

# Creating first document in L<sup>A</sup>T<sub>E</sub>X

Rakesh

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## 1 Introduction to Text Formatting

**Text formatting** refers to the *process of altering the appearance and layout of text in a document or on a webpage*. This involves applying various styles,

SIZES, COLORS, AND OTHER VISUAL  
enhancements to improve  
readability and aesthetics.

This is monospaced text.

$x^2y$  is a quadratic equation.

$H_2O$  is chemical formula of water.

other visual enhancements to improve readability and aesthetics.

## 2 Text Fonts

This is tiny text.

This is the script sized text.

This is footnote sized text.

This is small sized text.

This is normal sized text.

This is large sized text.

This is bit large sized text.

This is bit more large sized text.

This is text with huge size.

This is the biggest sized text.

## 3 Colored Text

Red Colored Text

Plum Colored Text

Blue Colored Text

70% red and 30% white Text

Combination of Red and Blue

## 4 Text Alignment

### 4.1 One : Left Aligned

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### 4.2 Two : Center Aligned

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### 4.3 Three : Right Aligned

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#### **4.4 Four : Justified Aligned**

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## 5 Vertical and Horizontal Spacing

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## 6 Vertical Spacing

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This is some random text. This is some random text. This is some random text. This is some random text. This is some random text. This is some random text. This is some random text. This is some random text. This is some random text. This is some random text. This is some random text.

## 7 Horizontal Spacing

This is ' single space.

This is ' more than single space.

This is ' space of 20 points.

This occupies the entire line.

## 8 Lists

Bulleted list

- Blue
  - Dark Blue
  - Light Blue
- Red
  - i. Dark Red
  - ii. Light Red
- Green
  - (a) Teal Green
  - (b) Dark Green

### 8.1 Fruits

- ◊ Citrius Fruits
  - Lemon
  - Lime
  - Oranges
- ◊ Tropical Fruits
  - Mango
  - Papaya

### 8.2 Numbered List

1. One
2. Two
3. Three

### 8.3 Description List

**Input Devices** : mouse, keyboard

**Output Devices** : Monitor, Printer

## 9 Math Expressions

### 9.1 Inline Equations

$$2^2 + 2^2 = 8$$

$$\sqrt[4]{4096} = 8$$

The union of two sets A and B is denoted as  $A \cup B = \{x \in A \text{ or } x \in B\}$

### 9.2 Blocked Equations

$$2 \times 2 = 4$$

$$\sin^2 \theta + \cos^2 \theta = 1$$

### 9.3 These are some rational numbers

$$\frac{\frac{a}{b}}{\frac{b}{c}} \geq 1$$

### 9.4 These are some Additional rational numbers

$$\frac{a}{b}$$

$$\frac{\frac{a}{b}}{\frac{b}{c}} \geq 1$$

$$\left[ \left\{ \frac{a}{b} \right\} \times \left\{ \frac{c}{d} \right\} \right]$$

### 9.5 Summation

$$\sum_{i=1}^b g(i) = 0 \text{ for } b < a$$

$$\sum_{i=1}^n i = \frac{n(n+1)}{2}$$

### 9.6 Integration

$$\int_{min}^{max} \int_0^\infty f(x) dx$$

## 9.7 Limits

$$\lim_{x \rightarrow c} f(x) = L$$

## 10 Matrix

### 10.1 p matrix

$$\begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix} + \begin{pmatrix} 5 & 6 \\ 7 & 8 \end{pmatrix} = \begin{pmatrix} 6 & 8 \\ 10 & 12 \end{pmatrix}$$

### 10.2 b matrix

$$\begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix} + \begin{bmatrix} 5 & 6 \\ 7 & 8 \end{bmatrix} = \begin{bmatrix} 6 & 8 \\ 10 & 12 \end{bmatrix}$$

### 10.3 Bmatrix

$$\begin{Bmatrix} 1 & 2 \\ 3 & 4 \end{Bmatrix} + \begin{Bmatrix} 5 & 6 \\ 7 & 8 \end{Bmatrix} = \begin{Bmatrix} 6 & 8 \\ 10 & 12 \end{Bmatrix}$$

### 10.4 vmatrix

$$\begin{vmatrix} 1 & 2 \\ 3 & 4 \end{vmatrix} + \begin{vmatrix} 5 & 6 \\ 7 & 8 \end{vmatrix} = \begin{vmatrix} 6 & 8 \\ 10 & 12 \end{vmatrix}$$

### 10.5 Vmatrix

$$\begin{Vmatrix} 1 & 2 \\ 3 & 4 \end{Vmatrix} + \begin{Vmatrix} 5 & 6 \\ 7 & 8 \end{Vmatrix} = \begin{Vmatrix} 6 & 8 \\ 10 & 12 \end{Vmatrix}$$

## 11 Equations

### 11.1 Writting numbered Equations

$$2x + 3y = 89 \tag{1}$$

$$5x + 8y = 20 \tag{2}$$

$$x^2 - y^2 = (x + y)(x - y) \tag{3}$$

## 11.2 Writting numbered Equations

$$\begin{aligned} 3x - 6 &= 9 \\ 3x &= 9 + 6 \\ 3x &= 15 \\ x &= 5 \end{aligned} \tag{4}$$