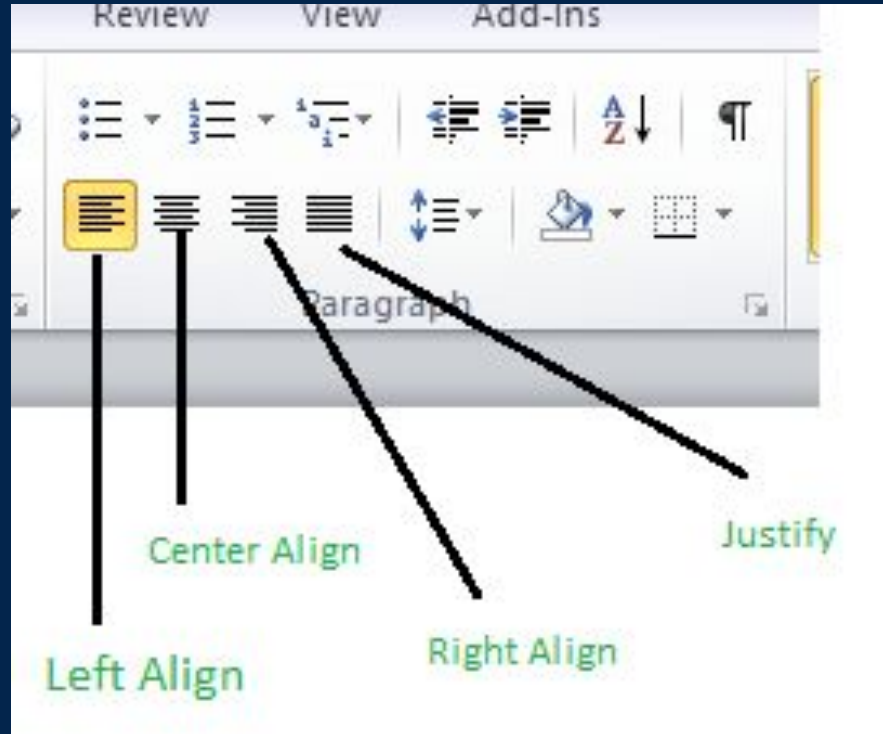# DAY_2

Text
Justification / Alignment

Text Justification / Alignment

In LaTeX

Default - Fully Justified Text

LaTeX attempts to follow the design philosophy of separating presentation from content, so that authors can focus on the content of what they are writing without attending simultaneously to its visual appearance.

Center Justified Text

```
\begin{center}

. . . . . . . . . . . . . .

\end{center}
```

LaTeX attempts to follow the design philosophy of separating presentation from content, so that Authors can focus on the content of what they are writing without attending simultaneously to its visual appearance.

Left Justified Text

```
\begin{flushleft}

. . . . . . . . . . . . .

\end{flushleft}
```

LaTeX attempts to follow the design philosophy of separating presentation from content, so that authors can focus on the content of what they are writing without attending simultaneously to its visual appearance.

Right Justified Text

```
\begin{flushright}

. . . . . . . . . . . . .

\end{flushright}
```

LaTeX attempts to follow the design philosophy of separating presentation from content, so that Authors can focus on the content of what they are writing without attending simultaneously to its visual appearance.

Line Breaks

```
Text\\

Text\\[\baselineskip]

Text\\[2\baselineskip]


Text
```

This is ICT lab 2
This is another line saying ICT lab 2

This is yet another line saying ICT lab 2

This is yet another line of text

Math

<3

LaTeX

Math

Modes

Display Style Math

Inline Style Math

Display Style Math

Puts Math

on

Display

Inline Style Math

Math stays

in

the line

Display Style Math

The well known Pythagorean theorem $x^2 + y^2 = z^2$ was proved to be invalid for other exponents. Meaning the next equation has no integer solutions:

Inline Style Math

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$$x^2 + y^2 = z^2$$

was proved to be invalid for other exponents. Meaning the next equation has no integer solutions:

Inline Math Mode

```
\(...\)
$...$
\begin{math}...\end{math}
```

Display Math Mode

```
\[...\]
$$...$$
\begin{displaymath}...\end{displaymath}
\begin{equation}...\end{equation}
```

Display Style

Inline Style

```
$...............$

$$...............$$
```

The Basel problem is the problem of computing the sum o the squares of the reciprocal of natural numbers. It turns out that $\sum_{n-1}^{\infty} \frac{1}{n^2} = \frac{\pi^2}{6}$. Later Euler proved this result.

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Basic

Notations

Arithmetic

```
1+1

5-3

6 \times 5

7 \cdot 5

22 \div 7
```

$$1 + 1$$

$$5 - 3$$

$$6 \times 5$$

$$7 \cdot 5$$

$$22 \div 7$$

Fractions

```
The value of $\pi$ is
$\frac{22}{7} = 3.142$ \\\\
The value of $\pi$ is
$\dfrac{22}{7} = 3.142$
```

The value of π is $\frac{22}{7} = 3.142$

The value of π is $\dfrac{22}{7} = 3.142$

Don`t
Delete
Anything

% —> Shift + 5

Comments

```
%The value of $\pi$ is $\frac{22}{7} = 3.142$ |||||
% The value of $\pi$ is $\dfrac{22}{7} = 3.142$
```

Multiple line
of
Math Equations

```
\begin{align*}
x&=y                & w &=z              & a&=b+c\\
2x&=-y              & 3w&=\frac{1}{2}z   & a&=b\\
-4 + 5x&=2+y        & w+2&=-1+w          & ab&=cb
\end{align*}
```

$$x = y$$

$$2x = -y$$

$$-4 + 5x = 2 + y$$

$$w = z$$

$$3w = \frac{1}{2}z$$

$$w + 2 = -1 + w$$

$$a = b + c$$

$$a = b$$

$$ab = cb$$

Environments

Environments

```
\begin{goodname_of_the_environment}

. . . . . . . . . . . . .

\end{goodname_of_the_environment}
```

Superscript and Subscript

	Symbol	Symbol Name	Example Code	Result
Superscript	^	Caret	x^2	x^2
Subscript	_	Underscore	a_1	a_1

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Superscript	^	Caret	x^2	x^2
Subscript	_	Underscore	a_1	a_1

Use of Brackets for Grouping

	Example Code	Output
With Brackets	e^{kx}	e^{kx}
Without Brackets	e^kx	$e^k x$

	Symbol	Symbol Name	Example Code	Result
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Without Brackets	e^kx	$e^k x$

Combined Superscripts and Subscripts

	Example Code	Output
Stacked	p_1^{a_1}	$p_1^{a_1}$
Offset	{p_1}^{a_1}	$p_1{}^{a_1}$

	Symbol	Symbol Name	Example Code	Result
Superscript	^	Caret	x^2	x^2
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Simultaneous Superscript and Subscript

Example Code	Interpretation	Output
a_1^2	a sub-1 squared	a_1^2
a^2_1	a squared sub-1	a_1^2

	Symbol	Symbol Name	Example Code	Result
Superscript	^	Caret	x^2	x^2
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Simultaneous Superscript and Subscript

Example Code	Interpretation	Output
a_1^2	a sub-1 squared	a_1^2
a^2_1	a squared sub-1	a_1^2

Greek Notations

α	`\alpha`	A
β	`\beta`	B
γ	`\gamma`	Γ
δ	`\delta`	Δ
ϵ, ε	`\epsilon`	E
ζ	`\zeta`	Z
η	`\eta`	H

θ, ϑ	`\theta`	Θ
ι	`\iota`	I
$\kappa, \varkappa$	`\kappa`	K
λ	`\lambda`	Λ
μ	`\mu`	M
ν	`\nu`	N
ξ	`\xi`	Ξ

π, ϖ	`\pi`	Π
ρ, ϱ	`\rho`	P
σ, ς	`\sigma`	Σ
τ	`\tau`	T
υ	`\upsilon`	Υ
ϕ, φ	`\phi`	Φ
χ	`\chi`	X
ψ	`\psi`	Ψ
ω	`\omega`	Ω

Parenthesis

(_)

```
$$
(\sum_{n=0}^N (\frac{1}{a+b}^2)^2)
$$
```

$$
(\sum_{n=0}^N (\frac{1}{a+b}^2)^2)
$$

```
$$
\left(\sum_{n=0}^N \left(\frac{1}{a+b}^2\right)^2\right)
$$
```

$$
\left(\sum_{n=0}^N \left(\frac{1}{a+b}^2\right)^2\right)
$$

Adding Images

Packages

\usepackage{graphicx}
\usepackage{float}

Environment

\begin{figure}

....

\end{figure}