

TCH009-02 - Cours 3

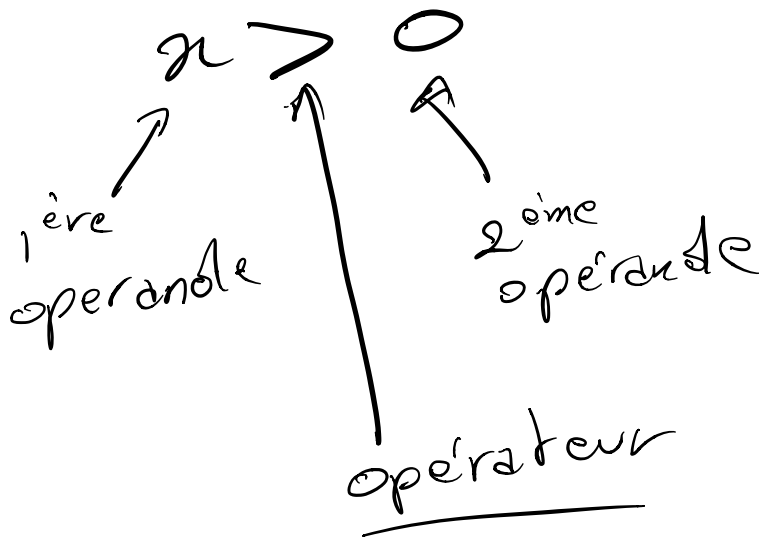
+ 3 relatives

if ($x > 0$)
{

}

$$\Rightarrow \underline{x > 0}$$

$$\underline{x + 2}$$



\emptyset : faux
1 : vrai

$$\underline{x > 0}$$

$\hookrightarrow \emptyset$: faux
Toute autre : vrai
valeur

$25 > 2$

Φ : faux

une autre
valeur : vrai

```
if ( $\Phi$ )  
{  
     $\Rightarrow$  printf("Allô");  
}
```

```

if (5)
{
    printf("Bonjour!");
}

```

```

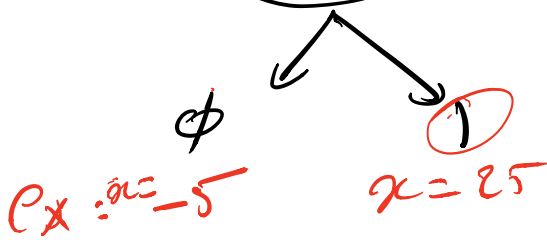
if ( x + 5 )
{
    printf("Allô!");
}

```

$x = -2$
 $x = -5$

3 vrai
 4 faux

if (x > 0)



si $x > 0 \Rightarrow 1$
si $x \leq 0 \Rightarrow \phi$

x différent de -5

if ($x + 5$) x

}

||

}

$x = 25$

if ($x = 2$)

}

\Rightarrow printf ("Bonjour!");

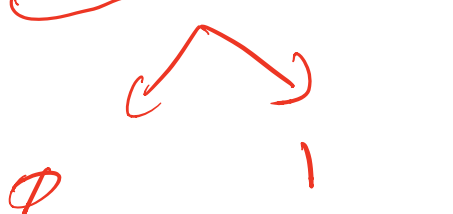
}

1

$$\frac{x=2}{2}$$

$$x = 25;$$

```
if (  $x \neq 0$  )  
{  
    printf("Allo");  
}
```

$$\underbrace{x == \phi}$$




$$x >= y$$

~~$$x \neq y$$~~

$$x <= y$$



$x >= y$ sup. égal

$x <= y$ inf. égal.

if ($x \neq -5$)

}

==

\neq different

}

if ($x \neq 5$)

}

==

}

if ($x \neq -5$)

}

≡

}

$y = 5, z = 8$

$x = \underbrace{(y > 2)}_1 + \underbrace{(z < 5)}_\phi;$

if ($x == 2$)

}

≡

}

$$x = \underbrace{y == 2} + \underbrace{2 > 3} + \underbrace{x < 0};$$

$x = 5$

$$\underline{x > 0} \rightarrow$$

if ($\underbrace{x > 0 \ \&\& \ y < 0}$)

}

|||

```

}
else
}

```

≡

```

}

```

$x > 0 \ \&\& \ y < 0$

$x > 0$	$y < 0$	$\&\&$
1	1	1
1	0	0
0	1	0
0	0	0

$x \ \&\& \ y$

$$\begin{array}{c|c|c}
 x & y & x \text{ and } y \\
 \hline
 1 & 1 & 1 \\
 1 & \emptyset & \emptyset \\
 \emptyset & 1 & \emptyset \\
 \emptyset & \emptyset & \emptyset
 \end{array}$$

$x = -5$

if $(\underbrace{0 < x < 200}_{\emptyset < 200})$
 {
 1

} $\underbrace{x = -5}_{\emptyset}$
 if $(\underbrace{x > 0}_{\emptyset} \text{ and } \underbrace{x < 200}_1)$

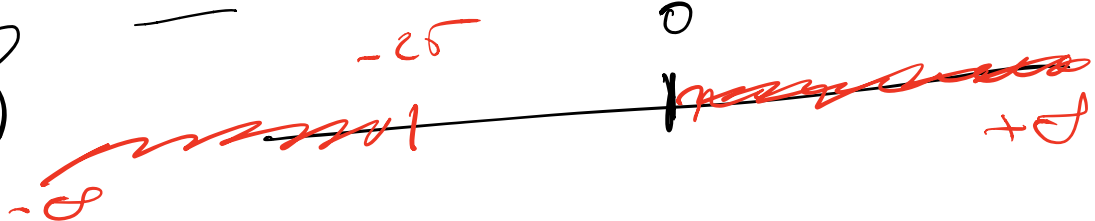
ϕ

$\{ \text{if } (nb1 > nb2 \ \&\& \ nb1 > nb3)$
 $\{$
 $max = nb1;$
 $\}$

else if (nb2 >

$\{ \text{if } (x > 0 \ || \ x < -25)$
 $\{$

$\{$
 $\{$
 $\}$



$$x > 0 \quad || \quad y < -25$$

$x > 0$	$y < -25$	
1	1	1
1	\emptyset	1
\emptyset	1	1
\emptyset	\emptyset	\emptyset

! Not

! ($x > 0$)

Vrai si
 $x > 0$ est
 faux

```

if ( ! (x > 0) )
{

```

```

}
_____
int x;

```

```

if ( ! x )
{

```

vrai si $x = 0$

```

}

```

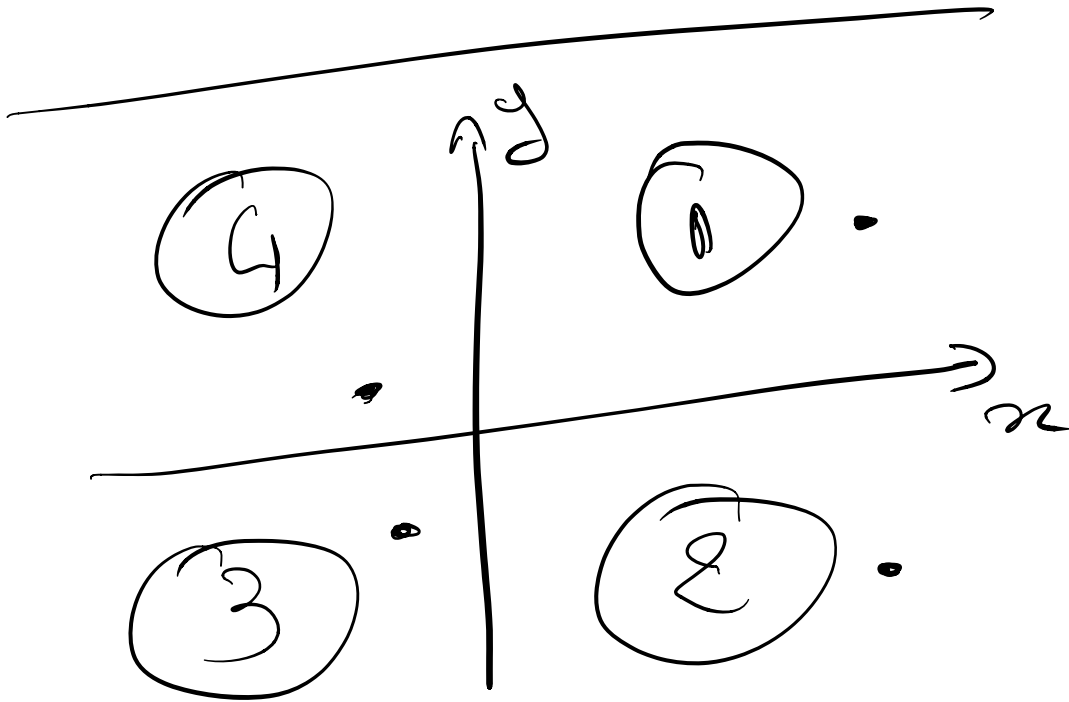
$x \in \emptyset$

if ($x == \emptyset$)

}

|||

}



x	y	xy
1	1	1
1	0	0
0	1	0
0	0	0

x	y	$x \vee y$
1	1	1
1	0	1
0	1	1
0	0	0

x	$\neg x$
0	1
1	0

$$x = 23$$

$$y = 16$$

$$z = x \& y$$

$$\hookrightarrow z = 16$$

x	0	0	0	1	0	1	1	1	
y	0	0	0	1	0	0	0	0	
$x \& y$	ϕ	ϕ	ϕ	1	ϕ	0	ϕ	ϕ	$= 16$
$x y$	0	0	0	1	0	1	1	1	$= 23$

$$x = 23$$

$$y = 24$$

. | | | |

$$\begin{array}{r}
 x: \begin{array}{|c|c|c|c|c|c|c|c|c|} \hline 0 & 0 & 0 & 1 & 0 & 1 & 1 & 1 & 1 \\ \hline \end{array} \\
 y: \begin{array}{|c|c|c|c|c|c|c|c|c|} \hline 0 & 0 & 0 & 1 & 1 & 0 & 0 & 0 & 0 \\ \hline \end{array} \\
 \hline
 x \mid y \quad 000011111 \\
 \boxed{x \mid y = 31}
 \end{array}$$

$$\begin{array}{l}
 \cancel{x} \sim x \\
 x = 16 \\
 x: 000010000 \\
 \sim x: 11101111 \\
 255 - 16 = 239
 \end{array}$$

$$\begin{array}{l}
 x = 16 \\
 \sim x = 239
 \end{array}$$

$$\begin{array}{r}
 8 \quad 10011101 \quad : \\
 \quad 00000100 \quad : \\
 \hline
 \quad 00000100
 \end{array}$$