CTIC – LaTeX
TikZ BÁSICO

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Parte IX

TikZ básico

1 TikZ básico

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```
\usepackage{tikz}
```

```
\tikzset{opciones}
```

```
\usetikzlibrary{...}
```

TikZ

Entornos, ámbitos

```
\begin{tikzpicture}[opciones]
...
\end{tikzpicture}
```

```
\tikz[opciones]{..}
```

TikZ

Sintaxis para los caminos

```
\path ___;
```

```
\path ___( , ) ( , )___;
```

```
\path ___ ( , )--( , )___;
\path ___ ( , )--cycle;
```

```
\path ___ ( , )-|( , )___;
\path ___ ( , )-|cycle;
\path ___ ( , )|-( , )___;
\path ___ ( , )|-cycle;
```

```
\path ( , )___ rectangle ( , ) ___;
```

TikZ

Sintaxis para los caminos

- rounded corners

```
\path ( , ) circle[opciones] ___;
```

Entre las opciones tenemos:

- x radius=...
- y radius=...
- radius=...
- rotate=...

```
\path ( , ) grid[opciones] ( , );
```

Algunas opciones son:

- step=

TikZ

Sintaxis para los caminos

- xstep=
- ystep=
- help lines

```
\path ( , ) to[opciones] ( , );
```

Entre las opciones tenemos:

- out=
- in=

TikZ

Acciones sobre caminos

```
\draw ≡  \path[draw]
```

```
\fill ≡ \path[fill]
```

```
\filldraw ≡ \path[fill,draw]
```

```
\useasboundingbox ≡  \path[use as bounding box]
```

```
color=
draw=color
```

TikZ

Acciones sobre caminos

```
line width=
ultra thin
very thin
thin
semithick
thick
very thick
ultra thick
```

TikZ

Acciones sobre caminos

```
solid
dotted
densely dotted
loosely dotted
dashed
densely dashed
loosely dashed
```

```
double=color_medio
double distance=
fill=color
```

TikZ

Flechas

```
arrows=comienzo-final
```

```
\usetikzlibrary{arrows.meta}
```

```
length=
width=
scale=
scale length=
scale width=
color=
fill=
```

TikZ

Flechas

```
Arc Barb[]
Bar[]
Bracket[]
Hooks[]
Parenthesis[]
Straight Barb[]
Tee Barb[]

Classical TikZ Rightarrow[]
Computer Modern Rightarrow[]
Implies[]
To[]
```

TikZ

Flechas

```
Circle[]
Diamond[]
Ellipse[]
Kite[]
Latex[]
Latex[round]
Rectangle[]
Square[]
Stealth[]
Stealth[round]
Triangle[]
Turned Square[]

Circle[open]
```

TikZ

Flechas

```
Diamond[open]
Ellipse[open]
Kite[open]
Latex[open]
Latex[round,open]
Rectangle[open]
Square[open]
Stealth[open]
Stealth[round,open]
Triangle[open]
Turned Square[open]
```

TikZ

Nodos

```
\path ( , ) node [opciones](nombre)at( , ){contenido}
```

Una de las opciones es:

- shape= (rectangle o circle)

```
\node at ( , ){___} ≡  \path ( , )node{___}
```

TikZ

Nodos

```
inner sep=
inner xsep=
inner ysep=
outer sep=
outer xsep=
outer ysep=

minimum height=
minimum width=
minimum size=

shape aspect=
text=color
```

TikZ

Nodos

```
node font=
font=
text width=
align= left, flush left, right, flush right,
       center, flush center, justify
above=
below=
left=
right=
above left
above right
below left
```

TikZ

Nodos

below right
centered

TikZ

Plot de funciones

```
\path ( , ) plot[opciones locales] ( , ) ;
```

Opciones locales:

- variable=
- samples=
- domain=start:end
- smooth
- tension=
- smooth cycle

TikZ

Transformaciones

```
shift={coordinate}
xshift=dimensión
yshift=dimensión
scale=factor
xscale=factor
yscale=factor
rotate=grados
```

TikZ

Una llave grande

```
\usetikzlibrary{decorations.pathreplacing}
```

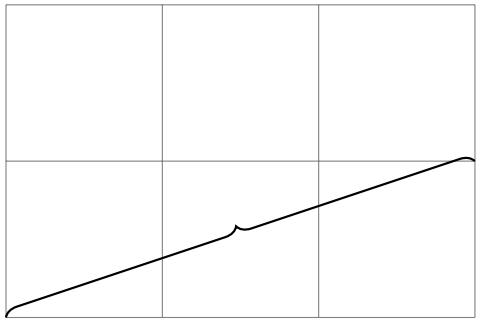
```
amplitude=
aspect=
```

TikZ

Una llave grande

Ejemplo

```
\begin{tikzpicture}
\draw [help lines] grid (3,2);
\draw [decoration=brace,decorate] (0,0) -- (3,1);
\end{tikzpicture}
```



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Bibliografía – TikZ Básico

The Comprehensive TEX Archive Network
https://www.ctan.org/tex-archive/graphics/pgf/base/doc