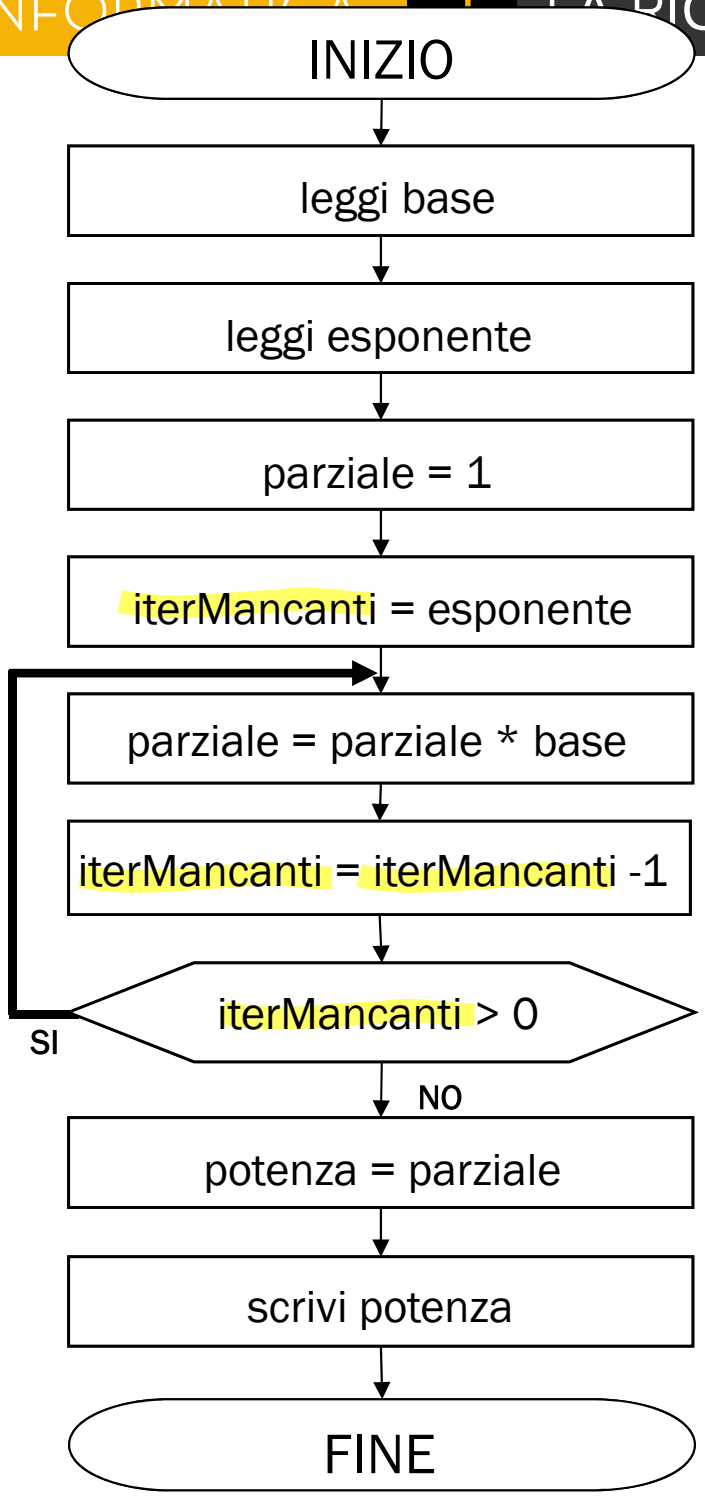



DATI DI TEST

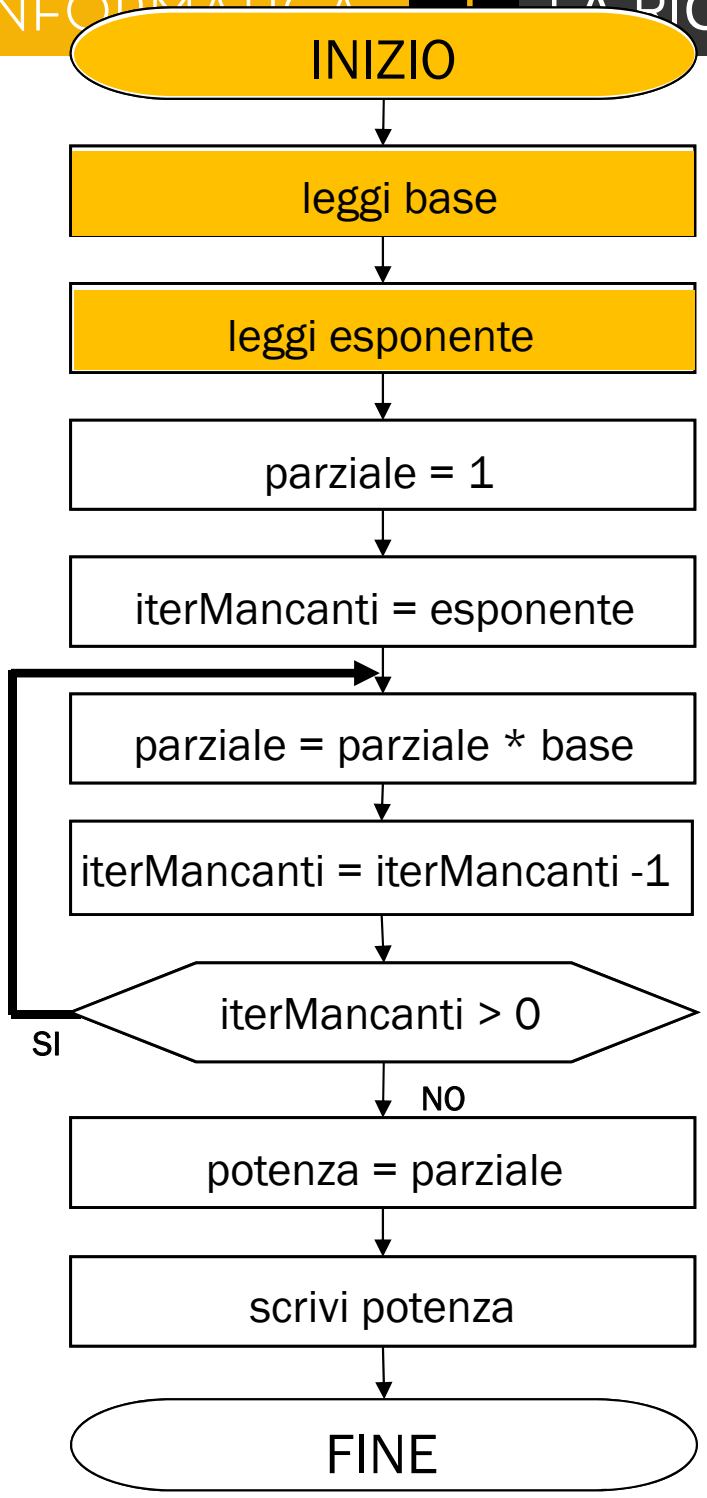
$5^2$

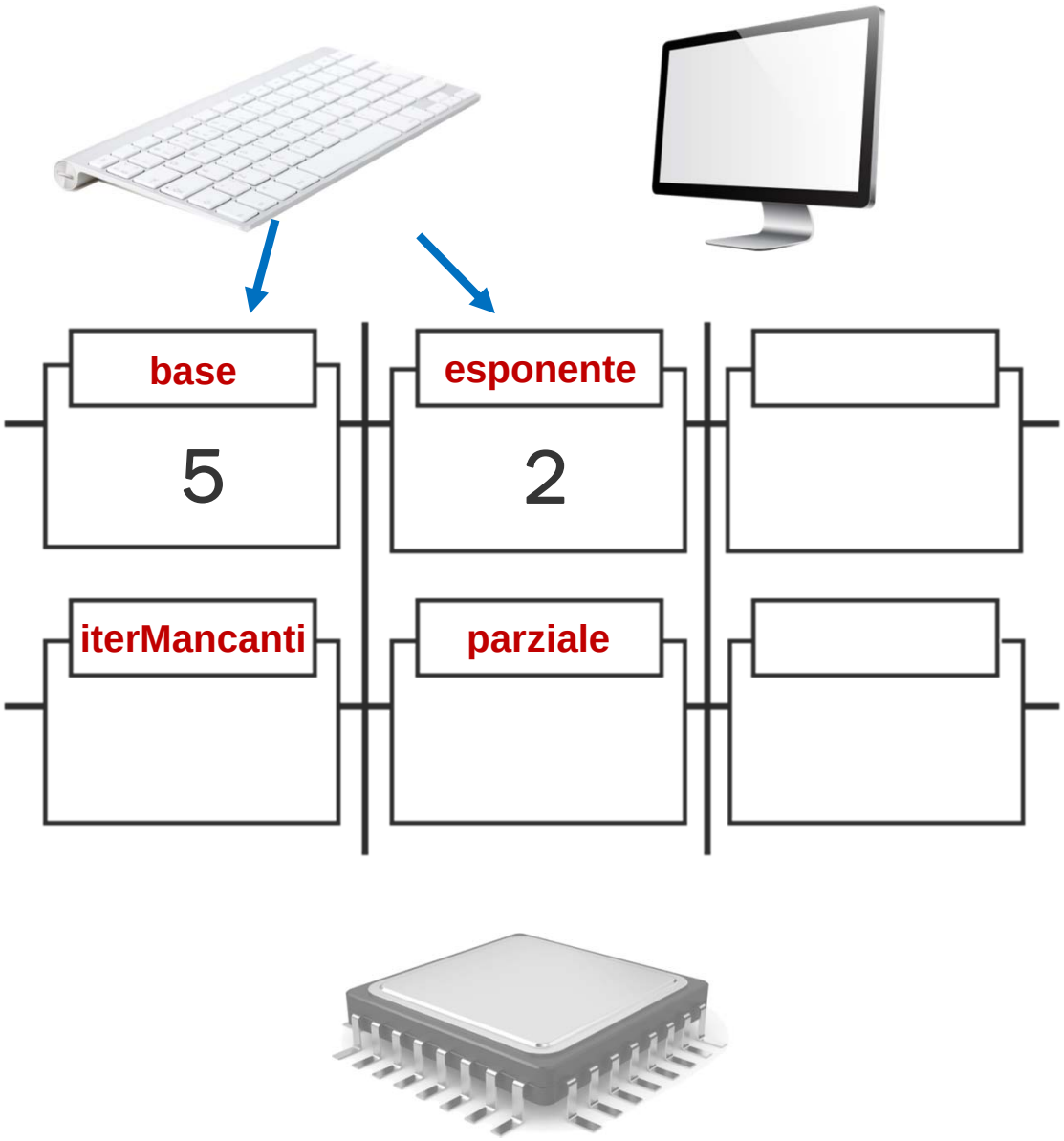

INIZIO
leggi base
leggi esponente
parziale = 1
iterMancanti = esponente
parziale = parziale * base
iterMancanti = iterMancanti -1
iterMancanti > 0
SI
NO
potenza = parziale
scrivi potenza
FINE


INIZIO
leggi base
leggi esponente
parziale = 1
iterFatte = 0
parziale = parziale * base
iterFatte = iterFatte + 1
iterFatte < esponente
SI
NO
potenza = parziale
scrivi potenza
FINE

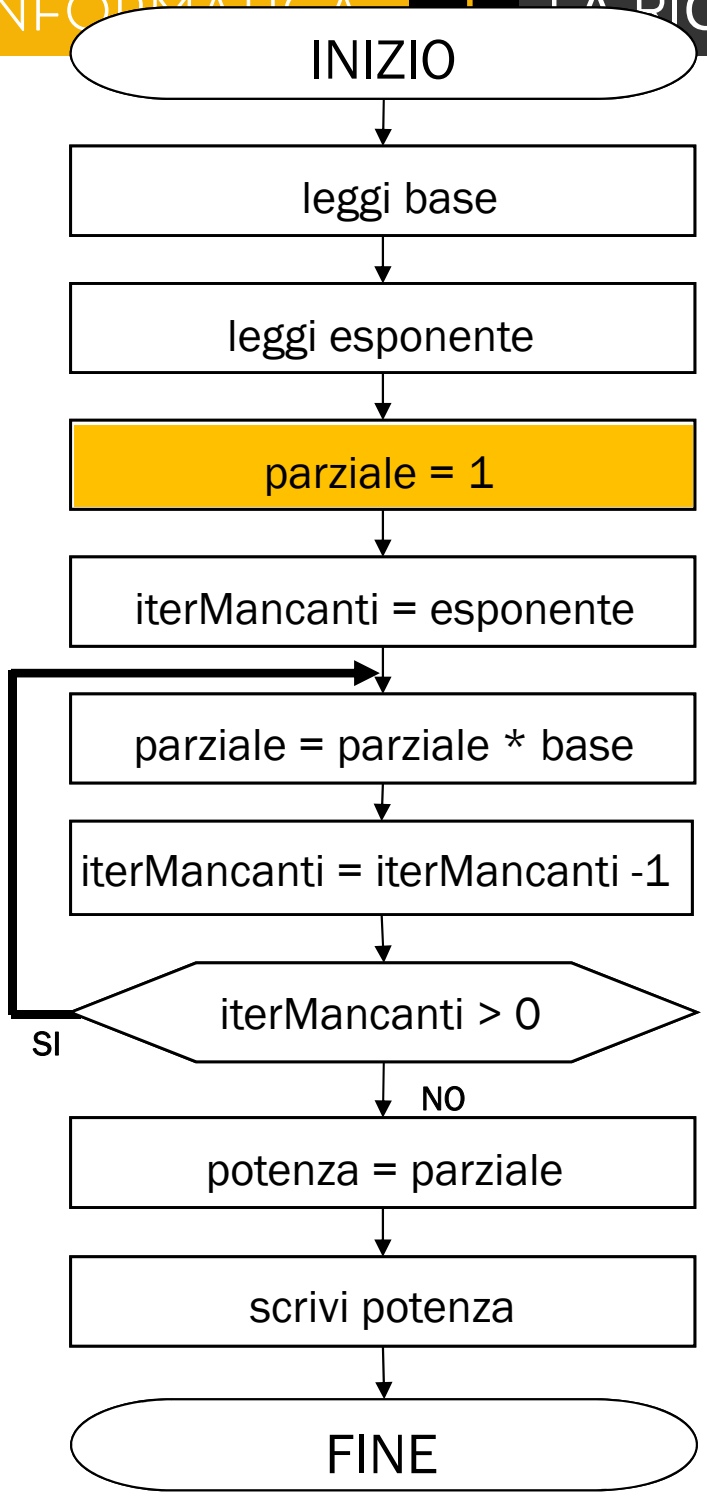

INIZIO
leggi base
leggi esponente
parziale = 1
iterMancanti = esponente
parziale = parziale * base
iterMancanti = iterMancanti -1
iterMancanti > 0
SI
NO
potenza = parziale
scrivi potenza
FINE

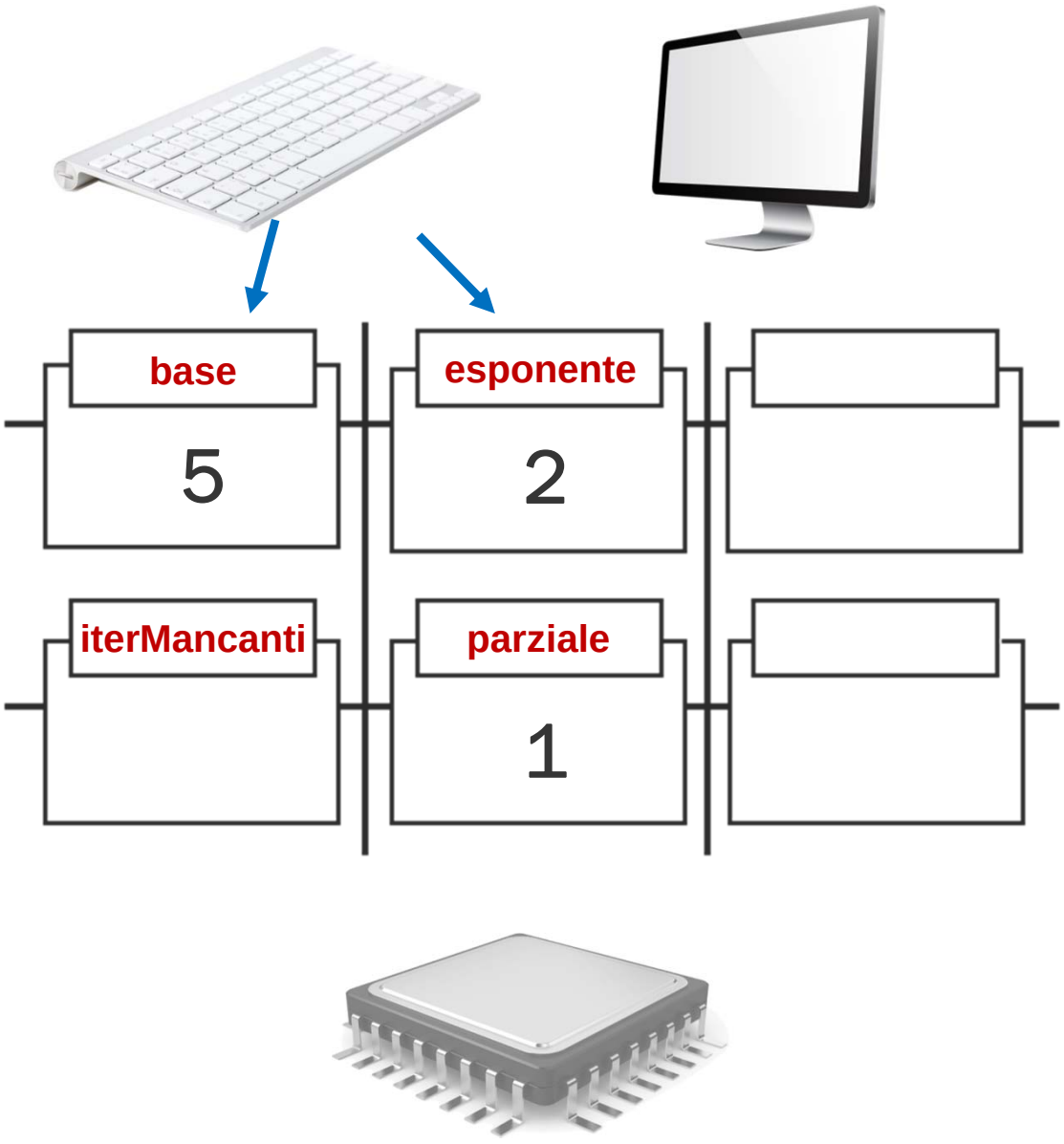
# LA RICERCA DI UNA STRATEGIA DI SOLUZIONE



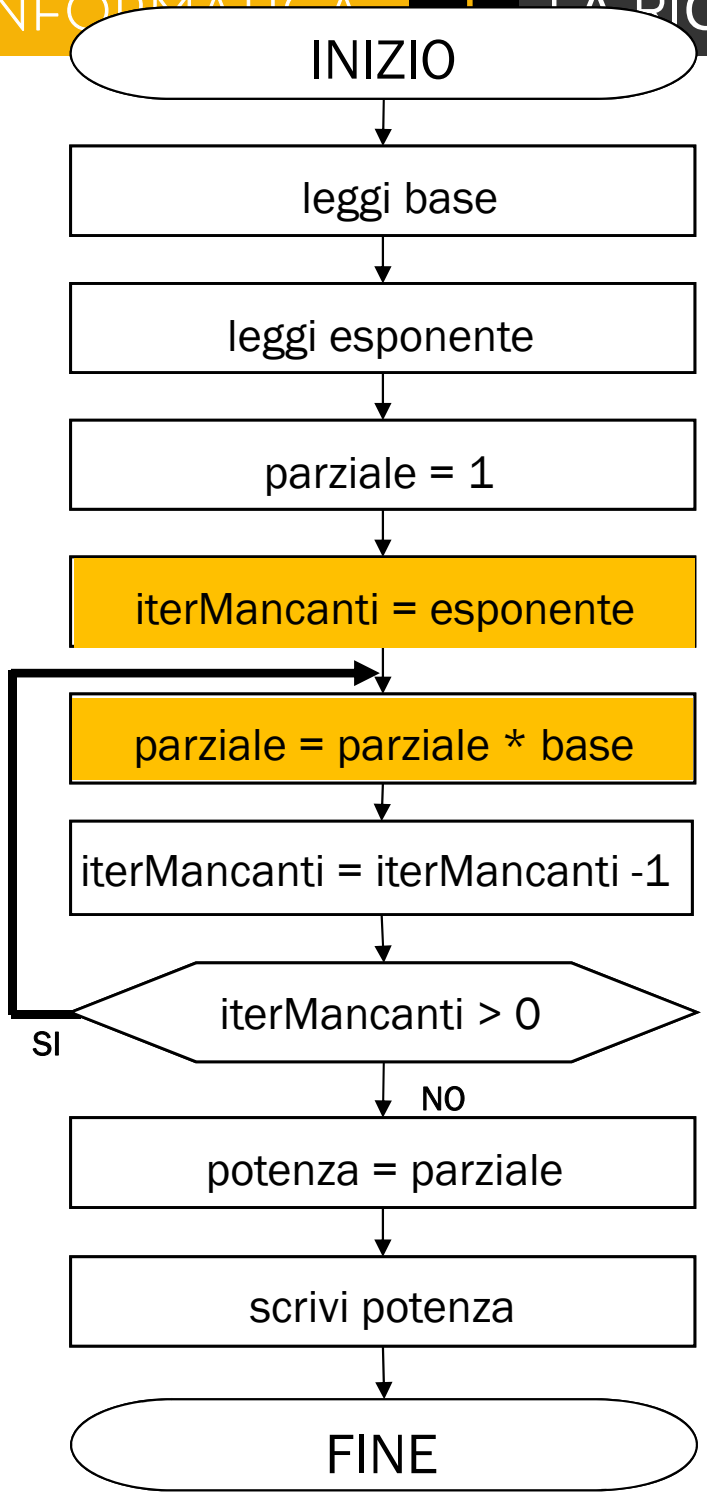



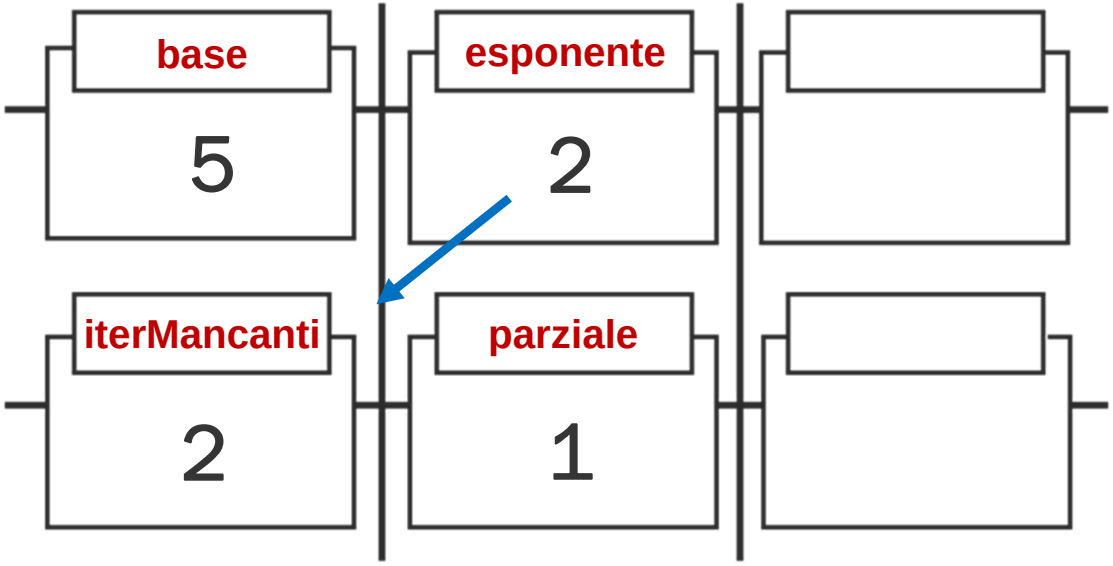
# LA RICERCA DI UNA STRATEGIA DI SOLUZIONE

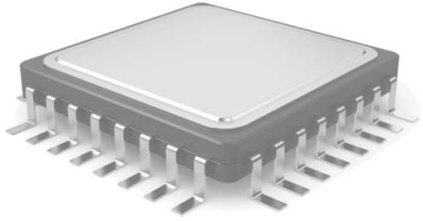


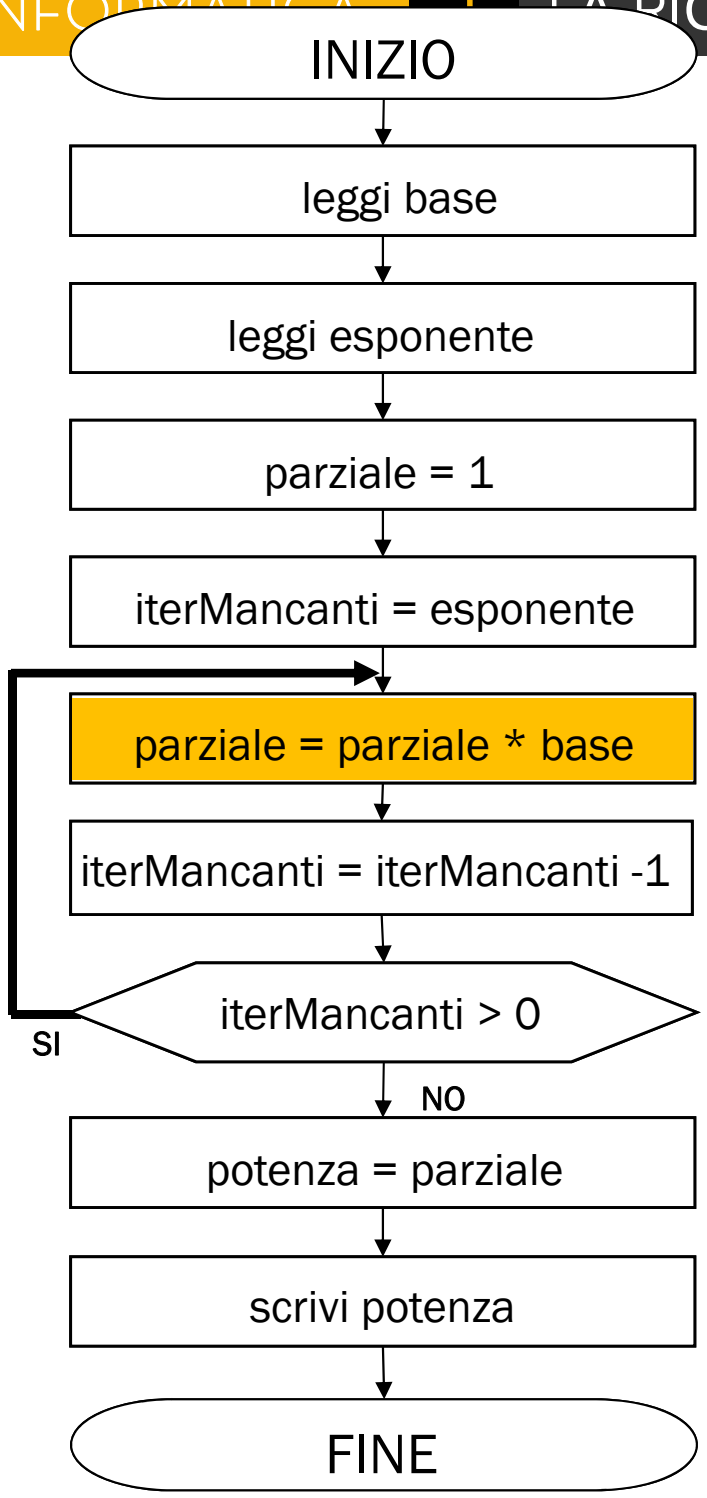



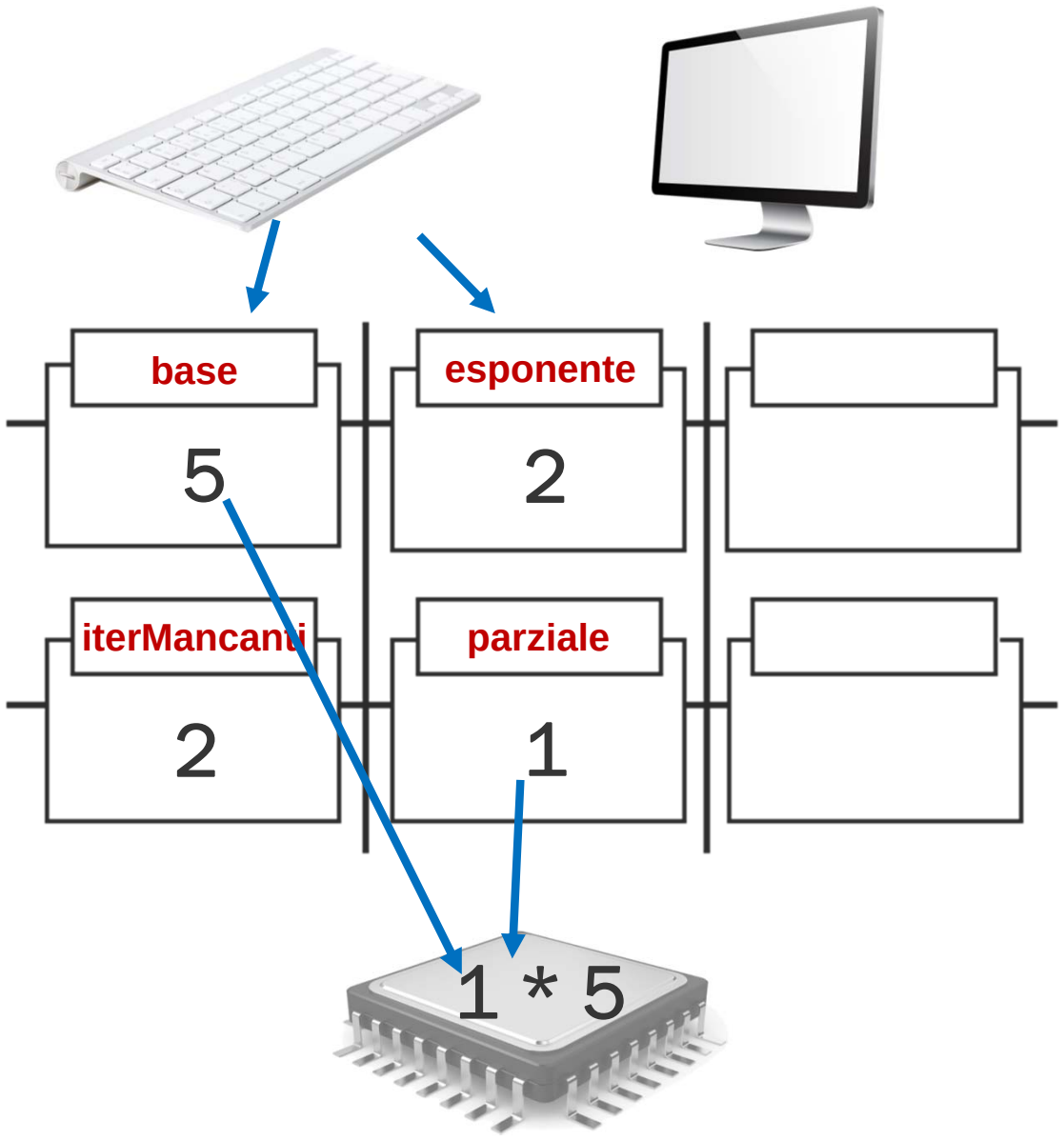
# LA RICERCA DI UNA STRATEGIA DI SOLUZIONE



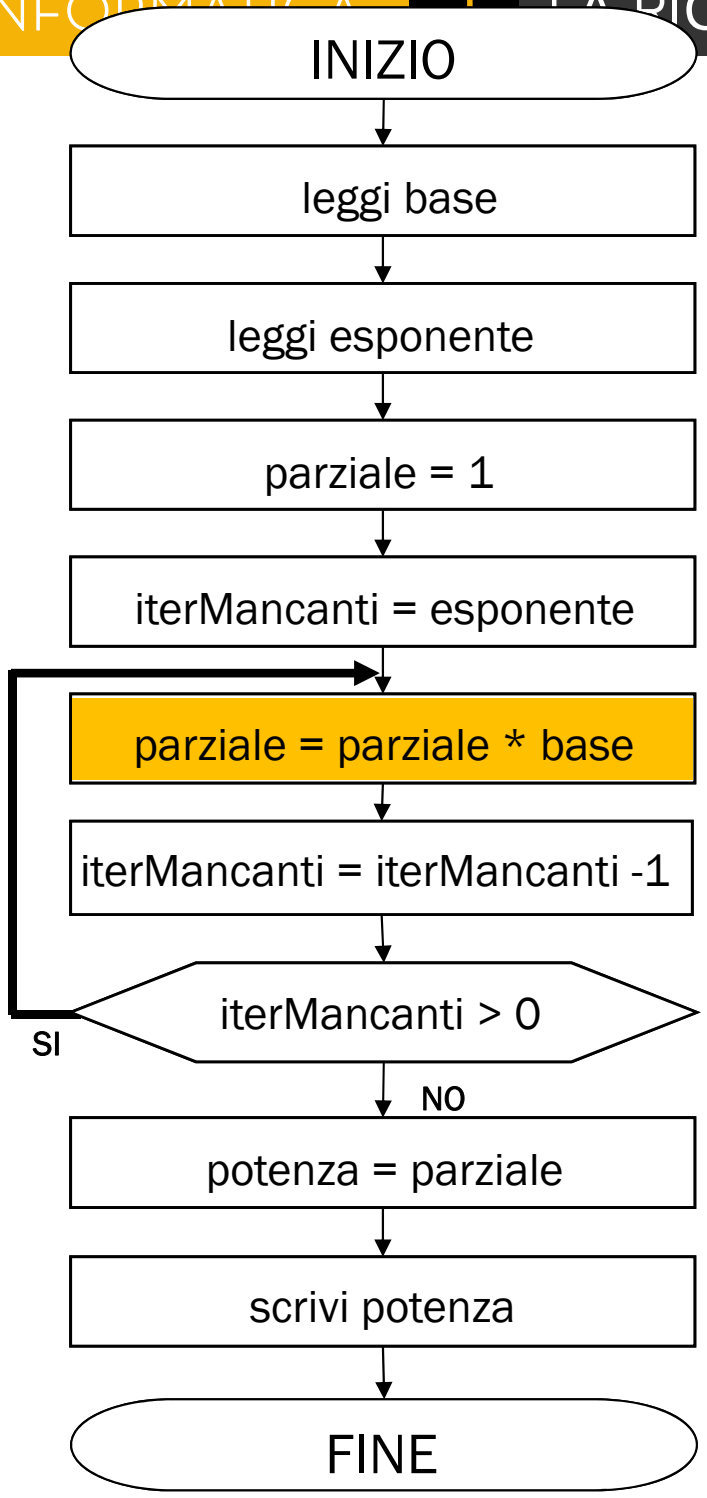



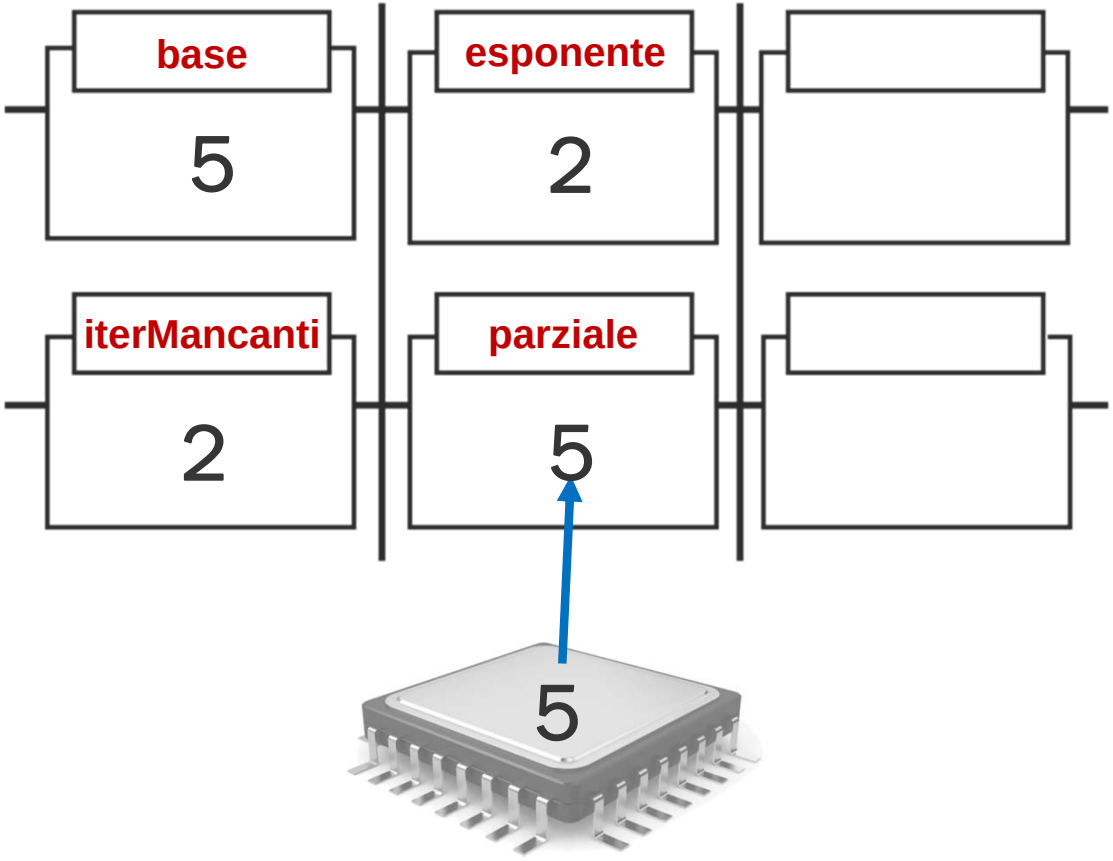




INIZIO
leggi base
leggi esponente
parziale = 1
iterMancanti = esponente
parziale = parziale * base
iterMancanti = iterMancanti -1
iterMancanti > 0
SI
NO
potenza = parziale
scrivi potenza
FINE

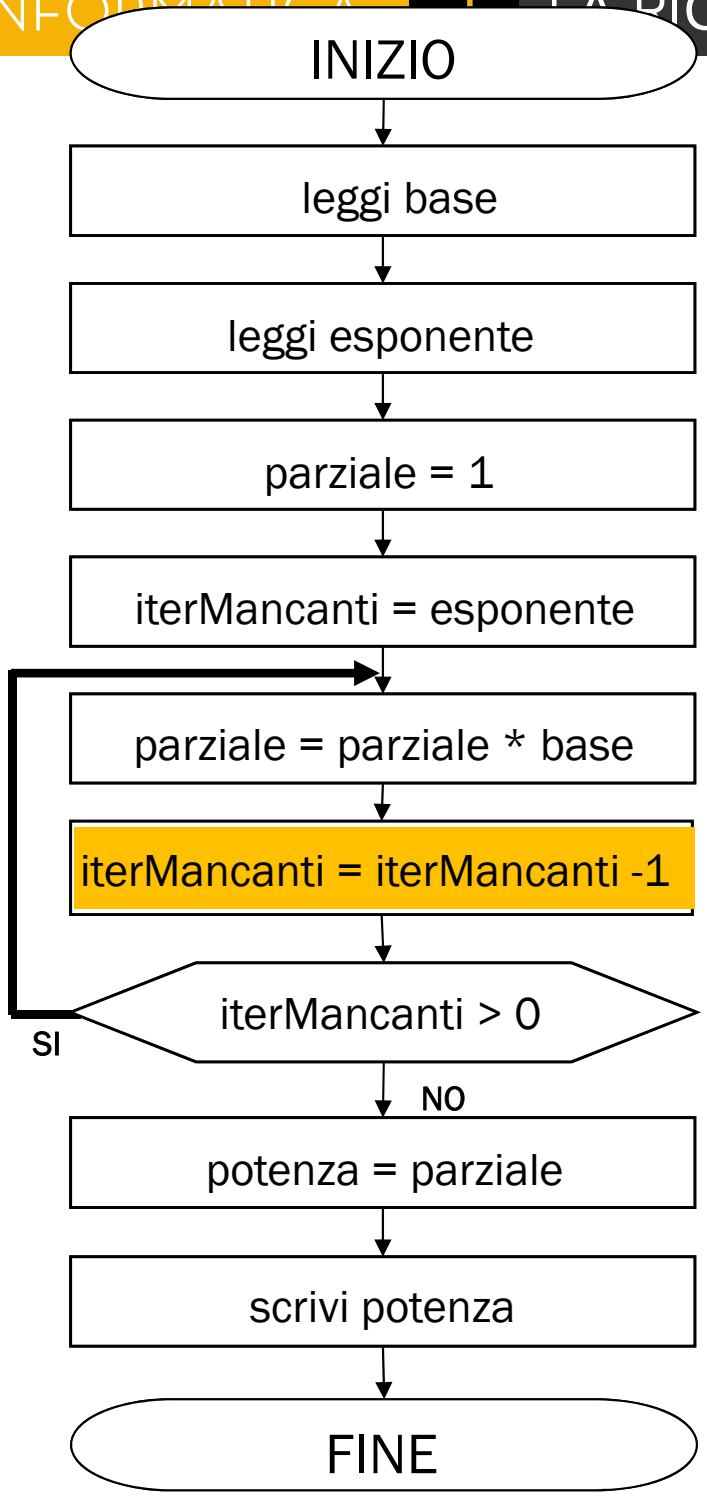

base
5
esponente
2
iterMancanti
2
parziale
1
1 * 5

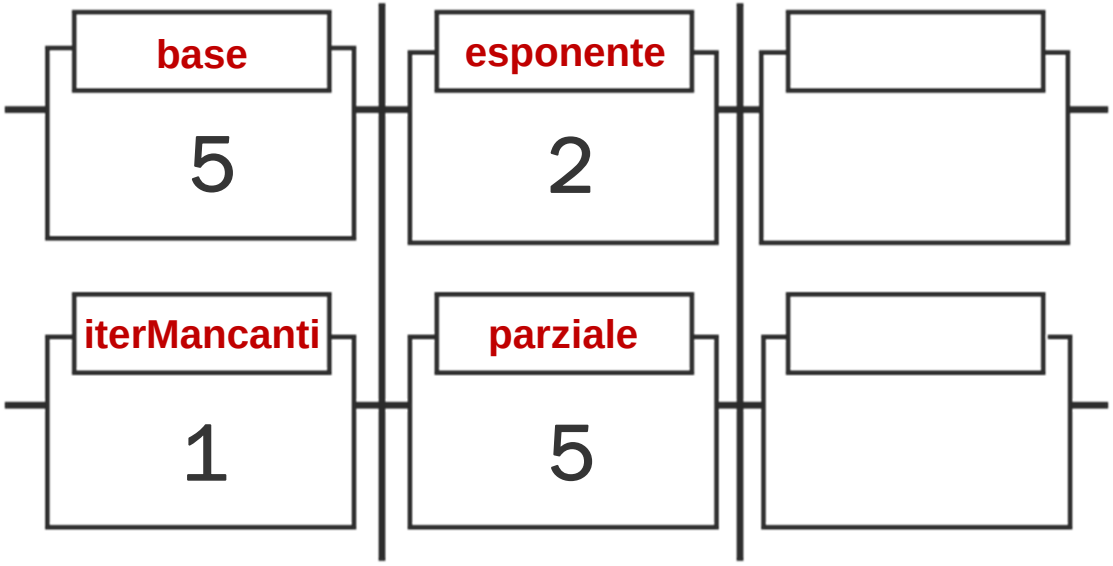
# LA RICERCA DI UNA STRATEGIA DI SOLUZIONE

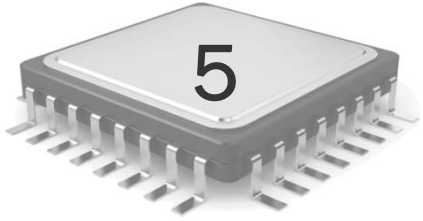


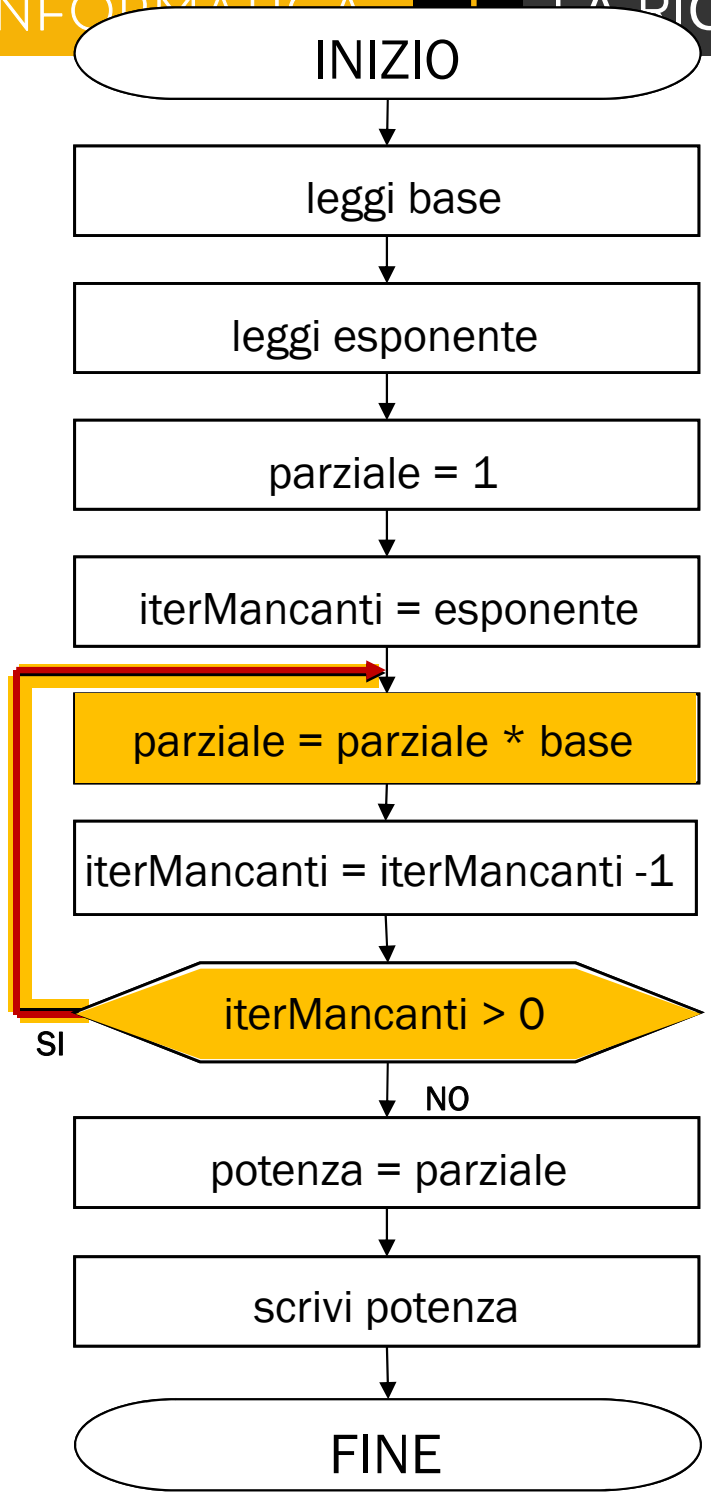
# LA RICERCA DI UNA STRATEGIA DI SOLUZIONE

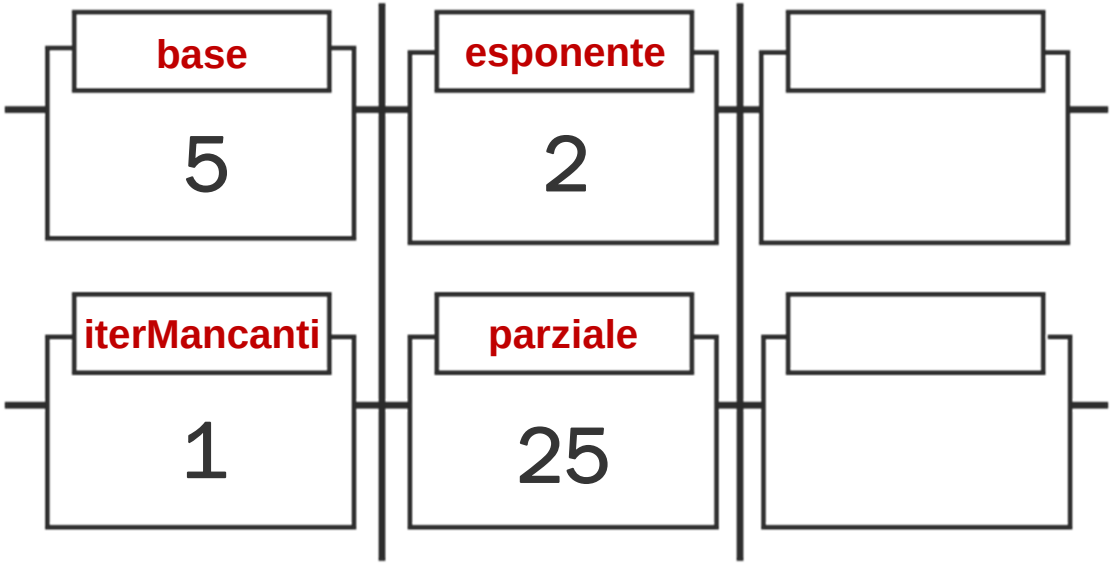


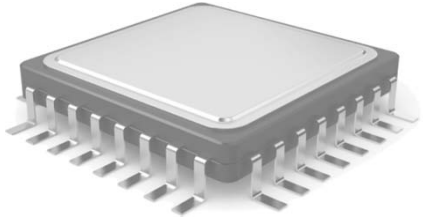



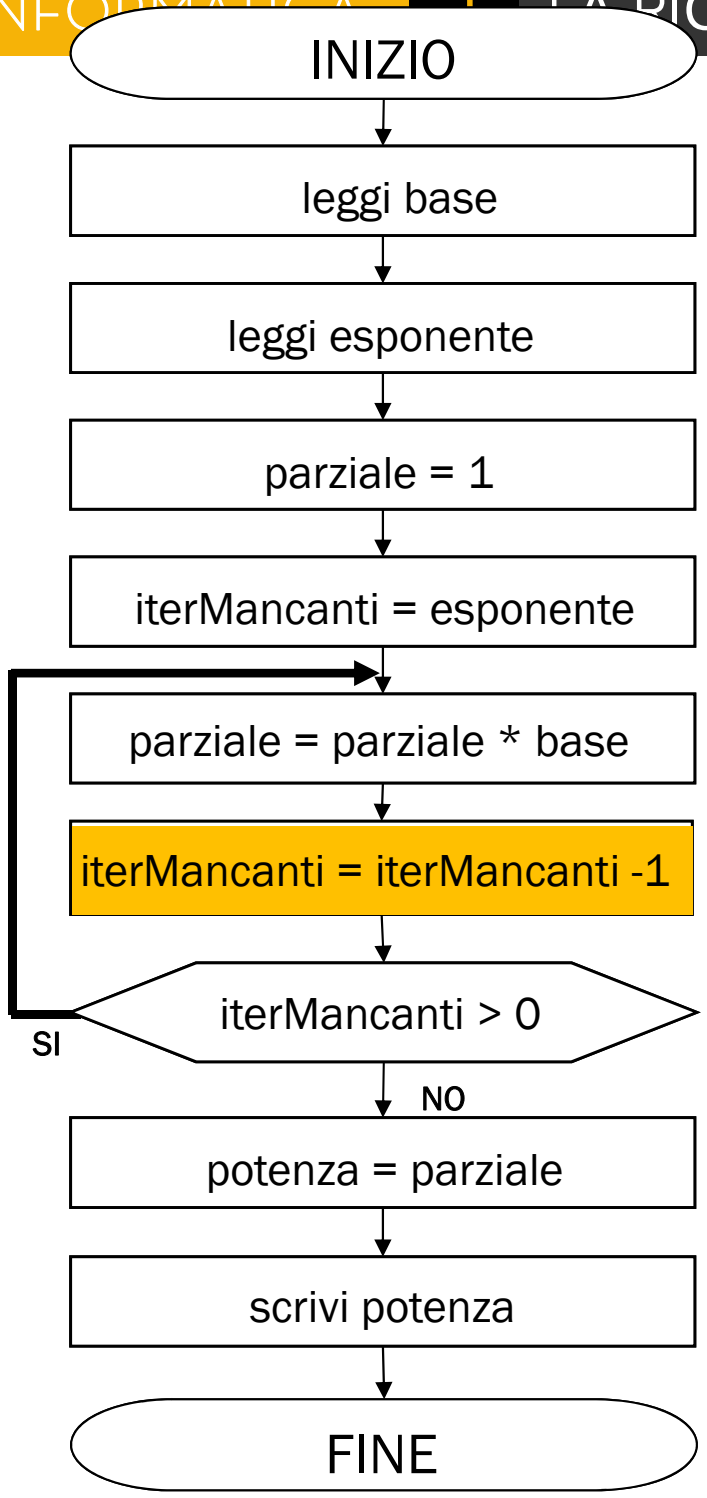
# LA RICERCA DI UNA STRATEGIA DI SOLUZIONE

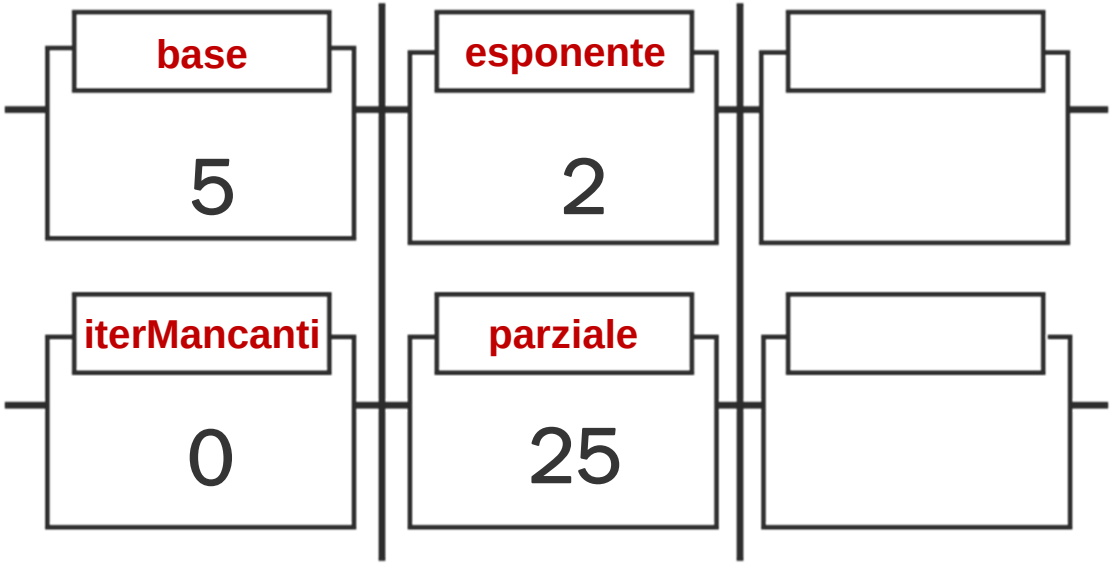


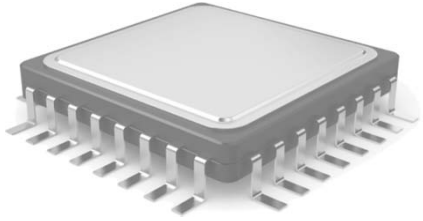



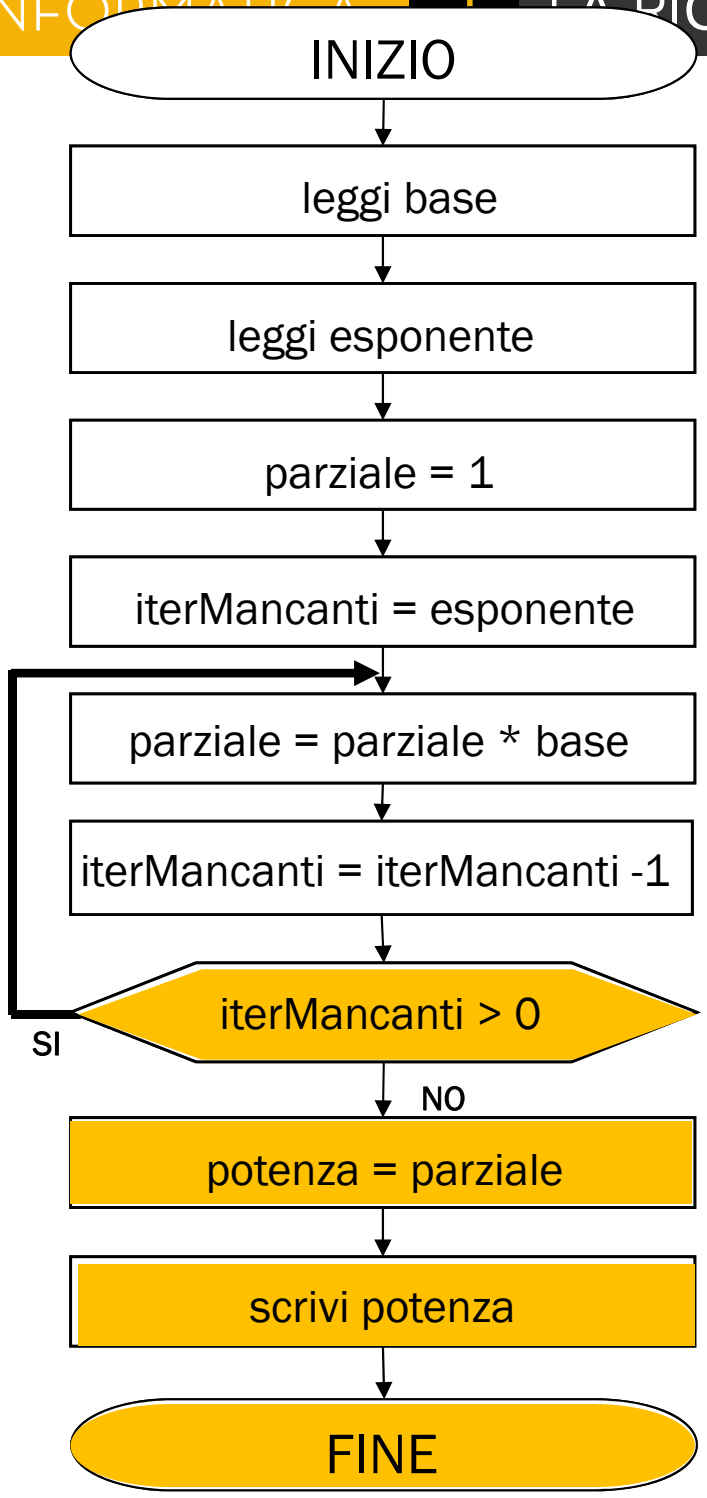



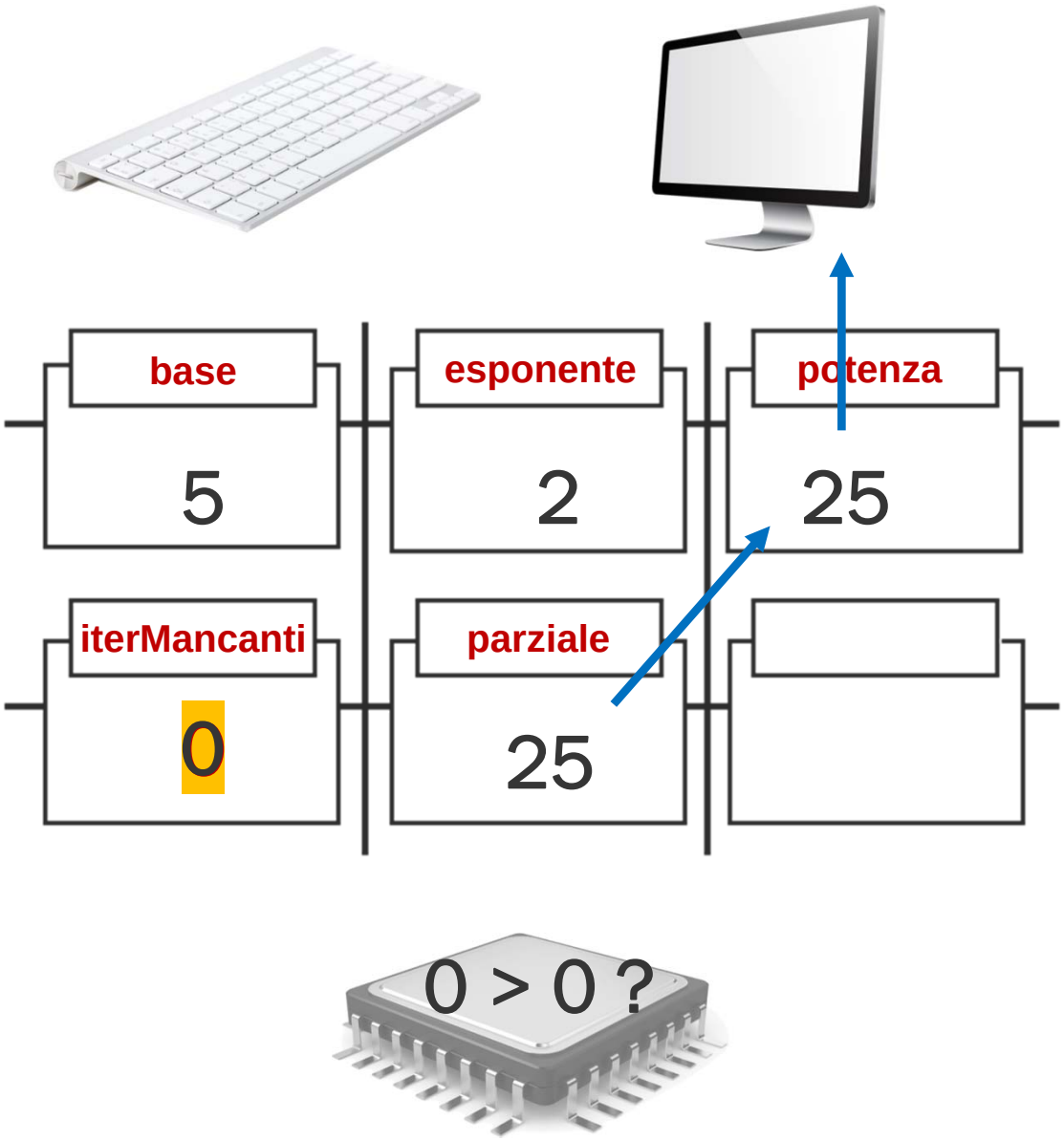
# LA RICERCA DI UNA STRATEGIA DI SOLUZIONE




INIZIO
leggi base
leggi esponente
parziale = 1
iterMancanti = esponente
parziale = parziale * base
iterMancanti = iterMancanti -1
iterMancanti > 0
SI
NO
potenza = parziale
scrivi potenza
FINE


base
5
esponente
2
potenza
25
iterMancanti
0
parziale
25
0 > 0 ?