**How to Install LaTeX on Windows**

LaTeX is a powerful typesetting system widely used for creating scientific and academic documents. Below is a step-by-step guide to installing LaTeX on a Windows machine. The corresponding figures referenced illustrate each step to assist with the installation process.

# Step 1: Download a LaTeX Distribution

**Choose a Distribution**: The most commonly used LaTeX distribution for Windows is MiKTeX. You can download it from the official [MiKTeX website](https://miktex.org/).

**Locate the Download Link**: On the website, find the download link for the MiKTeX installer appropriate for your system (32-bit or 64-bit).

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| *Figure 1.1: Displays the MiKTeX homepage with the download link highlighted.* |

# Step 2: Run the Installer

1. **Open the Installer**: Once the download is complete, double-click the installer file to launch the setup wizard.
2. A**gree to Terms**: Review and accept the license agreement to proceed.

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| * *Figure 1.2*: Displays the license agreement page. |

# Step 3: Choose Installation Preferences

1. **Select Installation Type**: Choose whether to install for all users or only the current user. Installing for all users is recommended.

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| *Figure 1.4*: Illustrates the screen where you select the installation type. |

1. **Choose Installation Directory**: Specify the directory where MiKTeX will be installed or leave the default path unchanged.

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| *Figure 1.5*: Shows the directory selection screen. |

# Step 4: Choosing the page size

You have to select your page preference. I chose the A4 size

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| *Figure 1.6*: Displays the progress bar during installation. |

# Step 5: Complete the Installation

1. **Finish Setup**: Once the installation is complete, click "Finish" to exit the setup wizard.

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| *Figure 1.7*: Illustrates the completion screen. |

# Step 6: Install a LaTeX Editor

1. **Choose an Editor**: While MiKTeX provides the backend for compiling documents, you need a text editor to write LaTeX code. Common editors include:
   * TeXworks (bundled with MiKTeX)
   * Overleaf (online)
   * Visual Studio Code with LaTeX extensions
2. **Install Your Chosen Editor**: Follow the editor’s installation instructions.

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| *Figure 1.8*: Shows an example of a LaTeX editor interface. |

# Step 7: Test Your Installation

1. **Write a Sample Document**: Open your editor and write a basic LaTeX document, such as:
2. \documentclass{article}
3. \begin{document}
4. Hello, World!

\end{document}

1. **Compile the Document**: Compile the document into a PDF using the "Run" or "Compile" button in your editor.

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| *Figure 1.9*: Displays a successfully compiled LaTeX document preview. |

# Step 8: Configure Additional Tools (Optional)

1. **Add Packages**: Use the MiKTeX package manager to install additional LaTeX packages as needed.
2. **Customize Settings**: Adjust editor preferences for themes, keybindings, or syntax highlighting to suit your workflow.

By following these steps and referencing the figures in your document, you will have a fully operational LaTeX environment on your Windows machine, ready for typesetting documents.