Array (1A)

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Calculating the Mean of n Numbers

The mean of n numbers

$$m = \frac{\sum_{i=0}^{n-1} x_i}{n}$$

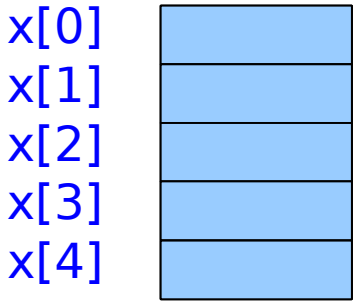
$$m = \frac{\sum_{i=0}^{4} x_i}{5} = \frac{(x_0 + x_1 + x_2 + x_3 + x_4)}{5}$$

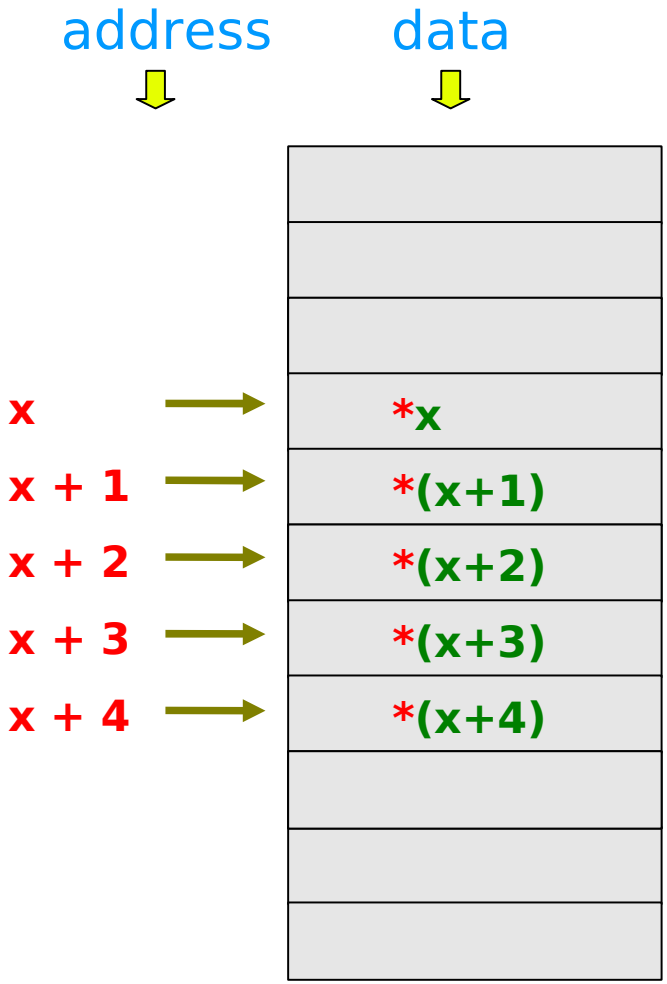
Array and Memory

```
int     x[10];
```

x holds *address*
*to **10** consecutive **int** variables*

10 int variables





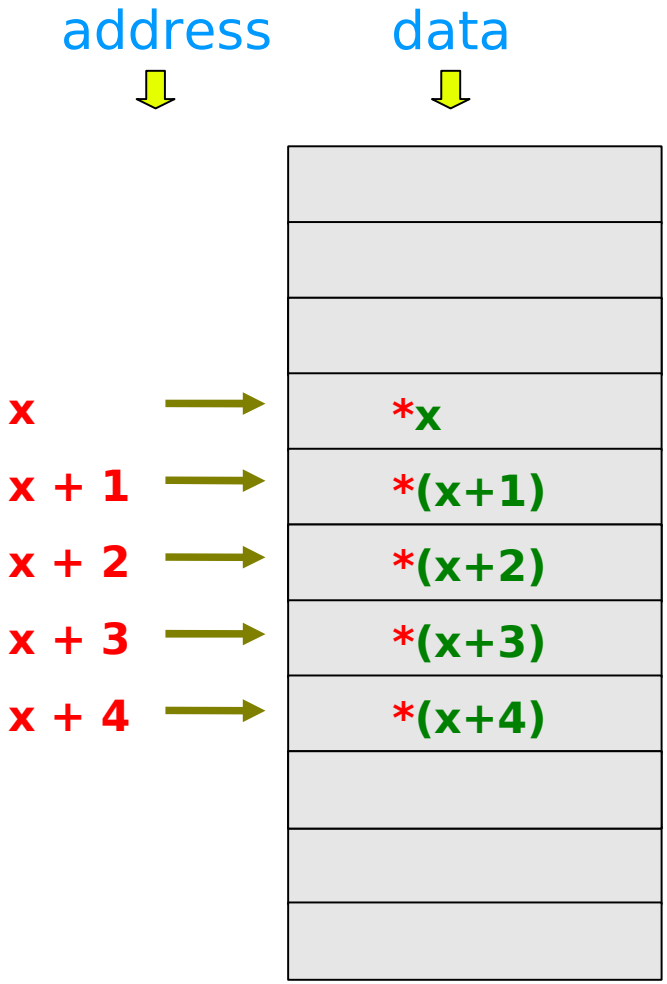
Array and Memory

```
int     x[10];
```

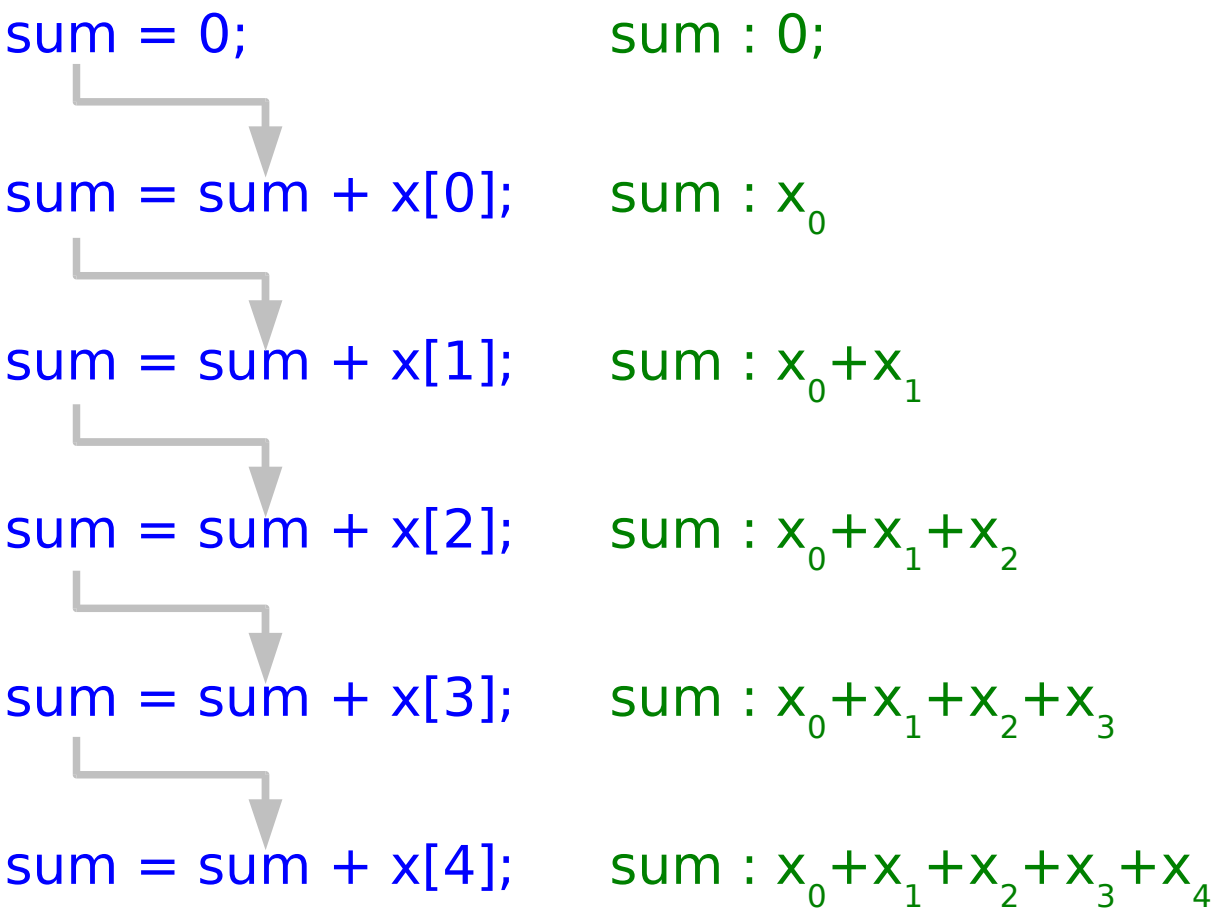
x holds *address*
*to **10** consecutive **int** variables*

10 int variables

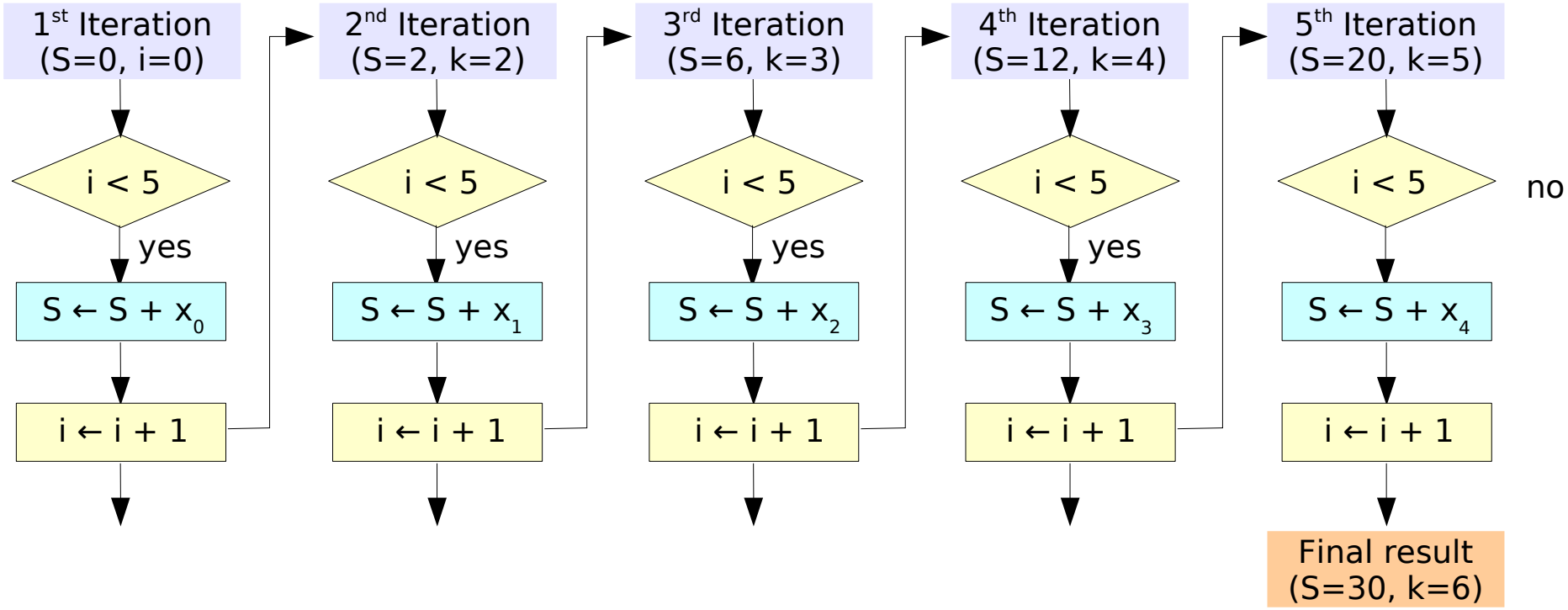
x[0] = 80	80	*(x+0) = 80
x[1] = 90	90	*(x+1) = 90
x[2] = 40	40	*(x+2) = 40
x[3] = 70	70	*(x+3) = 70
x[4] = 60	60	*(x+4) = 60



Calculating the Mean of n Numbers



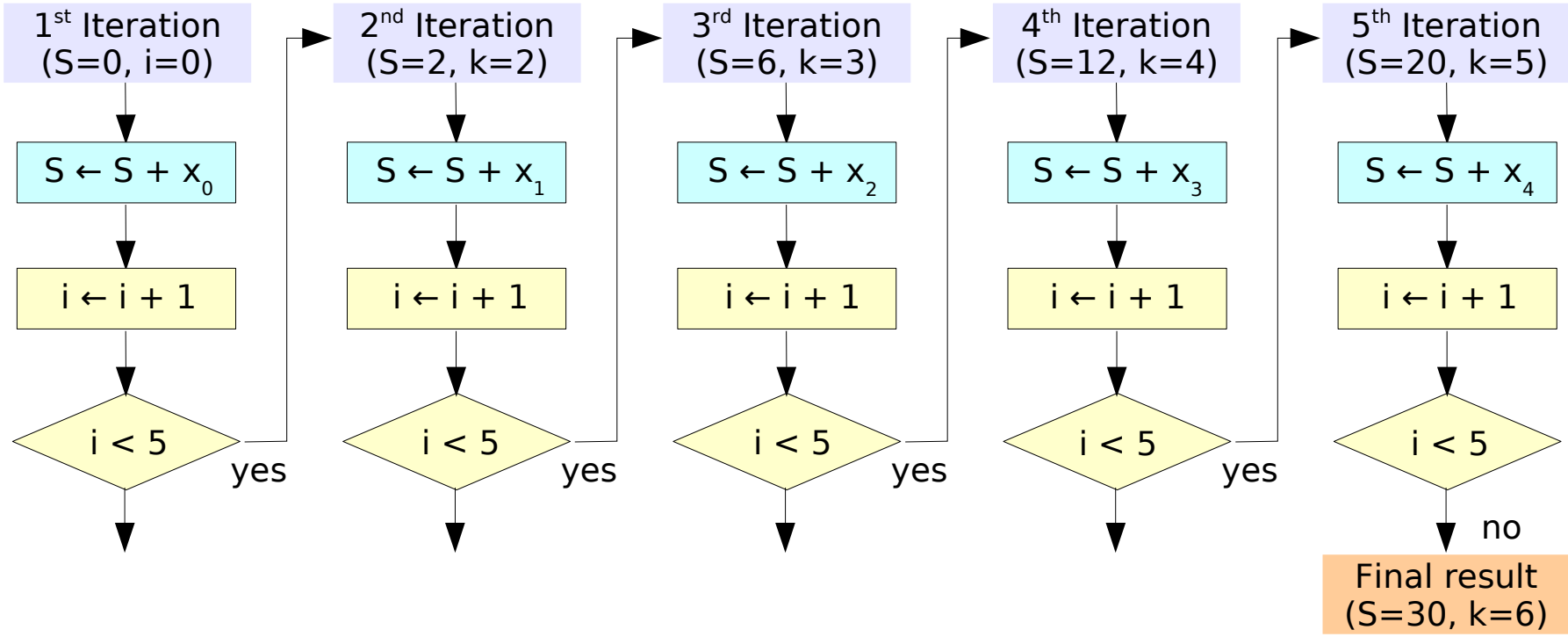
Sigma Notation and Flow Chart (2)



$a_1=2$,
$a_2=4$,
$a_3=6$,
$a_4=8$,
$a_5=10$

	A	B				
K	1	1	2	3	4	5
A_K		2	4	6	8	10
S	0	2	6	12	20	30

Sigma Notation and Flow Chart (2)



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$a_2=4$,
$a_3=6$,
$a_4=8$,
$a_5=10$

	A	B				
K	1	1	2	3	4	5
A_K		2	4	6	8	10
S	0	2	6	12	20	30

References

[1] Essential C, Nick Parlante
[2] Efficient C Programming, Mark A. Weiss
[3] C A Reference Manual, Samuel P. Harbison & Guy L. Steele Jr.
[4] C Language Express, I. K. Chun