# Table of Contents

# Plugins Usage Examples

## Refnotes Plugin Usage Examples

These are examples of citations to books **[1]** and **[2]**, a chapter on a smart companion **[3]**, articles on IoT **[4]**, blimps **[5]**, cloud computing **[6]**, gas emissions **[7]**, pedestrian crossing behaviour **[8]**, smart bicycles **[9]** and diaper moisture **[10]**, and to Web resources **[11]**, **[12]** and **[13]**.

Please use superscript and subscript annotations to write powers and indexes, *e.g.*, $m^2$ and $CO_2$.

## Caption Plugin Usage Examples

Table 1 illustrates a boxed table with default column widths and Table 2 with specific column widths.

Table 1: Boxed table

| Abbreviation | Description |
|---|---|
| EPS | European Project Semester |
| ISEP | Instituto Superior de Engenharia do Porto |
| USB | Universal Serial Bus |

Table 2: Boxed table with specific column widths

| Abbreviation | Description |
|---|---|
| EPS | European Project Semester |
| ISEP | Instituto Superior de Engenharia do Porto |
| USB | Universal Serial Bus |

Table 3 shows the execution time results for each API. Table 4 lists the fruit bought at the grocery.

Table 3: Time response

| API | Time (s) |
|---|---|
| EJML | 26 |
| JAMA | 295 |
| JBLAS | 29 |
| MTJ | 18 |
| WEKA | 123 |

Table 4: Fruit Weight

| Fruit | Weight (kg) |
|---|---|
| Pears | 2.60 |
| Apples | 2.95 |
| Oranges | 1.90 |

Figure 1 displays a magnificent owl from Lapland.


Figure 1: Owl

Figure 2 illustrates the placement of two images side by side.

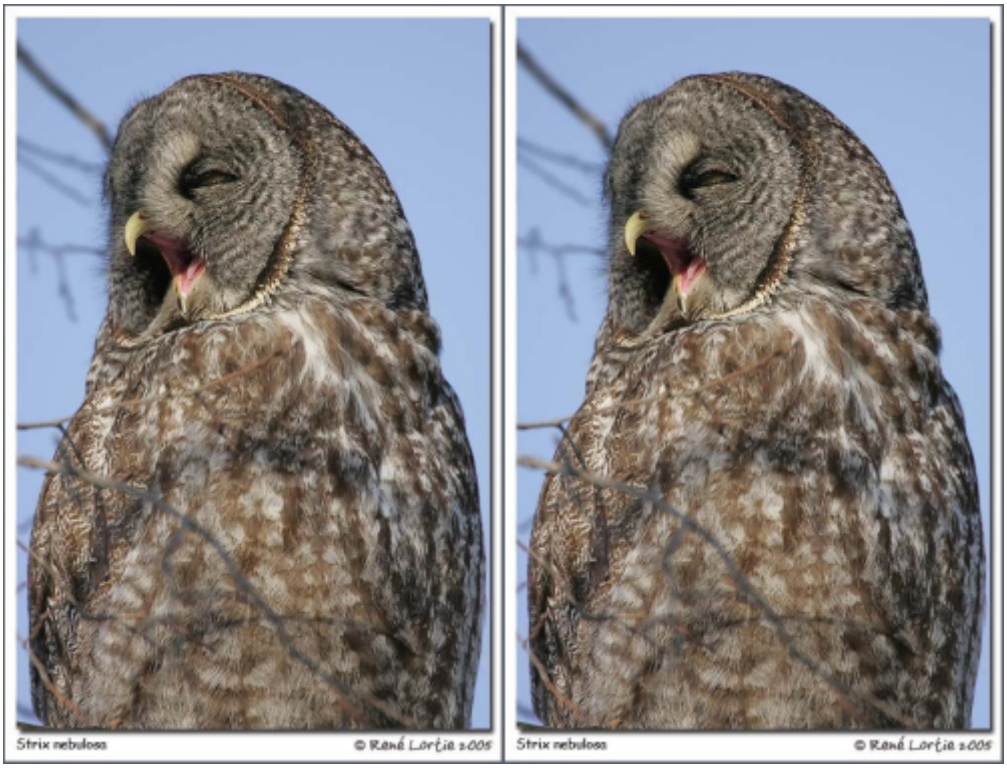


Figure 2: Images side by side

Figure 3 presents the European Project Semester (EPS) logo.


Figure 3: EPS logo

## MathJax Plugin Usage Example

Equation \ref{eq:cosinesimilarity} represents the cosine similarity between two vectors of features. This similarity measurement takes values in the range of $[0,1]$ **[14]**. This is an in line expression $a+b=c$.

$$\begin{equation} \cos\alpha=\frac{\hat{A}\cdot\hat{B}}{|\hat{A}\|\hat{B}|}\equiv\frac{\sum_{j=1}^{n} \hat{A}_j \hat{B}_j}{\sqrt{\sum_{j=1}^{n} \hat{A}^{2}_j}\sqrt{\sum_{j=1}^{n} \hat{B}^{2}_j}} \label{eq:cosinesimilarity} \end{equation}$$

As **[15]** states, the most popular similarity metrics are the distance and the cosine similarity. The distance-based metrics include the Euclidean distance, the Hamming distance or the Chebyshev distance, among others.

Equation \ref{eq:euclideandistance} displays the Euclidean distance formula.

$$\begin{equation} d(x,y)=\sqrt{\sum_{k=1}^{n}(x_{k}-y_{k})^{2}} \label{eq:euclideandistance} \end{equation}$$

## Code Listing Example

The server code is presented in Listing 1.

Listing 1: Server-side code

```
    public class CheckersServer {
    private static final int PORT = 12345;
    private static char[][] board;
    private static List<ClientHandler> clients = new ArrayList<>();
    public static void main(String[] args) {
```

```
        board = new char[8][8];
        initializeBoard();
        try (ServerSocket serverSocket = new ServerSocket(PORT)) {
            System.out.println("Checkers Server is running...");
            while (true) {
                Socket clientSocket = serverSocket.accept();
                ClientHandler clientHandler = new
ClientHandler(clientSocket);
                clients.add(clientHandler);
                new Thread(clientHandler).start();
            }
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
```

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