

My First L^AT_EX Document

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1 Bold, *Italics*, underlines, and *emph*

Some of the **greatest**

Greatest above is now **bold**

discoveries in science

Science Above is now Underlined

were made by ***accident***.

Accident above is now in *Italics*

Some of the greatest *discoveries* in science were made by accident.

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Notice how the "emph" function above turns the word discoveries into *Italics*.

Some of the greatest discoveries in science were made by accident.

In this Example notice that we set the sentence to write in *italics*, but when we use the "emph" function it turns the Italics off.

Some of the greatest *discoveries* in science were made by accident.

Same with this example. We use the **bold** function for the whole sentence but when we use the emph function it makes the word *discoveries* in Italics.

2 Creating lists in L^AT_EX

2.1 Unordered Lists(Bullet Points)

In order for you to use unordered lists you need to use the backslash begin Itemise function.

- The individual entries are indicated with a black dot, a so-called bullet.
- The text in the entries may be of any length.

Remember that if we are beginning something we need to end it. So we need to use the backslash end itemise function.

2.2 Ordered lists

1. The labels consists of sequential numbers.
2. The numbers starts at 1 with every call to the enumerate environment.
3. remember to use begin and end enumerate to create this sort of list.

2.3 Nested Lists

1. The labels consists of sequential numbers.
 - The individual entries are indicated with a black dot, a so-called bullet.
 - The text in the entries may be of any length.
2. The numbers starts at 1 with every call to the enumerate environment.
3. How this list works:
 - A Nested list is a combination of Ordered and Unordered lists.
 - You start with Enumerate, then Item (no curly brackets)Write your numbered statement. Then you begin itemise Then item. Enter your statement. Then end Itemise and lastly end .

Notice that the words **enumerate** and **itemise** and in curly brackets but there is nothing after the word **item**.

3 Math

3.1 Inline Math writing

To use the inline math tool we use the Dollar sign at the beginning and the end of our math. example:

```
In physics, the mass-energy equivalence is stated  
by the equation  $E=mc^2$ , discovered in 1905 by Albert Einstein.
```

Notice that the output of this looks as follows:

In physics, the mass-energy equivalence is stated by the equation $E = mc^2$, discovered in 1905 by Albert Einstein.

There are Various ways ti use inline math mode. The first is the Dollar sign, you can backslash start math (the word math in curly brackets) and then backslash end math.

3.2 Display Math Mode

The mass-energy equivalence is described by the famous equation

$$E = mc^2$$

discovered in 1905 by Albert Einstein.

Notice in this section, the formula is displayed for presentation. we do this as follows:

```
The mass-energy equivalence is described by the famous equation
\[ E=mc^2 \] discovered in 1905 by Albert Einstein.
```

You can also start and end your math with dollar signs.

4 Other Math bits and bobs

Subscripts in math mode are written as a_b and superscripts are written as a^b . These can be combined and nested to write expressions such as

$$T_{j_1 j_2 \dots j_q}^{i_1 i_2 \dots i_p} = T(x^{i_1}, \dots, x^{i_p}, e_{j_1}, \dots, e_{j_q})$$

We write integrals using \int and fractions using $\frac{a}{b}$. Limits are placed on integrals using superscripts and subscripts:

$$\int_0^1 \frac{dx}{e^x} = \frac{e-1}{e}$$

Lower case Greek letters are written as ω δ etc. while upper case Greek letters are written as Ω Δ .

Mathematical operators are prefixed with a backslash as $\sin(\beta)$, $\cos(\alpha)$, $\log(x)$ etc.

The above was written as follows:

```
Subscripts in math mode are written as $a_b$ and superscripts are written as $a^b$. These can be combined and nested to write expressions such as

\[ T^{i_1 i_2 \dots i_p}_{j_1 j_2 \dots j_q} = T(x^{i_1}, \dots, x^{i_p}, e_{j_1}, \dots, e_{j_q}) \]
```

We write integrals using \int and fractions using $\frac{a}{b}$. Limits are placed on integrals using superscripts and subscripts:

```
\[ \int_0^1 \frac{dx}{e^x} = \frac{e-1}{e} \]
```

Lower case Greek letters are written as ω δ etc. while upper case Greek letters are written as Ω Δ .

Mathematical operators are prefixed with a backslash as $\sin(\beta)$, $\cos(\alpha)$, $\log(x)$ etc.

5 Basic Math Functions

Here is a Few Examples of Basic Math Functions

5.1 Add, Minus, Divide and Times

1.

$$4 + 4 = 8$$

2.

$$8 - 4 = 4$$

3.

$$20 \div 4 = 5$$

4.

$$10 \times 10 = 100$$

5.2 Sub and Super Script

Subscript uses underscores while superscript uses the arrow pointing up. This arrow is normally found above the number 6 on your keyboard.

1. $2^4 6^9 8^3$ (Superscript)

2. $4_5 8_4 8_1$ (Subscript)

5.3 Square Root

You can get a Square root by typing backslash then sqrt then open curly brackets followed by Number then closed curly brackets.

$$\sqrt{36}$$

5.4 Pie

To Enter Pie you enter backslash pi Here is an example

$$\pi$$

6 Please note

Please note that this document was written in

\LaTeX

Not a standard word processing system such as Microsoft Word.

If you would like to View the \LaTeX Document, you can go to <https://github.com/Scott-HW-OU/My-First-LaTeX-Document/blob/main/main.tex>

Thank you