

Nombres réels → erreurs de calculs

type Float 32 bit
 double 64 bit

double x = 8.3 ;
 / | \
 type identificateur valeur initiale

Float f = 8.3f ;
 \
 8.3 au format "float"

8.3 ← double
 8.3f ← float

float f = 8.3 ;
 / |
 float double

	min	max
float	$1.1 \cdot 10^{-38}$ FLT_MIN	$3.4 \cdot 10^{38}$ FLT_MAX
double	$2.2 \cdot 10^{-308}$ DBL_MIN	$1.8 \cdot 10^{308}$ DBL_MAX

opération math: + - * /

fonctions math: cos sin tan sqrt pow
 acos asin atan

Affichage `int32_t i = 42;`

entier : `printf(" i = %d", i); // i = 42`

`double x = 8.3;`

format: `%lf` long float

`printf(" x = %lf", x);`

15h06

① Créer TD 2020 0929

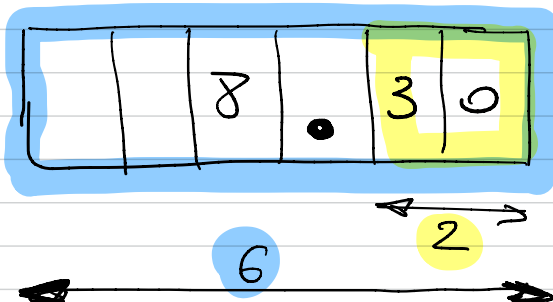
② déclarer 2 variables : $\begin{matrix} f & \text{float à } 8.3 \\ d & \text{double à } 8.3 \end{matrix}$

③ afficher f et d.

15h17

`%f` ou `%lf` 6 chiffres après la virgule

`%.10lf` 10 chiffres après la virgule



`%6.2lf`

$x = 8.3$
 $x = -8.3$
 $x = 8.3$
 $x = -8.3$

$\begin{matrix} \lll 8.30 \\ \lll -8.30 \\ \lll +8.30 \\ \lll -8.30 \end{matrix} \quad \begin{matrix}) \\) \\) \\) \end{matrix} \quad \begin{matrix} \%6.2lf \\ \%6.2lf \\ \%+6.2lf \\ \%+6.2lf \end{matrix}$

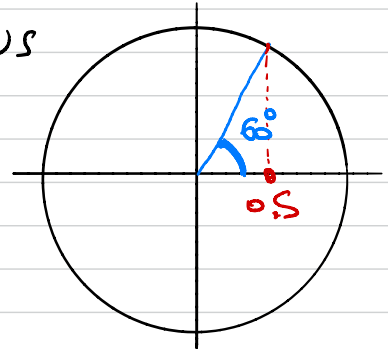
15h30

opération mathématiques.

$\cos(a)$

cosinus

radians



Conversion $(^\circ) \rightarrow (rad)$: $\times \frac{\pi}{180}$

$d = 60.0$;

```
printf("cos = %lf", cos(d * 3.141592654 / 180.));
```

double double

180	entier
180.	double
180f	float

constantes

const double $\pi = 3.141592654$;

```
printf("cos = %lf", cos(d *  $\pi$  / 180.));
```

/// Impossible de modifier une constante
→ ça ne compile pas!!

Virgule fra.

"1.25"

→

$x_2 \quad x_1 \quad x_{0.5} \quad x_{0.25}$

0	1	0	1
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→ 1.25₍₁₀₎

"1.40"

0	1	1	0
0	1	0	1

→ 1.5 $\Delta = 0,1$
→ 1.25 $\Delta = 0,15$

0	1	0	1	1
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$x_2 \quad x_1 \quad x_{0.5} \quad x_{0.25} \quad x_{0.125}$

→ 1.375 $\Delta = 0,025$

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