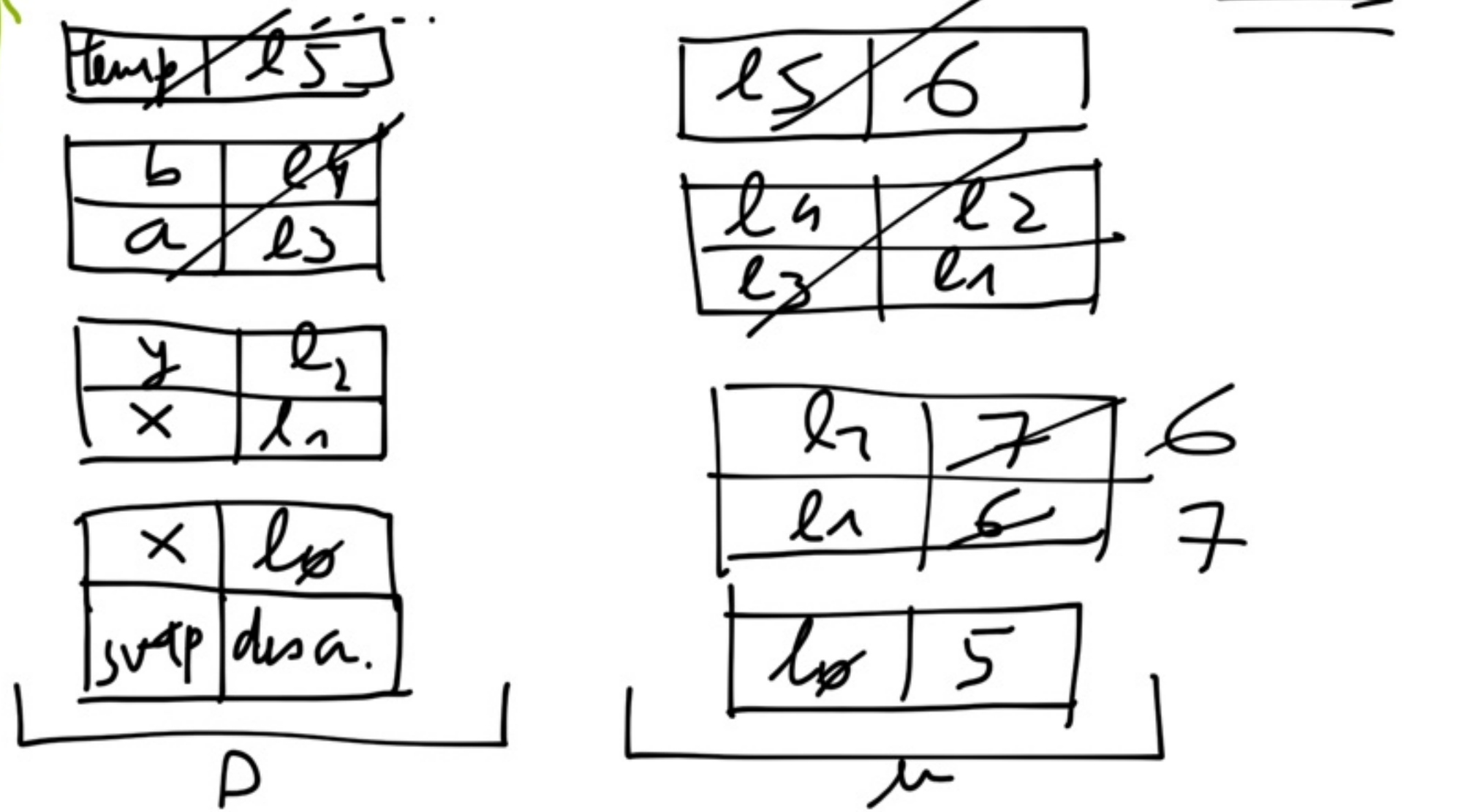
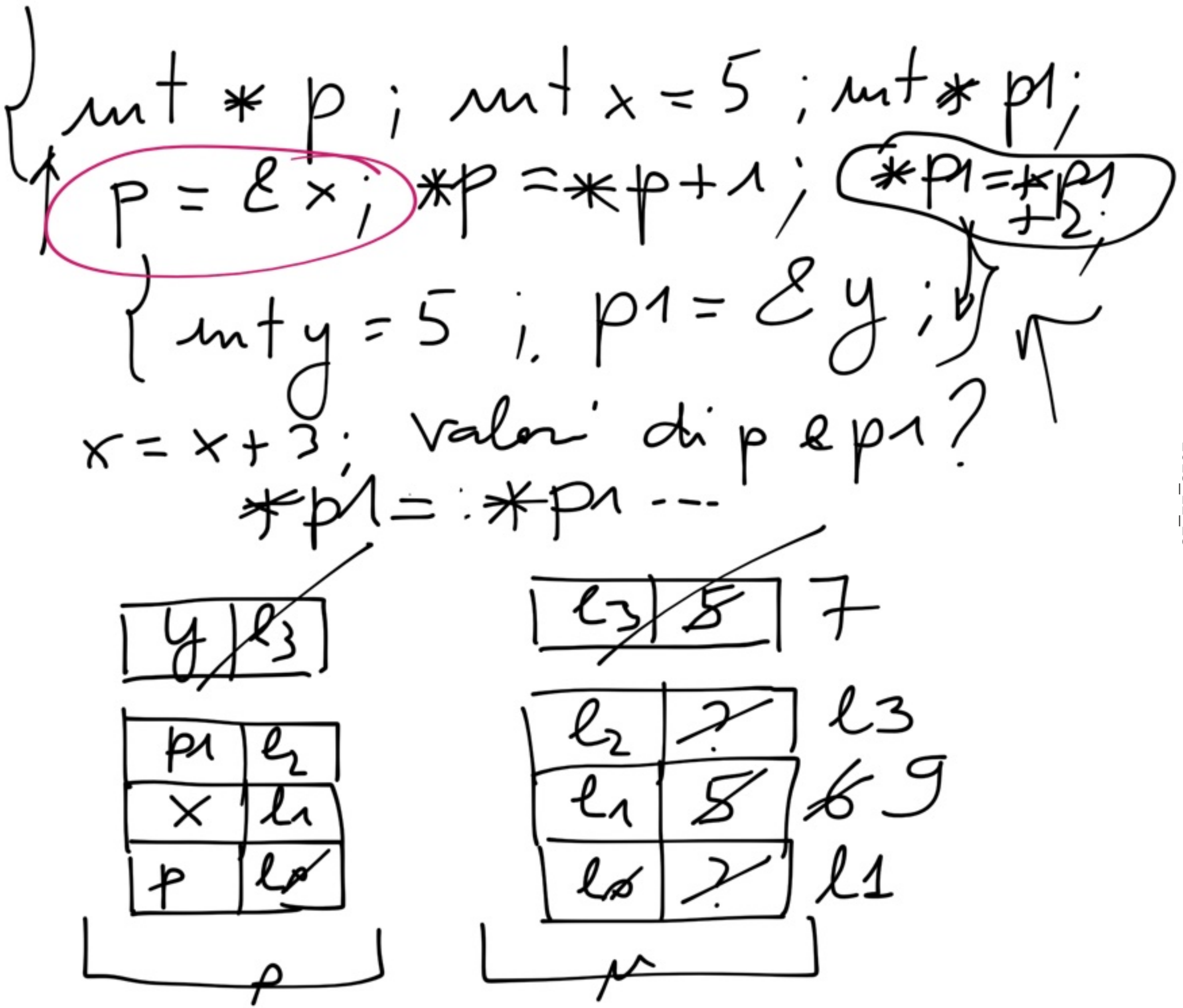
Funzione e procedura

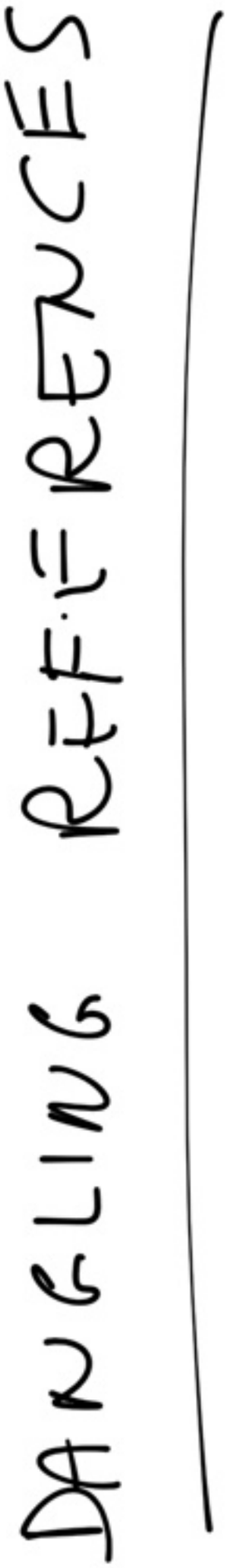
array

```
void swap(int *a, int *b)
{ int temp = *a; *a = *b; *b = temp; }

int x = 5;
{ int x = 6; int y = 7; swap(&x, &y);
```







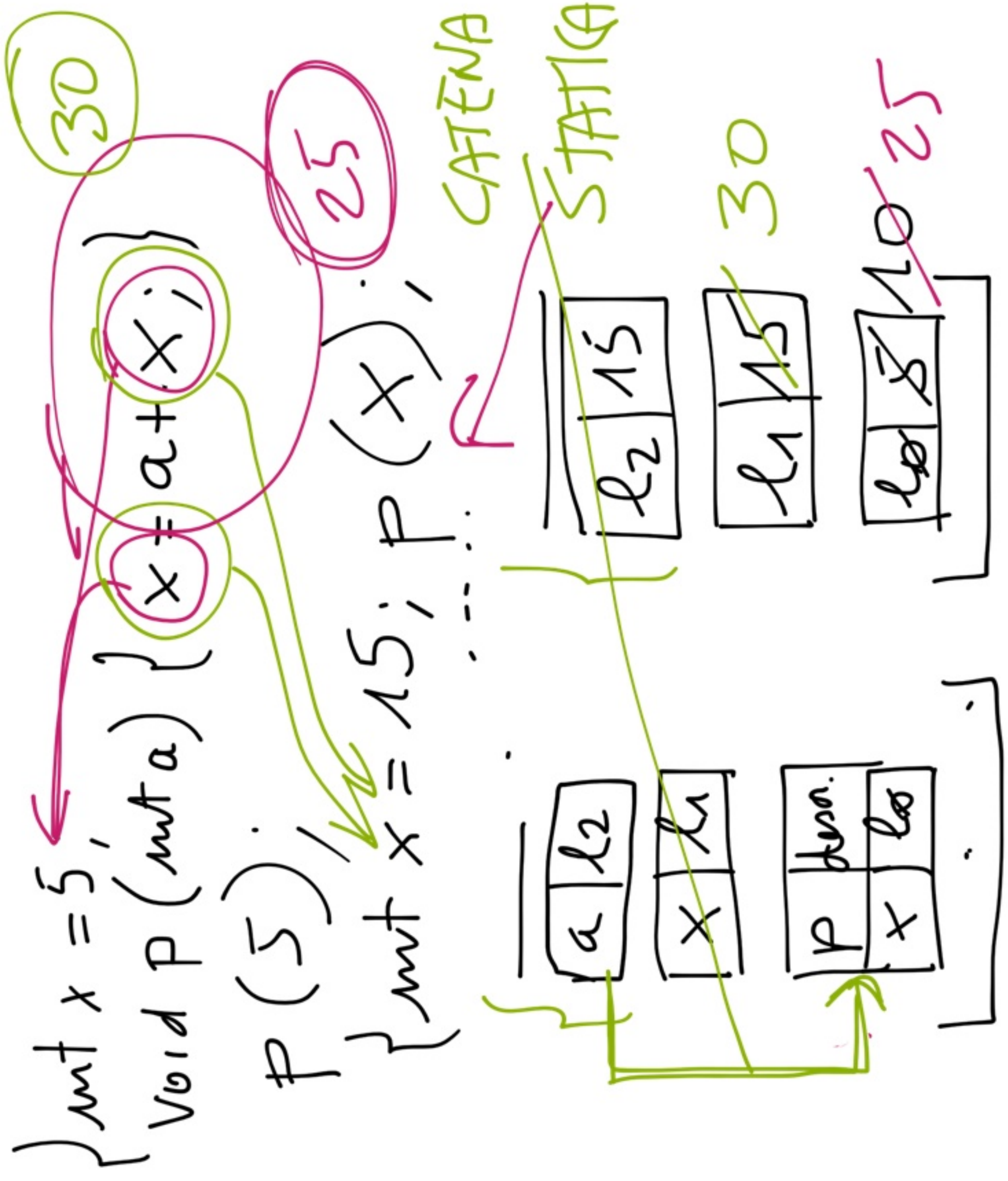
```
int *p; int x=5;
int *p1 = &x;
p = p1; *p = *p+1;
*p1 = *p1 + 1; *p = *p1+1;
x = x+1; ....
```

p1	l2
x	l1
p	l0

ρ

l2	l1
l1	~~5~~ 6 ~~7~~ 8 9
l0	~~?~~ l1.

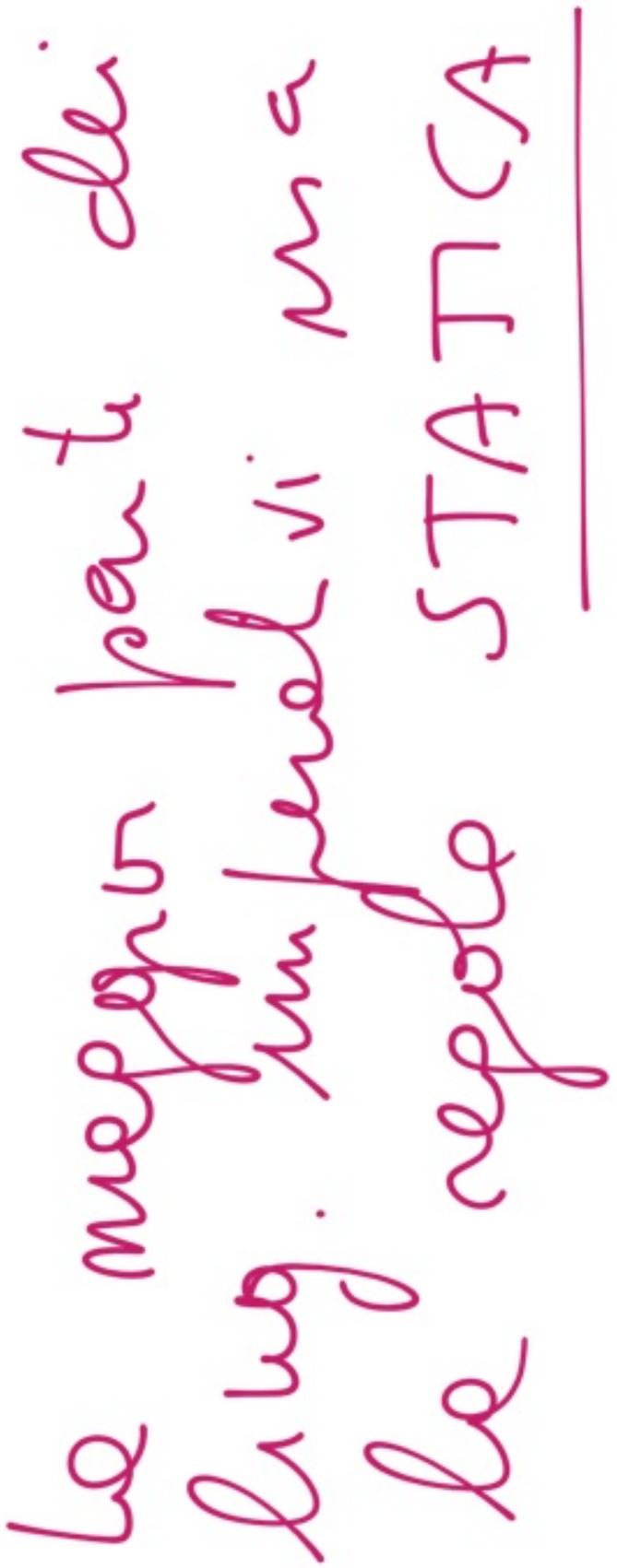
μ


30
25
x = a + x;
int x = 5;
void P (int a) {
P (5);
P (x);
int x = 15;
CATENA
STATICA
l2 15
l1 30
l0 25
a l2
x l1
P dyn.
x l0

Regole per le variabili
globali (regole di portata
degli identificatori)

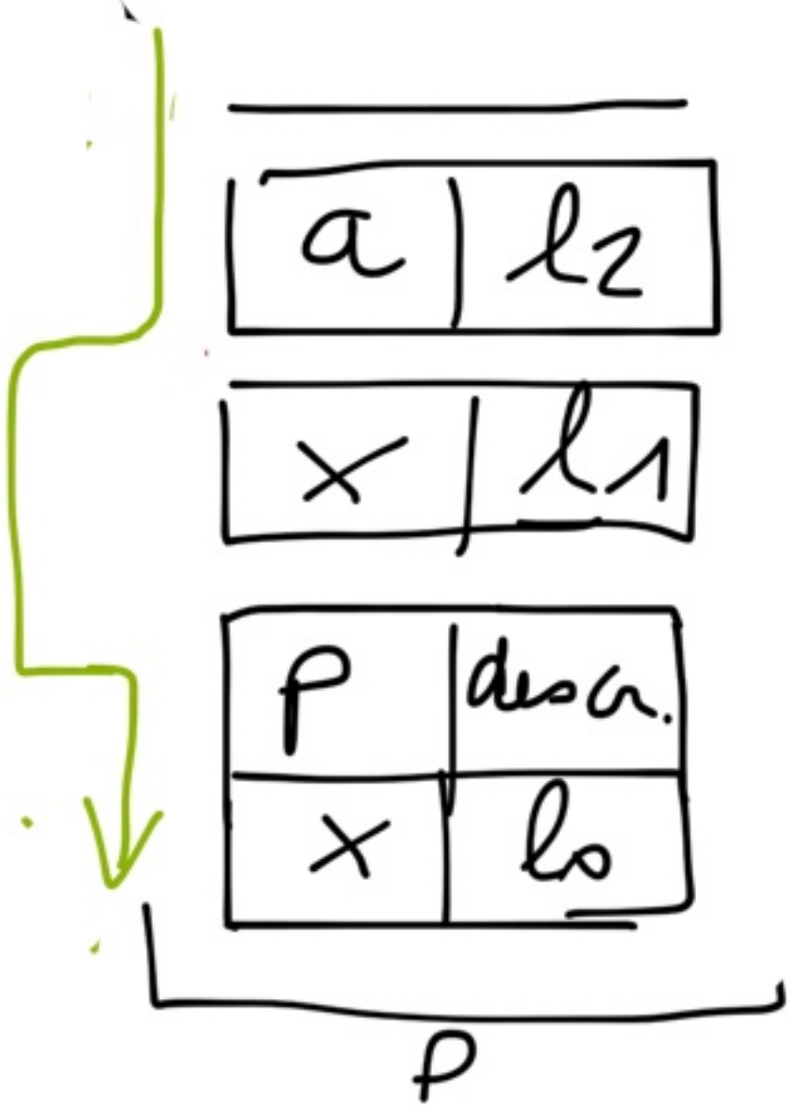
- le variabili globali
di una procedura sono
quelle dell'ambiente
di dichiarazione (statica)

- le variabili globali
di una procedura sono
quelle dell'ambiente di
chiamata (dinamica)

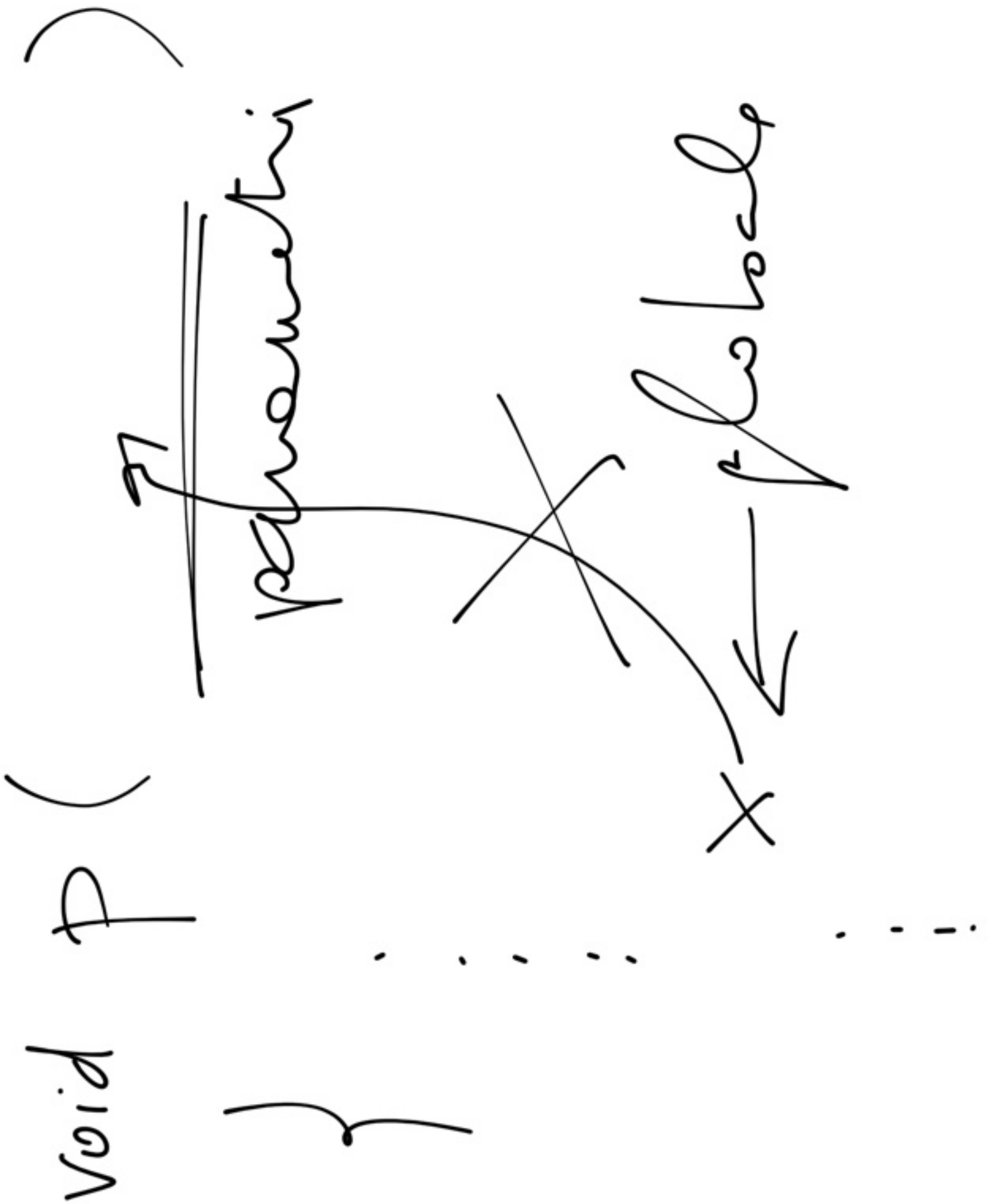


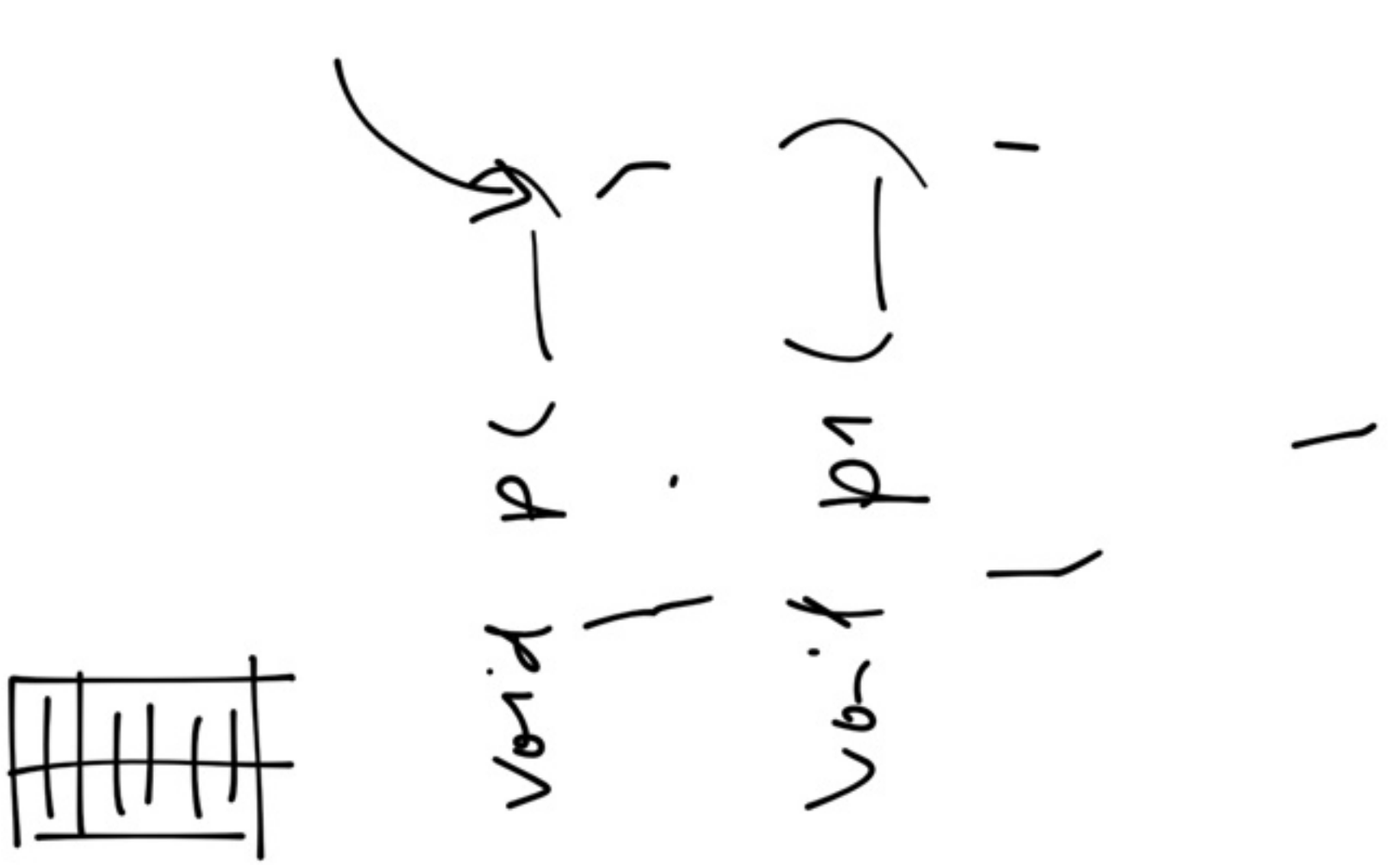
```
{int x = 5;
 void p(int a) {x = a + x;}
 p(5);
 {int x = 15; p(x);
```

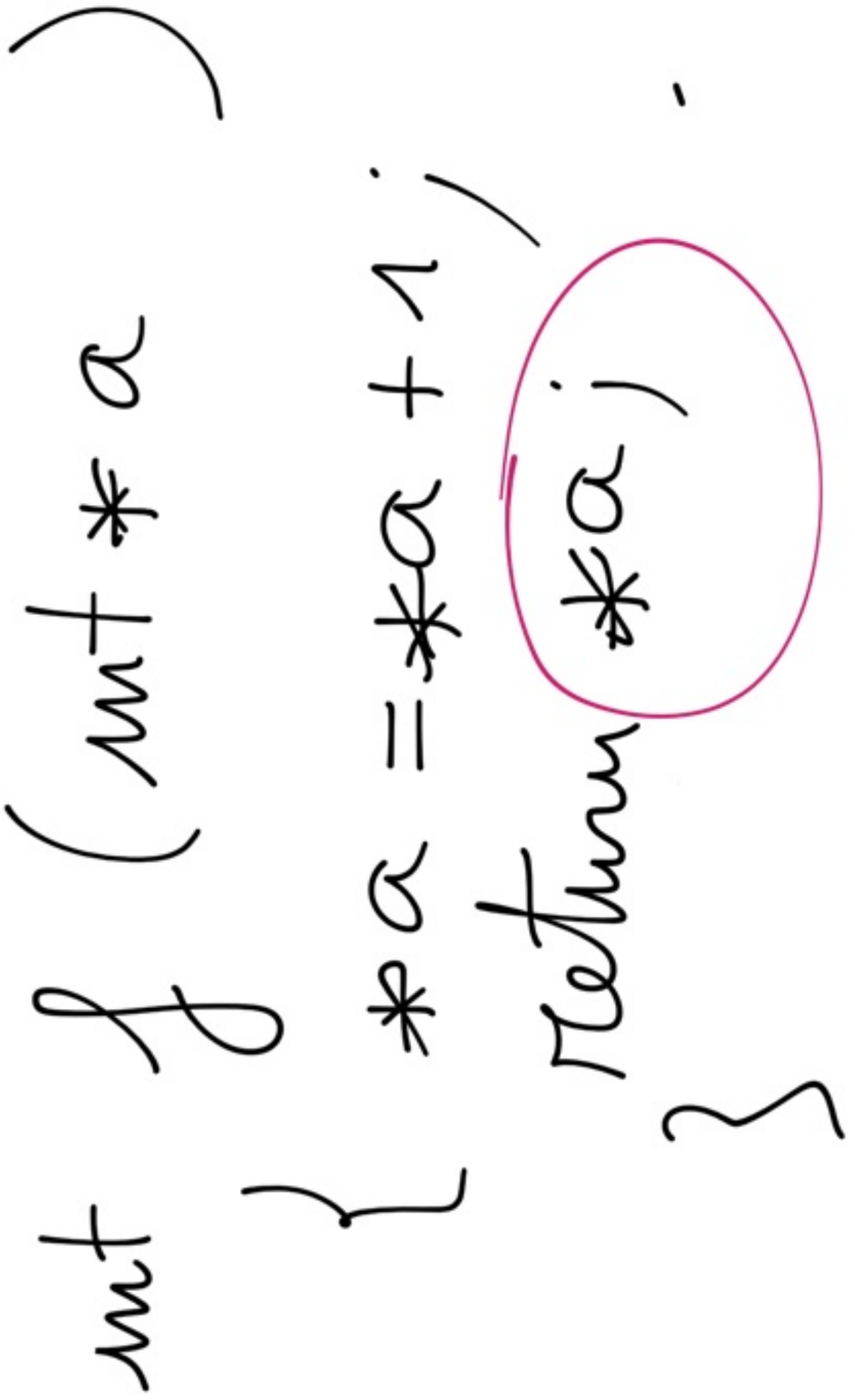
25



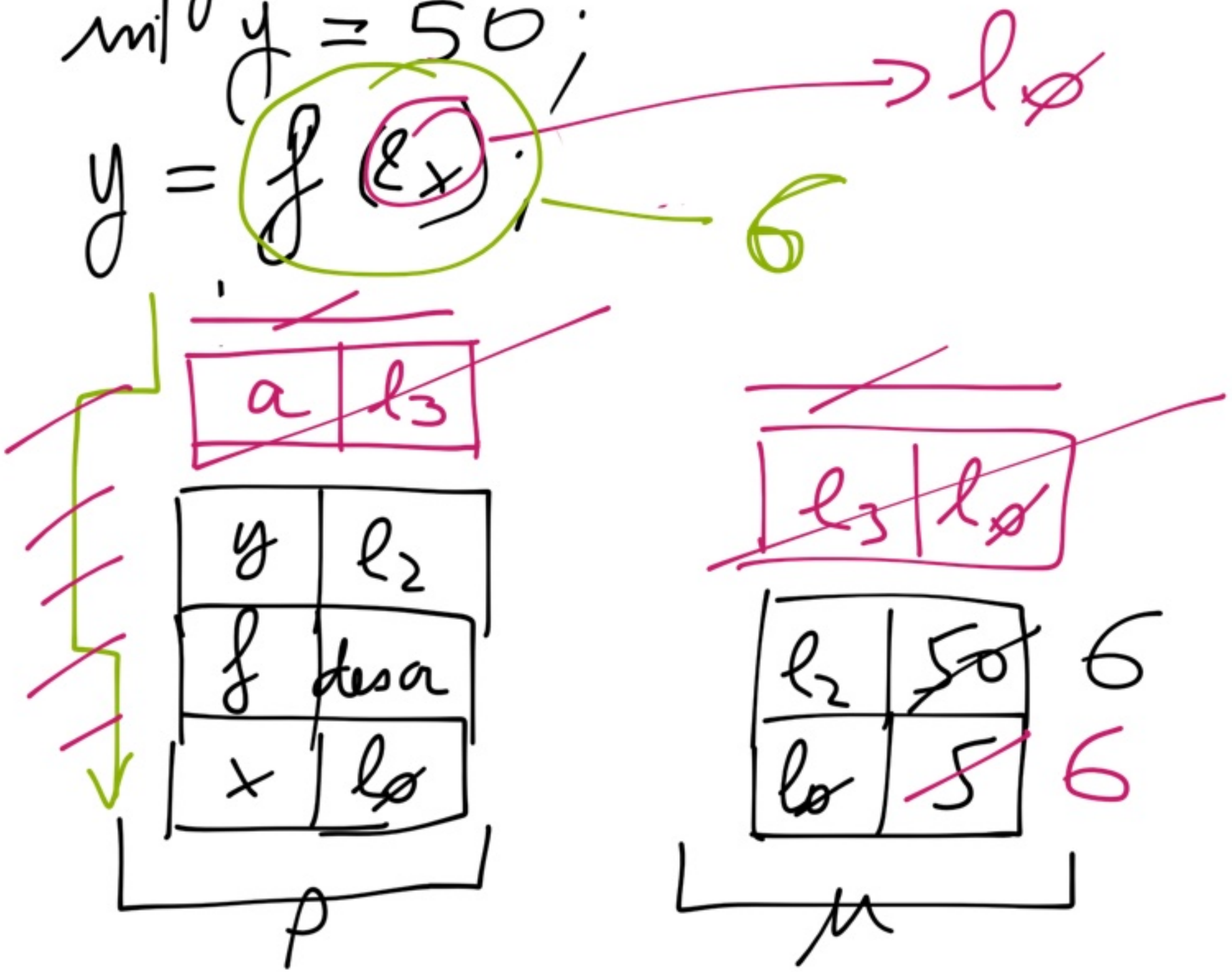
Regole dell'universo
governano un
funzionamento
globale?


parametri
globali
void



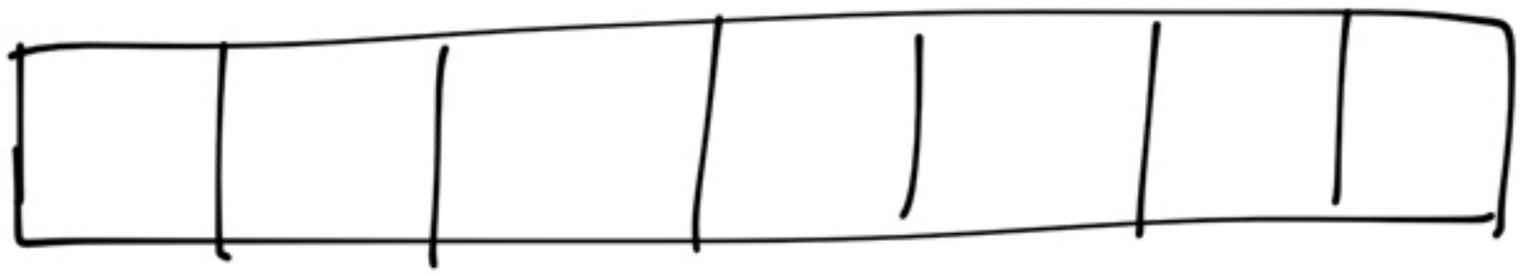

int f (int *a
*a = *a + 1;
return *a;

```
{ int x = 5;
int f(int*a) {*a = *a + 1 : return *a;}
int y = 50;
y = f(&x);
```

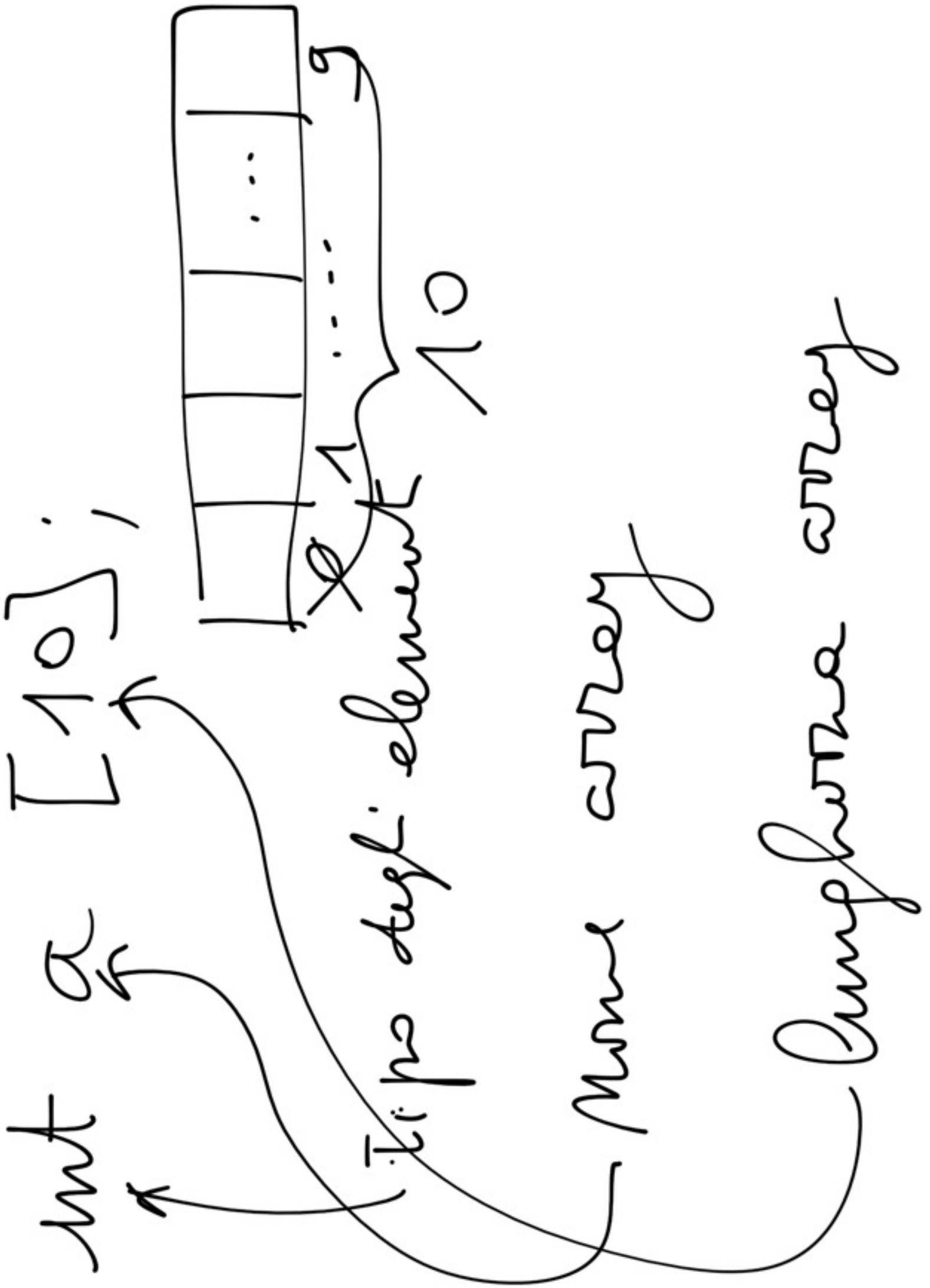


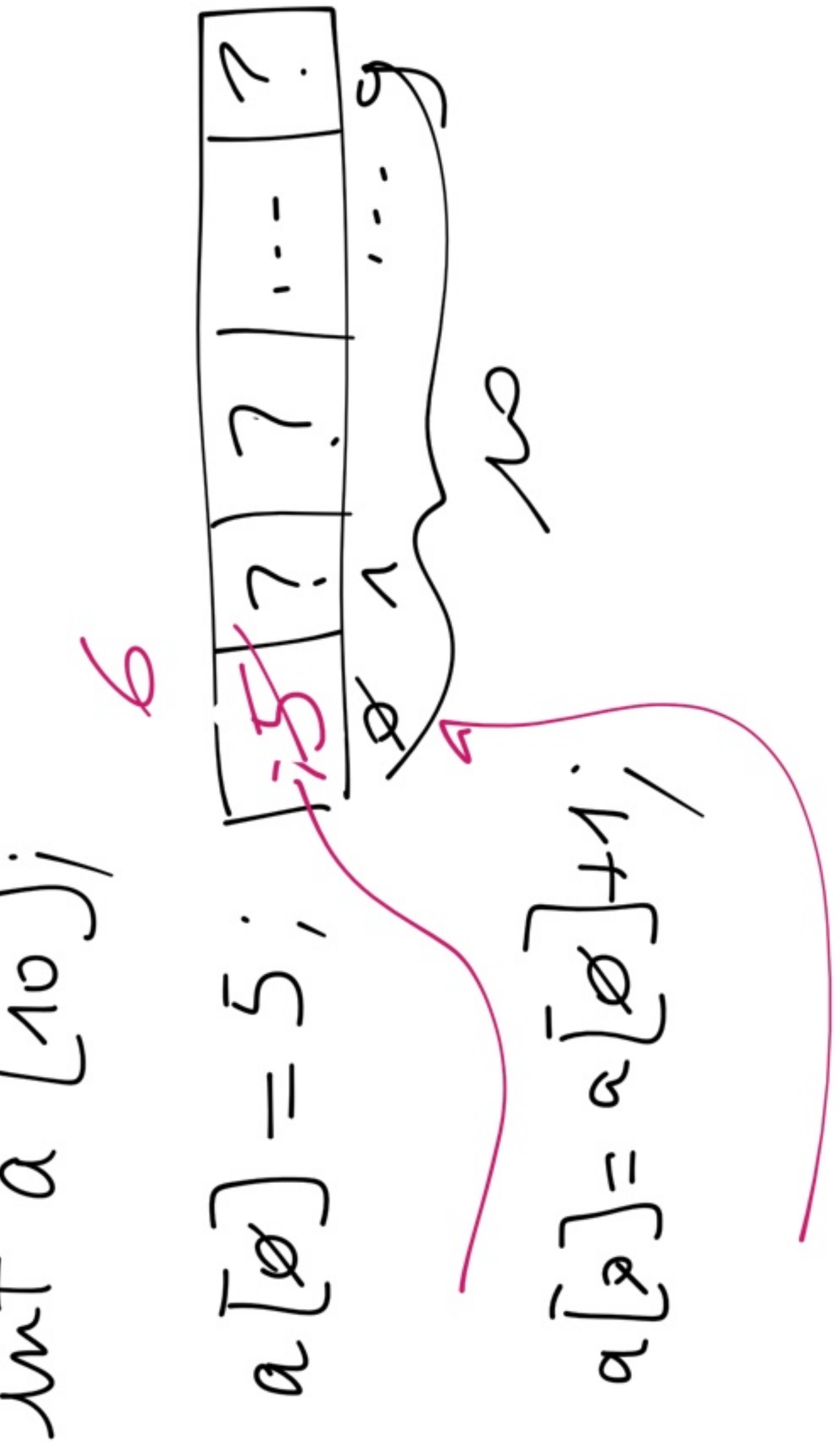
array

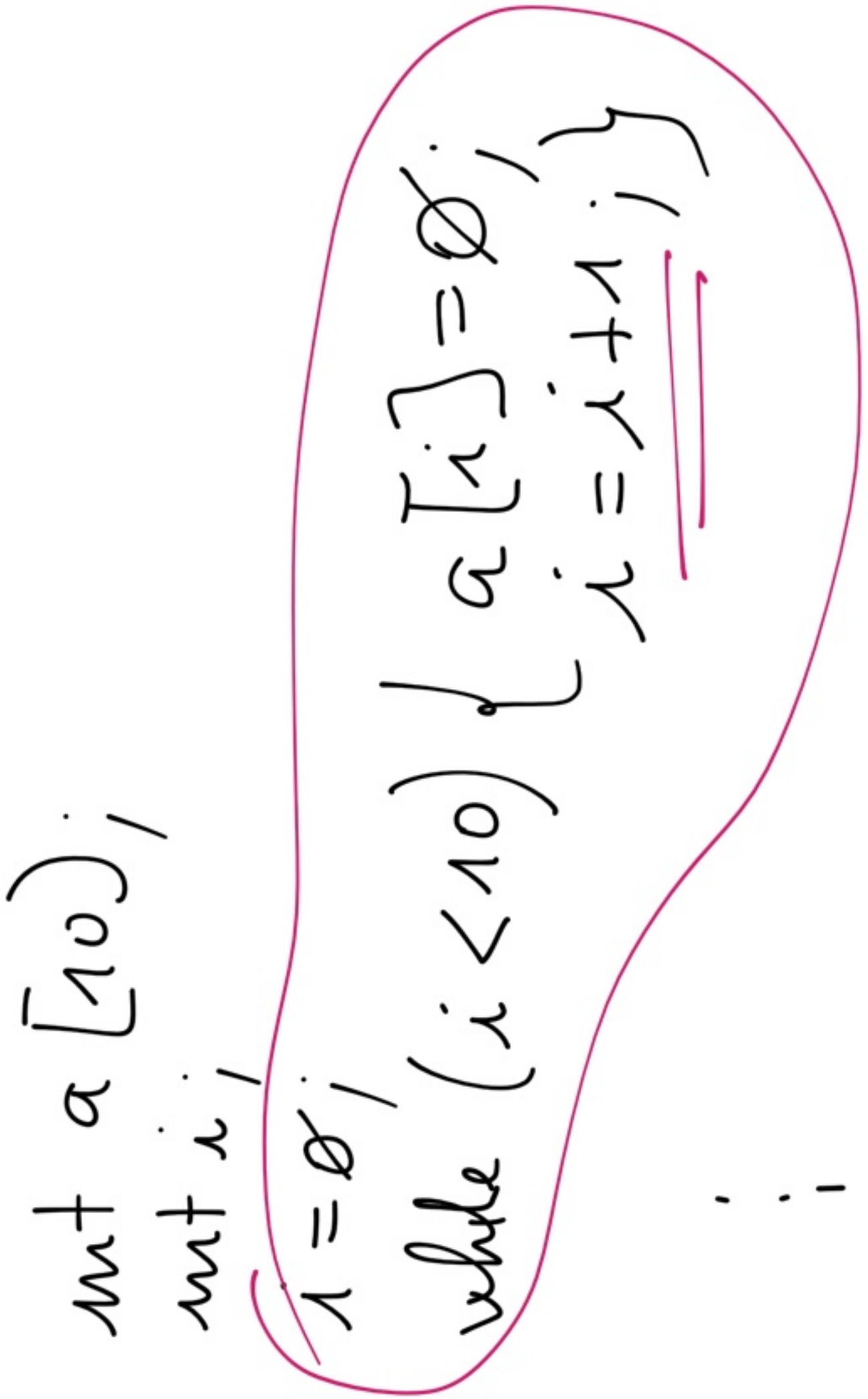
Sequenza di variabili tutte dello stesso tipo.



lunghezza = n


int a[10];
Tipo degli elementi
Nome array
Dimensione array


int a [10];
a [0] = 5;
a [2] = a [0] +


int a[10];
int i;
i = 0;
while (i < 10) {

```
for (i=0 ; i<10 ; i=i+1) {
```

inizializzazione

controllo

incremento

i++

```
int i;
int a[10];
for (i=0 ; i<10 ; i=i+1) a[i]=0;
```