Paquete `amsmath`

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1 Entorno de ecuaciones

1.1 Entorno `equation`

```
\begin{equation}
    m \frac{d^{2} x}{d t^{2}} = - k x
\end{equation}
```

$$m\frac{d^2x}{dt^2} = -kx \tag{1}$$

1.2 Entorno `equation*`

```
\begin{equation*}
    m \frac{d^{2} x}{d t^{2}} = - k x
\end{equation*}
```

$$m\frac{d^2x}{dt^2} = -kx$$

1.3 Entorno `align`

```
\begin{align}
    (a + b)^2 &= (a + b)(a + b) \nonumber \\
              &= a^2 + ab + ba + b^2 \\
              &= a^2 + 2ab + b^2 \nonumber
\end{align}
```

$$\begin{aligned}(a+b)^2 &= (a+b)(a+b) \\ &= a^2 + ab + ba + b^2 \\ &= a^2 + 2ab + b^2\end{aligned} \tag{2}$$

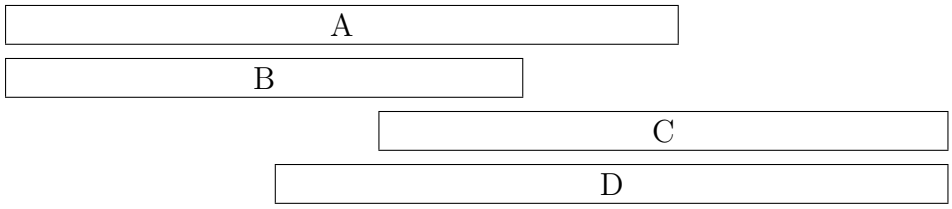
1.4 Entorno gather

```
\begin{gather}
    a^2 + b^2 = c^2 \\
\sin^2(\theta) + \cos^2(\theta) = 1
\end{gather}
```

$$a^2 + b^2 = c^2 \tag{3}$$
$$\sin^2(\theta) + \cos^2(\theta) = 1 \tag{4}$$

1.5 Entorno multiline

```
\begin{multline}
\framebox[0.65\columnwidth]{A} \\
\shoveleft{\framebox[0.50\columnwidth]{B}} \\
\shoveright{\framebox[0.55\columnwidth]{C}} \\
\framebox[0.65\columnwidth]{D}
\end{multline}
```



(5)

1.6 Entorno split

```
\begin{equation}
    \begin{split}
        H_{c} & = \frac{1}{2n} \sum_{l=0}^{n} (-1)^{l}
        (n - l)^{p} \sum_{l_{1} + \dots + l_{p}=l}
```

```
        \prod_{i=1}^{p} \binom{n_i}{l_i} \\
        & \quad \cdot [(n-l) -
        (n_{i} - l_{i})]^{n_{i} - l_{i}}
        \cdot \left[(n - l)^{2} -
        \sum_{j=1}^{p} (n_{i} - l_{i})^2 \right]
    \end{split}
\end{equation}
```

$$
\begin{aligned}
H_c = \frac{1}{2n} \sum_{l=0}^{n} (-1)^l (n-l)^p & \sum_{l_1+\cdots+l_p=l} \prod_{i=1}^{p} \binom{n_i}{l_i} \\
& \cdot [(n-l) - (n_i - l_i)]^{n_i - l_i} \cdot \left[(n-l)^2 - \sum_{j=1}^{p} (n_i - l_i)^2 \right]
\end{aligned}
\tag{6}
$$

1.7 Entorno array

```
\begin{equation}
    \left(
        \begin{array}{c c c}
            1 & 2 & 3 \\
            4 & 5 & 6 \\
            7 & 8 & 9
        \end{array}
    \right)
    \times
    \left(
        \begin{array}{c c c}
            1 & 2 & 3 \\
            4 & 5 & 6 \\
            7 & 8 & 9
        \end{array}
    \right)
\end{equation}
```

$$
\left(\begin{array}{c c c} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{array} \right) \times \left(\begin{array}{c c c} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \end{array} \right) \tag{7}
$$

1.8 Entorno cases

$$\delta_{ij} = \begin{cases} 0 & i \neq j \\ 1 & i = j \end{cases} \tag{8}$$

$$\delta_{ij} = \left\{ \begin{array}{ll} 0 & i \neq j \\ 1 & i = j \end{array} \right. \tag{9}$$