

Coding the main tex (Rstudio, Excel - in progress)

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February 2024

1 Explanation of the codes used in LaTeX

1.1 Latex table

TABLE : A bivariate probability distribution

	X_1	\dots	X_i	Marginal probability
Y_1	p_{11}	\dots	p_{i1}	$p_{.1}$
\vdots	\vdots	\ddots	\vdots	\vdots
Y_j	p_{1j}	\dots	p_{ij}	$P_{.j}$
\vdots	\vdots	\ddots	\vdots	\vdots
Y_p	p_{1p}	\dots	p_{ip}	$P_{.p}$
Marginal probability	$p_{1.}$	\dots	$p_{i.}$	1

1.1.1 LaTeX code

```
\maketitle % Este comando cria o título do documento, autor e data
previamente definidos
\section{Explanation of the codes used in LaTeX}
\subsection{Latex table}
\begin{table}[H]
\centering
\caption*{TABLE : A bivariate probability distribution}
\begin{tabular}{c|c|c|c|c}
& \langle X_1 \rangle & \langle \ldots \rangle & \langle X_i \rangle & Marginal probability \\
\hline
\langle Y_1 \rangle & \langle p_{11} \rangle & \langle \ldots \rangle & \langle p_{i1} \rangle & \langle p_{.1} \rangle \\
\langle \vdots \rangle & \langle \vdots \rangle & \langle \ddots \rangle & \langle \vdots \rangle & \langle \vdots \rangle \\
\langle Y_j \rangle & \langle p_{1j} \rangle & \langle \ldots \rangle & \langle p_{ij} \rangle & \langle P_{.j} \rangle \\
\langle \vdots \rangle & \langle \vdots \rangle & \langle \ddots \rangle & \langle \vdots \rangle & \langle \vdots \rangle \\
\langle Y_p \rangle & \langle p_{1p} \rangle & \langle \ldots \rangle & \langle p_{ip} \rangle & \langle P_{.p} \rangle \\
\hline
Marginal probability & \langle p_{1.} \rangle & \langle \ldots \rangle & \langle p_{i.} \rangle & 1
\end{tabular}
\end{table}
```

```

\hline
Marginal probability & \langle p_{1.} \rangle & \langle \dots \rangle & \langle p_{i.} \rangle & 1
\end{tabular}
\end{table}

```

1.1.2 Explanation

`\begin{table}[H]` and `\end{table}`: These commands delimit the beginning and end of the table. [H] is a positioning specification that means "here", that is, LaTeX will try to place the table exactly at this point in the document.

`\centering`: This command centers the table on the page.

`\caption*{TABLE : A bivariate probability distribution}`: This command adds a caption to the table. The asterisk after the `\caption` command means that the caption will not be numbered.

`\begin{tabular}{c|c|c|c|c}` and `\end{tabular}`: These commands delimit the beginning and end of the tabular environment, which is where the table data is inserted. The letters c indicate that the columns must be centered and the character | adds a vertical line between columns.

`&` : This is the column delimiter. It separates the entries into different columns.

`\\` : This command indicates the end of a line.

`\hline` : This command inserts a horizontal line.

`\langle \dots \rangle` , `\langle \vdots \rangle` , `\langle \ddots \rangle` : These commands insert different types of suspension points.

`\langle X_1 \rangle` , `\langle X_i \rangle` , `\langle Y_1 \rangle` , `\langle Y_j \rangle` , `\langle Y_p \rangle` , `\langle p_{11} \rangle` , `\langle p_{i1} \rangle` , `\langle p_{1j} \rangle` , `\langle p_{ij} \rangle` , `\langle p_{1p} \rangle` , `\langle p_{ip} \rangle` , `\langle p_{.1} \rangle` , `\langle P_{.j} \rangle` , `\langle P_p \rangle` , `\langle p_{1.} \rangle` , `\langle p_{i.} \rangle` : These are mathematical expressions in LaTeX. They represent the variables and probabilities in the distribution.