text asdakjsdkahsdkahs text
new line
bold, *italic*
`\noindent` nullifies the indentation due to the double enter

A new paragraph begins with a leading vertical space

there is a gap

1 Section - enumerated automatically

1.1 Subsection

1.1.1 Subsubsection

The font sizes of the headers are predetermined by LaTeX.

Section I

Subsection I.i

Subsubsection I.i.a

By using $*$ we ask from `pdflatex` not to use automatic enumeration

Math Mode

In-line

text character x vs. the variable x
subscript: x_n x_{ik}, s_i' , **superscript** : x^k,
both: x_i^k
big operator with lower and upper indexes:
$\sum_i = 1^N x_i^2$ versus $\sum_{i=1}^{N} x_i^2$

Equations

$$\sum_{i=1}^{N} x_i^2$$

$$\nabla \cdot \vec{E} = \frac{\rho}{\epsilon_0}$$

we cannot refer to this equation. To do so we start an equation environment:

$$\nabla \cdot \vec{E} = \frac{\rho}{\epsilon_0} \tag{1}$$

We can refer to (1) by using `\label` and `\eqref`.
Sometimes, eqref cannot link the labelled sections properly, if this happens you can recompile.

Spacing

you cannot put spaces like this in math mode $x = y + 4$
you can put spaces with special characters like:

`\ \quad \qquad`

example of spacing in math mode $x\ =\ \ x\quad\ +\ 1$

Itemize and Enumerate

- item 1
- item 2

1. item
2. item

Table 1: Sample table

title1	**title2**	**title3**	**title4**	**title5**	**title6**
text	0	text	20	text	a_0
text	0				
text	0	foo	0	$\pi(s = 1)$	a_2
		foo	0	$\pi(s = 3)$	$\emptyset$

Tables

tables: easy construction yet exhausting due to placement issues

Table 2: Answer to the 5th question from 2016's THE1 – *creating boxes are tiring*

1		$\exists x(P(x) \to Q(a))$	*premise*
2		$\forall y P(y)$	*assumption*
3	x_0	$P(x_0) \to Q(a)$	*assumption*
4		$P(x_0)$	$\forall$*y*e 2
5		$Q(a)$	$\to$e 3, 4
6		$Q(a)$	$\exists$e $1, 3-5$
7		$\forall y P(y) \to Q(a)$	$\to$i $2-6$

Table 3: Things of these kind are also accepted as long as you make it clear where your assumption boxes end.

1		$\exists x(P(x) \to Q(a))$	*premise*
2		$\forall y P(y)$	*assumption*
3	x_0	$P(x_0) \to Q(a)$	*assumption*
4		$P(x_0)$	$\forall$*y*e 2
5		$Q(a)$	$\to$e 3, 4
6		$Q(a)$	$\exists$e $1, 3-5$
7		$\forall y P(y) \to Q(a)$	$\to$i $2-6$

1		$\exists x(P(x) \to Q(a))$	*premise*
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7		$\forall y P(y) \to Q(a)$	$\to$i $2-6$

Fitch.sty

You can also use the style package `fitch.sty` which is much easier to manage

1	$\exists x(P(x) \to Q(a))$	premise
2	$\quad \forall y P(y)$	assumption
3	$\quad x_0 \quad P(x_0) \to Q(a)$	
4	$\quad\quad P(x_0)$	$\forall$e, 2
5	$\quad\quad Q(a)$	$\to$e, 3,4
6	$\quad Q(a)$	$\exists$e, 1,3-5
7	$\forall y P(y) \to Q(a)$	$\to$i, 2-6

See here for a documentation of fitch version 0.5.
At the time fitch.sty is not available on `ineks`.
To install it locally either compile with the file `fitch.sty` under the same directory as your .tex file, or move it to somewhere where `pdflatex` usually checks.
For `fitch.sty` this would be `$HOME/texmf/tex/latex/fitch/`.

You might instead use the style package `logicproof.sty` useful which is readily available at `ineks`.
See this link.

Connecting to ineks using *ssh* and *sftp*

Upload your files using `sftp` and compile them at an `inek`.
Do not forget to upload `fitch.sty` if you are using it.

```
@local>> cd $ASSIGNMENT_PATH
@local>> sftp -P 8085 eXXXXXXX@divan.ceng.metu.edu.tr
[yes]
(password)
@divan>> put fitch.sty
@divan>> put the1.tex
@divan>> exit
```

```
@local>> ssh eXXXXXXX@divan.ceng.metu.edu.tr -p 8085
[yes]
(password)
@divan>> ssh inek1
[yes]
(password)
@inek1>> pdflatex *.tex
@inek1>> ls
(the1.pdf should be among the listed)
```