float64 x;

int y;

...

y = int(x)

y = int (x + 0.5)

d := float64(y) - x

STRUTTURE DI CONTROLLO DEL FLUSSO

- SEQUENZA (BLOCCO) { ... }
- SELEZIONE
  - BINARIA (if)
  - MULTIARIA (switch)
  - CANALI (select)
- ITERAZIONE
  - 0-aria (for)
  - 1-aria (for)
  - 3-aria (for)
- ALTRI COSTRUTTI (break, continue, defer, return, ...)

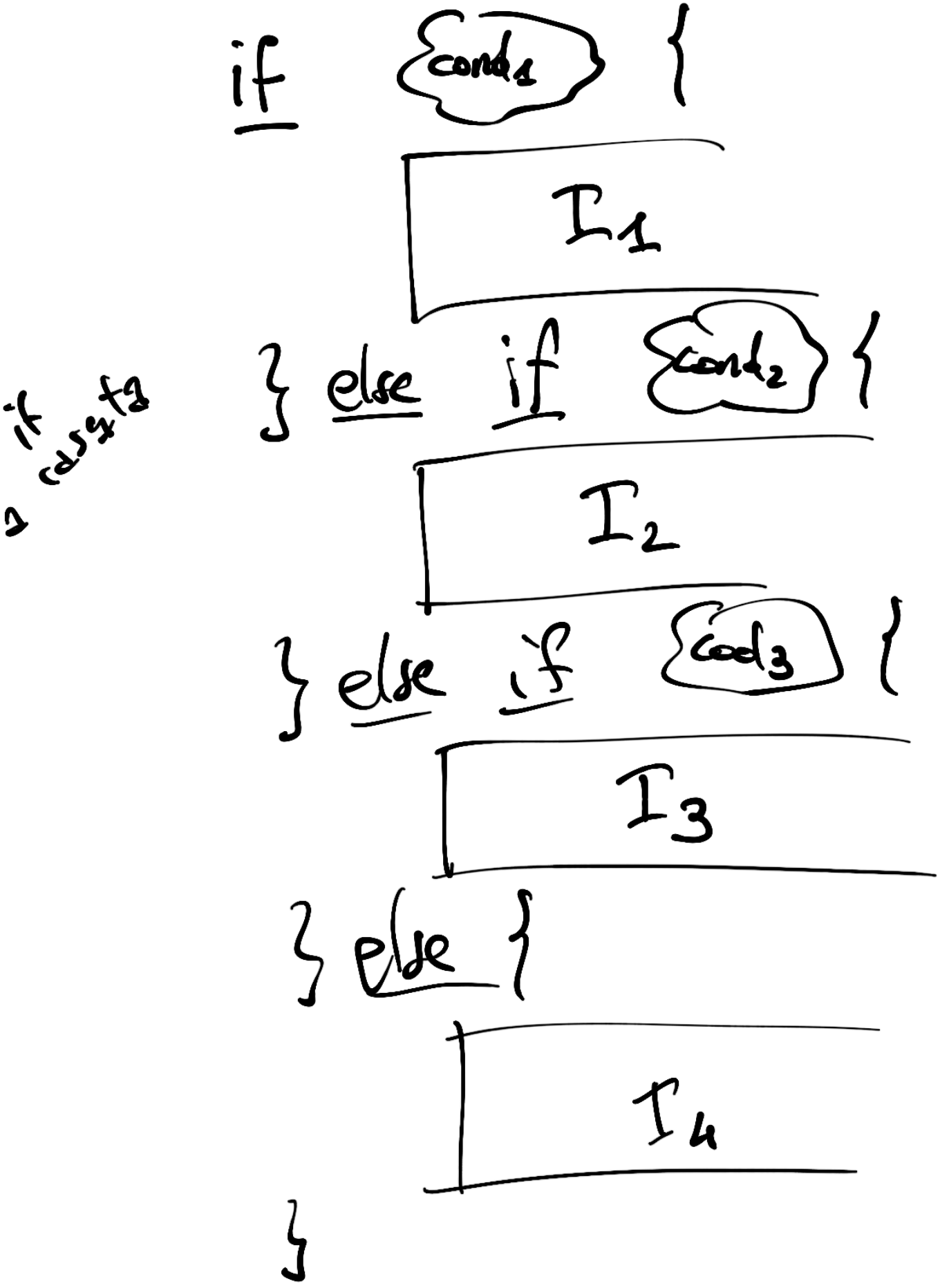
SINTASSI DELLA SELEZIONE BINARIA

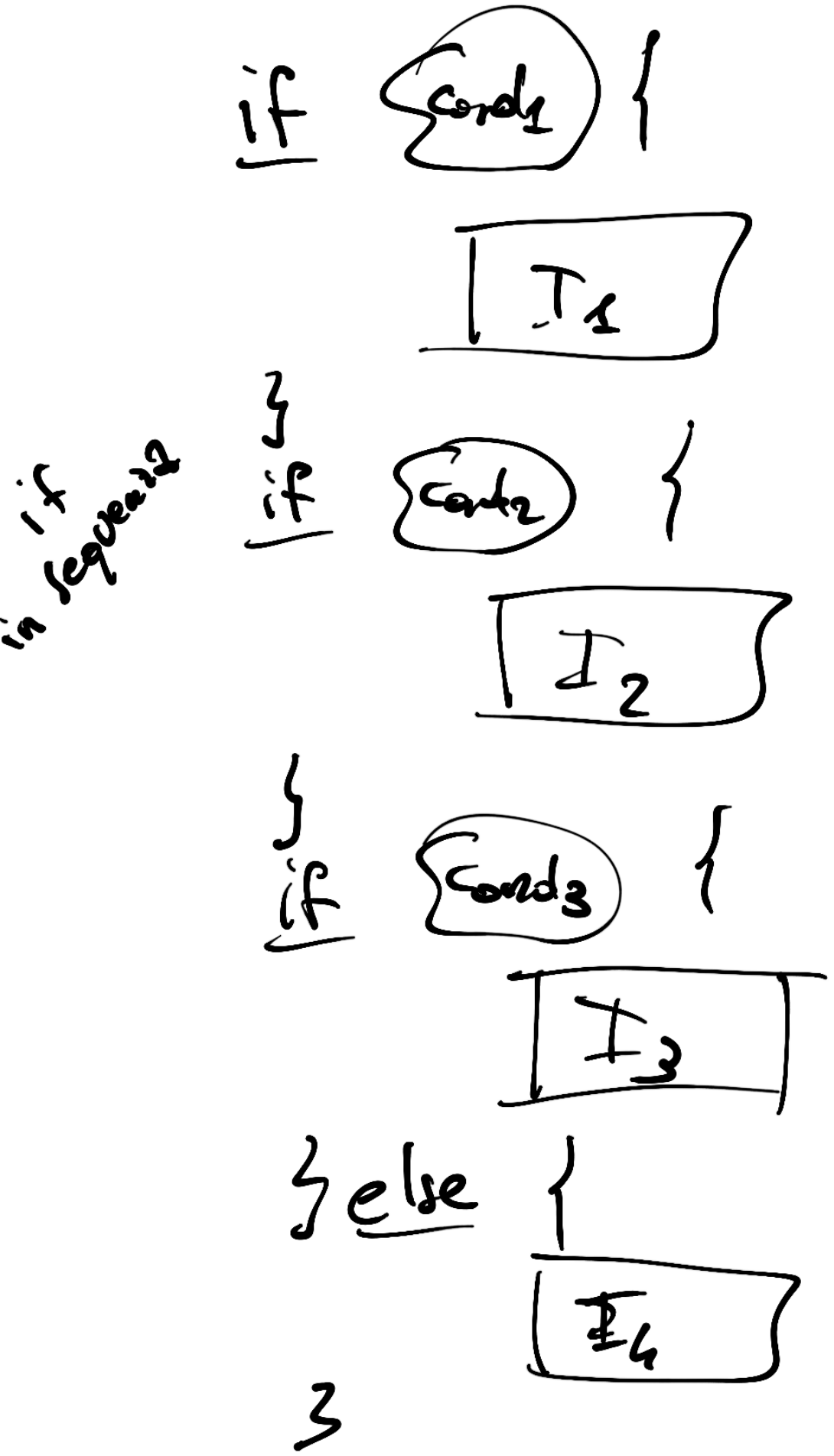
```
if (condizione) {
   ...
}
```

if incompleto

```
if (condizione) {
   ...
} else {
   ...
}
```

if completo


if cond1 {
I1
} else if cond2 {
I2
} else if cond3 {
I3
} else {
I4
}


if
Cond1
{
I1
}
if
in sequence
if
Cond2
{
I2
}
if
Cond3
{
I3
}else{
I4
}

STABILIRE FRA DUE FRAZIONI QUAL È LA MINORE

Num1: 3

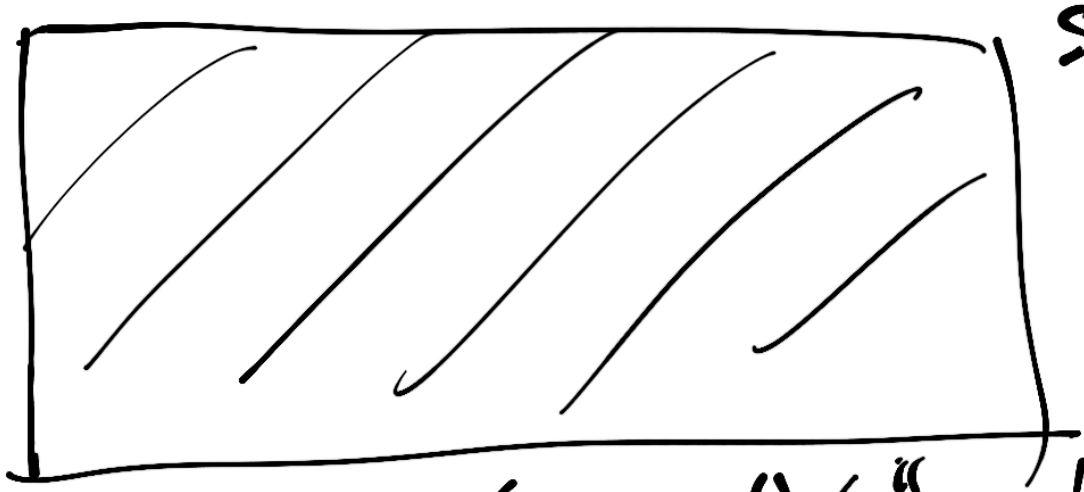
Den1: 7

Num2: 5

Den2: 4

$3/7 < 5/4$

```
var n1, d1, n2, d2 int
fmt.Scan(&n1)
fmt.Scan(&d1)
fmt.Scan(&n2)
fmt.Scan(&d2)
fmt.Print(n1, "/", d1)
```



STAMPA
<=>

```
fmt.Print(n2, "/", d2)
fmt.Println()
```

VARIANTE 1

```
var  f1, f2  float64
f1 = float64(n1)/float64(d1)
f2 = float64(n2)/float64(d2)
if  f1<f2 {
        fmt.Print("<")
}else   if  f1==f2  {
        fmt.Print("=")
}else {
        fmt.Print(">")
}
```

$$\frac{n_1}{d_1} \begin{matrix} < \\ = \\ > \end{matrix} \frac{n_2}{d_2}$$

$$n_1 d_2 \gtrless n_2 d_1$$

$\frac{5}{4} \quad \frac{4}{5}$

$25 > 16$

VARIANTE 2

```
if (n1 * d2 < n2 * d1) {
    fwt.Print("<")
} else if (n1 * d2 == n2 * d1) {
    fwt.Print("=")
} else {
    fwt.Print(">")
}
```

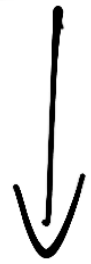
```
import "math"

math.Sqrt(3.5+x)
```

CONDIZIONI

if (f1 < f2) ...

if (n1 * d2 == n2 * d1) ...



ESPRESSIONI DI TIPO bool

var isMinore bool

isMinore = n1*d2 < n2*d1

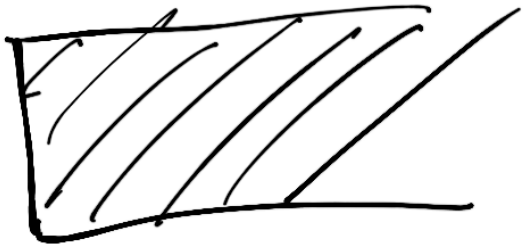
OPERATORI RELAZIONALI

Confrontano valori numerici

<	<=
>	>=
==	

true false

if true {



}

OPERATORI bool

&&	||	!
AND	OR	NOT
binari		unario

$$\&\& : B \times B \to B$$

$$|| : B \times B \to B$$

$$! : B \to B$$

$$f : \underbrace{B \times B \times \dots \times B}_{n} \to B$$

$$B = \{\underline{true}, \underline{false}\}$$

$$f: B^n \to B$$

$$2^{2^n}$$

TABELLA DI VERITÀ

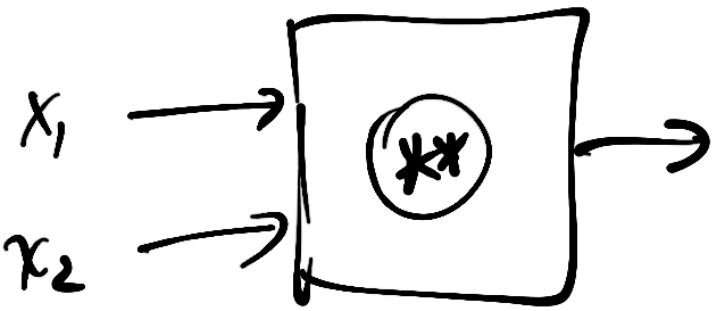
f	f	f	t
f	f	t	t
f	t	f	f
f	t	t	t
t	f	f	f
t	f	t	f
t	t	f	t
t	t	t	f

$$f : B^2 \to B$$

		*
f	f	t
f	t	t
t	f	t
t	t	t

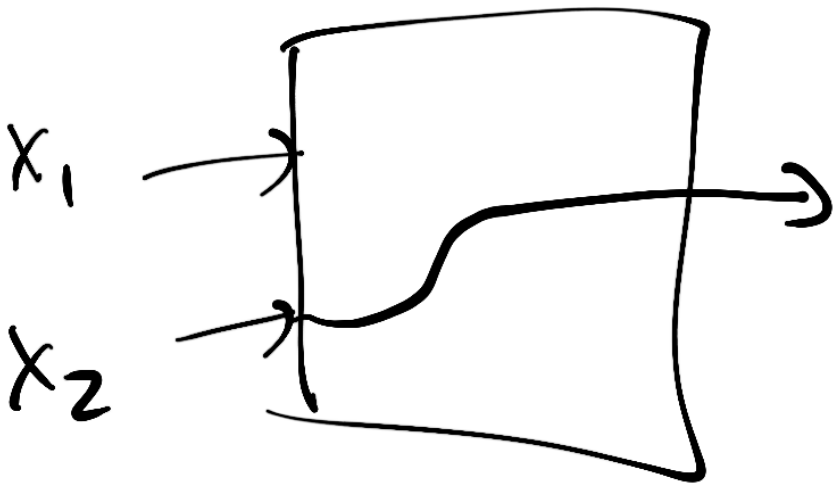
		**
t	t	f
f	t	f
t	f	f
t	t	f

t	f	t
f	t	f
t	f	f
t	t	f



. . .

x_1	x_2	
f	f	f
f	t	t
t	f	f
t	t	t



		∥
f	f	f
f	t	t
t	f	t
t	t	t

"or"

"o"

		&&
f	f	f
f	t	f
t	f	f
t	t	t

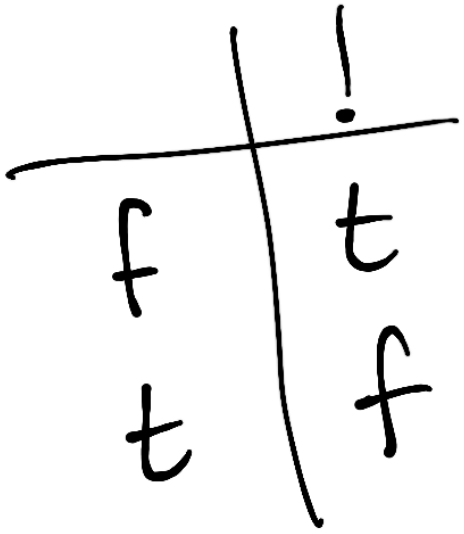
"and"

"e"

---

oggi non c'è il sole

e siamo a Roma



"not"

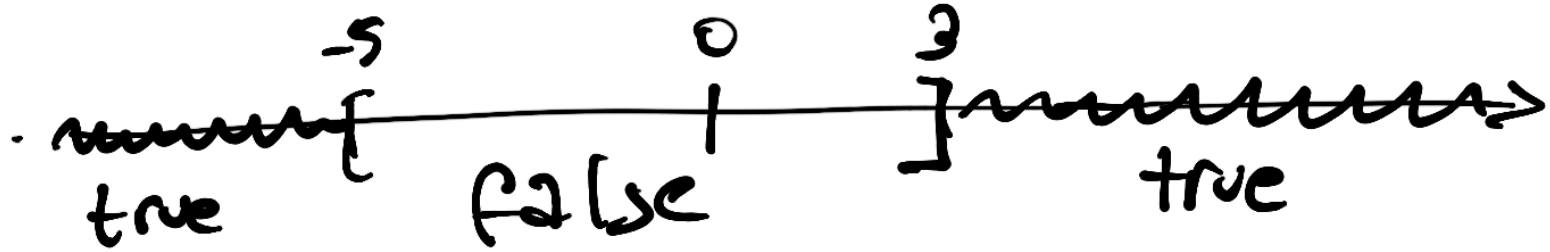
"non"

io non vivo a Milano

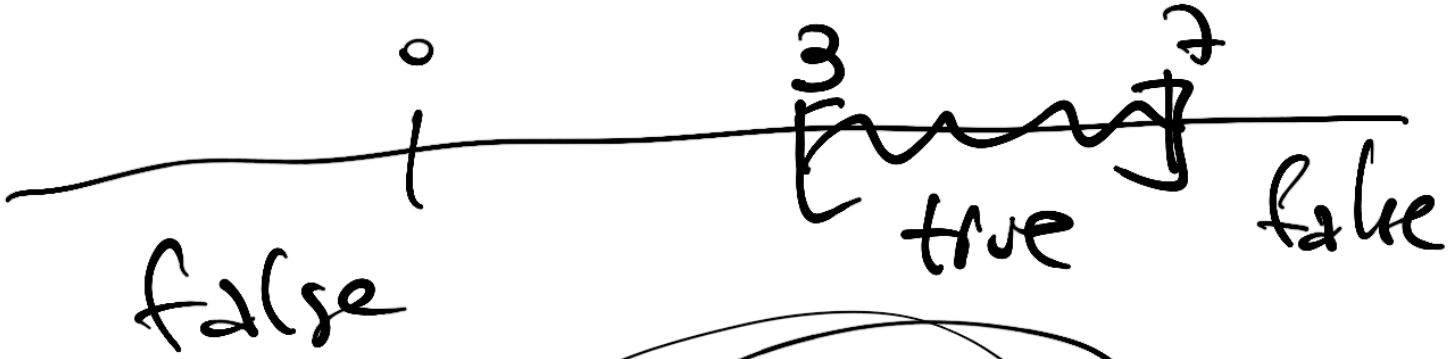
Var x float64

Var a bool

a = x > 3 || x < -5



a = x >= 3 && x <= 7



$3 \leq x \leq 7$

TEOREMI

$$!!a = a$$

$$a \,\&\&\, (a \,||\, b) = a$$

$$a \,\&\&\, !a = \text{false}$$

....

Leggi di De Morgan

$$!(a \,\&\&\, b) = (!a) \,||\, (!b)$$

$$!(a \,||\, b) = (!a) \,\&\&\, (!b)$$

var x, y int

if !(x>5 || y<=x)

{

if (!(x>5)) && (!(y<=x))

if x<=5 && y>x

Lette due date di nascita (giorno, mese, anno) stabilire se la prima persona è più vecchia, più giovane o coetanea della seconda