Trasparencias del Curso de LaTeX II

IV CURSO DE LATEX del GUL

Grupo de usuarios de Linux

Univ. Carlos III de Madrid

3 de abril de 2003

Entornos matemáticos

- Dos posibilidades principales:
  - Entornos equation, eqnarray y displaymath:

$$i = 1$$

```
\begin{equation*}
\label{eq:pru1}
  i=1
\end{equation*}
```

  - Inclusión en el texto con $ $

Y de aquí se extrae $\frac{1}{2}$

```
Y de aquí se extrae $\frac {1}{2}$
```

Numeración y referencia

$$
\begin{aligned}
\frac{10}{20} &= \sqrt{0{,}25} \qquad (1)\\
\vec{x} &= \vec{y} + \vec{j} \qquad (2)
\end{aligned}
$$

Ec (1) y ec (2).

```
\begin{eqnarray}
  \label{eq:eqn1}
  \frac{10}{20} & = & \sqrt{0.25} \\
   \label{eq:eqn2}
   \vec{x} & = & \vec{y} + \vec{j}
\end{eqnarray}

Ec (\ref{eq:eqn1}) y ec (\ref{eq:eqn2}).
```

Variado

- Letras griegas:

$\alpha, \beta, \delta, \Delta$

```
$\alpha, \beta, \delta, \Delta$
```

- Fracciones:

$$\cfrac{1}{\sqrt{2}+\cfrac{1}{\sqrt{3}+\cfrac{1}{\sqrt{4}+\cfrac{1}{\sqrt{5}+\dotsb}}}}$$

```
\begin{equation*}
\label{eq:pru12}
 \cfrac{1}{\sqrt{2}+
  \cfrac{1}{\sqrt{3}+
   \cfrac{1}{\sqrt{4}+
     \cfrac{1}{\sqrt{5}+\dotsb
}}}}
\end{equation*}
```

Variado

- Subíndices y superíndices:

$X_1, X_{Y_2}, X_{\frac{1}{2}}^{\alpha}$

```
$X_1, X_{Y_2},X_{\frac{1}{2}}^{\alpha}$
```

$$\sum_{i \ge 1}^{i < \infty} x_i$$

```
\[ \sum_{i \ge 1}^{i < \infty} x_i \]
```

$$\iint_{B_1}^{B_2}$$

```
\[ \iint_{B_1}^{B_2} \]
```

- Límites

$$\lim_{n \rightarrow 0} \frac{\sin x}{x}$$

```
\lim_{n \rightarrow 0} \frac
{\sin x} {x}}
```

Variado

- Matrices:

$$\mathbf{x} = \left(\begin{array}{cccc} x_{11} & x_{12} & \ldots & x_{1n}\\ x_{21} & x_{22} & \ldots & x_{2n}\\ \vdots & \vdots & \ddots & \vdots \\ x_{n1} & x_{n2} & \ldots & x_{nn} \end{array} \right)^{-1}$$

```
\begin{displaymath}
\mathbf{x} =
\left(
  \begin{array}{cccc}
    x_{11} & x_{12} & \ldots & x_{1n}\\
    x_{21} & x_{22} & \ldots & x_{2n}\\
    \vdots & \vdots & \ddots & \vdots \\
    x_{n1} & x_{n2} & \ldots & x_{nn}
  \end{array}
\right )^{-1}
\end{displaymath}
```

Variado

- Matrices:

$$\begin{pmatrix} 0 & 11 & 2 \\ 431 & 4 & 5 \end{pmatrix}$$

```
\[ \begin{pmatrix} 0 & 11 &2 \\ 431 & 4 &5
\end{pmatrix}\]
```

$$\begin{matrix} 0 & 1 \\ -1 & 1 \end{matrix} \quad \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} \quad \begin{vmatrix} 1 & 2 \\ 3 & 4 \end{vmatrix} \quad \begin{Vmatrix} 1 & 2 \\ 3 & 4 \end{Vmatrix}$$

matrix bmatrix vmatrix Vmatrix

Variado

Separadores:

- Tamaño fijo:

$$\boxed{(\big(\Big(\bigg(\Bigg(}$$

```
\boxed{(\big(\Big(\bigg(\Bigg(}
```

- De tamaño ajustable

$$\left(\frac{\frac{1+6}{2}}{\pi} \right)$$

```
$\left( \frac{\frac{1+6}{2}}{\pi}
\right)$
```

Alineación

$$x^2 + y^2 = 1 \tag{3}$$
$$x = \sqrt{1 - y^2} \tag{4}$$

$$\begin{split}(a+b)^4 &= (a+b)^2 = \\ &= (a^2 + 2ab + b^2)^2 = \\ &= a^4 + 4a^3 + \ldots\end{split}$$

```
\begin{align}
  x^{2} + y^{2} & = 1 \\
  x &= \sqrt{1-y^{2}}
\end{align}

\[
\begin{split}
  (a+b)^{4} & = (a+b)^{2} = \\
  & = (a^{2}+2ab+b^{2})^{2} = \\
  & = a^{4}+4a^{3}+\ldots
\end{split}
\]
```

Variado

$$\underbrace{a+b+\cdots+z}_{26}$$

$$P_{r-j} = \begin{cases} 0 & \text{r-j impar} \\ r!\,(-1)^{(r-j)/2} & \text{r-j par} \end{cases}$$

```
$\underbrace{a+b+\cdots+z}_{26}$

\begin{equation*}
P_{r-j} =
 \begin{cases}
   0 & \text{r-j impar},\\
   r!\,(-1)^{(r-j)/2)} & \text{r-j par}
 \end{cases}
\end{equation*}
```

Cosas más complicadas

$$\sum_{\substack{0\leq i\leq m\\ j\in\mathbb{R}_C}}^{\substack{i=\frac{x}{y}\\ j=\infty}} 2^i \binom{i}{j} \left\{ \frac{\underset{V}{\int\cdots\int} dv \cdot \int_{D_1}^{D^2} \sqrt[\beta]{\frac{\theta}{\oint_S}}}{\begin{vmatrix} \frac{1}{2} & \varepsilon^{1,0} \\ \multicolumn{2}{c}{\dotfill} \\ c & d \end{vmatrix}} \right\}$$