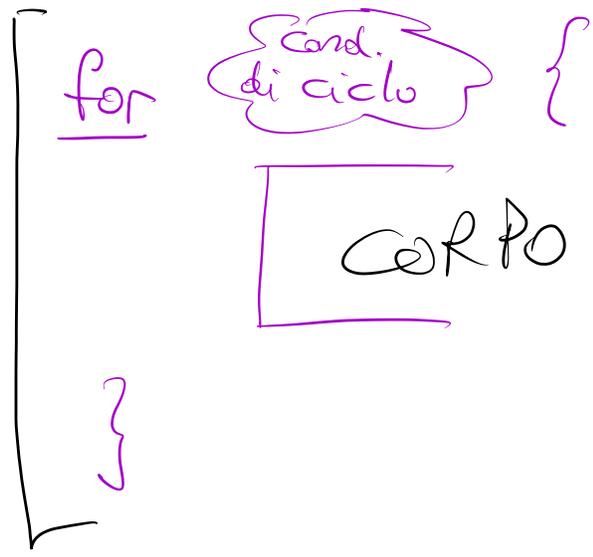


# ITERAZIONE

## FOR 1-ARIO



- Data un numero intero, calcolare e stampare il numero di cifre da cui è composto.

```
var x int
fun. Scan (&x)
c := 0
for x >= 0 {
  x /= 10
  C++
  if x == 0 {
    x --
  }
}
fun. Println (c)
```

x

c

- Dato  $n$  calcolare  $\boxed{1+2+\dots+n}$  ←

$$\begin{array}{ccccccc} \boxed{1} + \boxed{2} + & \dots & + \boxed{(n-1)} & + n & = & S \\ n + \boxed{(n-1)} + & \dots & + \boxed{2} & + \boxed{1} & = & S \end{array}$$

---


$$n(n+1) \qquad \qquad \qquad = 2S$$

$$S = \frac{n(n+1)}{2}$$

Var m, i, s      int

Funct. Scan (En)

i = 1  
for    i <= m    }  
    [ S += i  
    i++

}

Funct. Println (s)

var m, i, s     int

func Scan (&n)

s = 1  
i = 1

for     i <= m     {  
          [ s \* = i  
          i ++

}

func Println (s)

var m, s int  
fwt. Scan (&n)

for m >= 0 {  
    [ s += m  
      m --  
    }

fwt. Println (s)

CALCOLO DEL MASSIMO  
COMUNE DIVISORE

$$\text{MCD}(630, 168) = 42$$

$$\begin{array}{r|l} 630 & 2 \\ 315 & 5 \\ 63 & 3 \\ 21 & 3 \\ 7 & 7 \\ 1 & \end{array}$$

$$\begin{array}{r|l} 168 & 2 \\ 84 & 2 \\ 42 & 2 \\ 21 & 3 \\ 7 & 7 \\ 1 & \end{array}$$

$$2^1 \cdot 3^1 \cdot 7^1 = \textcircled{42}$$

```

var x, y, cand
fun Scan (&x, &y)
  if x < y {
    cand = x
  } else {
    cand = y
  }
  for x % cand != 0 || y % cand != 0 {
    cand --
  }

```

cand = min(x, y)

CAND USCITA È  
 $x \% cand == 0$  &&  
 $y \% cand == 0$

# ALGORITMO DI EUCLIDE

(per calcolare l'MCD (x,y))

- $r \leftarrow x \div y$
- se  $r = 0$   
y è l'MCD  
STOP

• altrimenti

$$x \leftarrow y$$

$$y \leftarrow r$$

$$x \quad \boxed{126}$$

$$y \quad \boxed{42}$$

$$r \quad \boxed{0}$$

var x, y  
func. Scan (&x, &y) <sup>int</sup>

for {  
    r := x / y ; r != 0 }  
    x = y ||| x, y = y, r  
    y = r  
    r = x / y  
}

func. Println (y)

a, b = b, a

FOR 0-ARIO

```
for {  
  corpo  
}
```

≡

```
for true {  
  corpo  
}
```

FOR 3-ARLO

```
for A; B; C {  
    CORPO  
}
```

≡

```
A  
for B {  
    CORPO  
C  
}
```

Var n, i, s     int

func. Scan (2n)  
s = 1

for    i = 1; i <= n; i++ {  
    [ s \* = i

}

func. Println (s)

```
for i:=0; i<100; i++ {  
    fut.Println("Ciao, padrone")  
}
```