

# Lab 0 report

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## 1 LATEX INSTALLATION AND TUTORIAL

Latex is a high-quality document preparation system. In order to set it up on your Windows machine you need to download and install some tools which are discussed in the following Section. However, there are hundreds of tools that you can use to set up Latex and this tutorial is one of them.

### 1.1 TOOLS

To set up a latex system on your computer you need two major programs to be installed. The first one is the latex engine and the second one is the text editor that you can use. You also need a tool to show the output of your Latex project which is usually a ".pdf" file.

#### 1.1.1 LATEX ENGINE

You can use MiKTeX as a free Text distribution for Windows systems. Once you reach the *website*, then press on download tab which directs you to installation file download link. Run the file once it is downloaded. The installation wizard of MiKTeX will now pop up.

### 1.1.2 LATEX TEXT EDITOR

As discussed earlier there are many free text editors for Latex too. The TeXnicCenter is chosen here as one of them that you can *download* it from here.

### 1.1.3

You can use any pdf reader file including acrobat reader, but the *PDFlite* which is a free pdf reader and writer tool. It is a perfect match for TeXnicCenter tool. One of the benefit of PDFlite comparing to acrobat application is that every time you edit your report there is no need to close the pdf file and run the project. It automatically update the pdf file after you run the project in TeXnicCenter

## 2 LISTS

In case you want to have bullet list you can use the following format. If you want to have numerical lists refer to Section 5.

### 2.1 EXAMPLE OF LIST (3\*ITEMIZE)

- First item in a list
  - First item in a list
    - \* First item in a list
    - \* Second item in a list
  - Second item in a list
- Second item in a list

## 3 EXAMPLE OF TABLES

You can easily use this code to add a table to your report. There are many options for tables that you can easily find them on line through the wiki pages for latex table related commands.

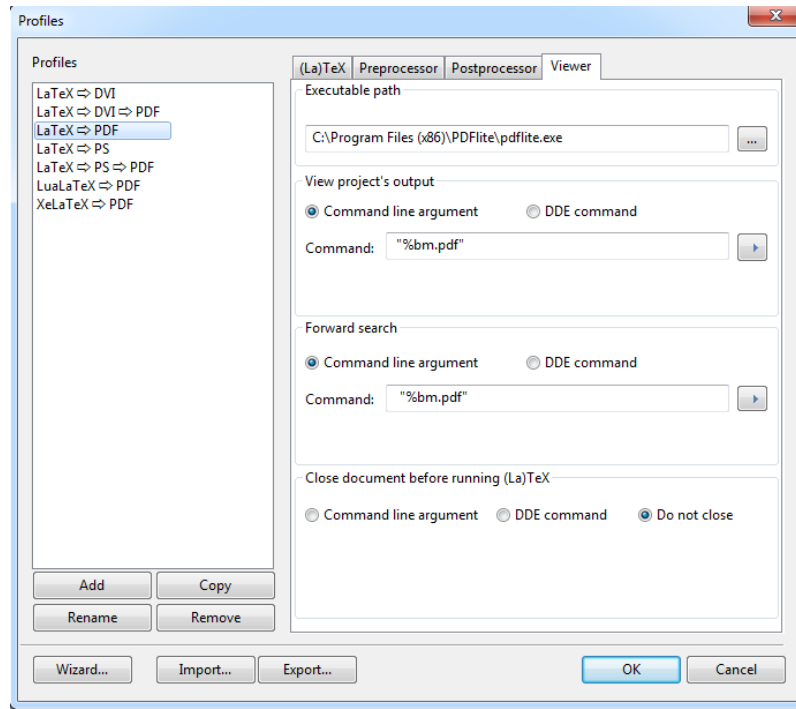
Table 3.1: Truth table of AND gate

Input1	Input0	Output
0	0	0
0	1	0
1	0	0
1	1	1

## 4 EXAMPLE OF FIGURES

You can easily use this code to add a figure to your report.

Figure 4.1: TeXnicCenter viewer tab configuration



## 5 GENERAL NOTES

Besides considering note you can find the format of numerical list in this section.

1. Make sure to install your Latex engine first and then install the Latex text editor (TeXnic-Center). So first install MikTeX and then TeXnicCenter.
2. Once you have installed both you only need to click on the icon of TeXnicCenter. When you run it for the first time, the configuration wizard window shows up. In this step you may be asked to choose the Distribution directory. In this case you need to locate the path in which the installed MikTeX on your computer. This address by default is in *C:\...\programfiles\MikTeX2.9\miktex\bin*
  - a) 2.9 in this path is the version of your MikTeX which can be different based on the version you have downloaded.

3. In configuration wizard window make sure to choose your favorite pdf viewer full path.
4. If you have forgotten to choose your favorite application during installation you can access to it by choosing *Build* tab and then *Define Output Profiles* option.
  - a) Go to Build->Define Output Profiles-> choose "Latex => PDF"
  - b) Then choose viewer tab on the right window
  - c) If you want to use PDFlite as your viewer here is the setting and commands (as shown in figure 4.1)
    - i. Executable path should be the location of pdflite file in the directory you have installed PDFlite software. It should be something like  
`C : ... \ProgramFiles(x86) \PDFlite \pdflite.exe`
    - ii. For both *View Projects Output* and *Forward search*, choose Command line argument option and add the following command "`%bm.pdf`"
    - iii. Finally choose *Do not close* option too.
  - d) If you have chosen Adobe acrobat
    - i. Go to Build->Define Output Profiles-> choose "Latex => PDF"
    - ii. In the viewer tab, change the executable location to point to  
`C : ... \ProgramFiles \Adobe \Reader10.0 \Reader \AcroRd32.exe`
    - iii. In View project's output and Forward search : Select DDE command and enter  
`[DocOpen("%bm.pdf")][FileOpen("%bm.pdf")]`  
`Server : arcroviewR10    Topic : Control`
5. To write your project, double click on the file with *.tcp* extension to open the project. If you cannot see the extension of your files:
  - a) Go to start or in Windows 8 press the start button
  - b) Type Folder Options and press on it
  - c) Under View tab, deselect *Hide extensions for known files types*.
6. Do not forget to update the assignment number and your name and student ID. The date will be generated automatically.
7. To compile your report you need to make sure on top Latex => PDF is chosen in a drop down list
8. Then press F7 or press on the first button right side of Latex => PDF option, which is called Build Output; then make sure there is no error which is reported in Build output window.

9. To check the output, you only need to press on F5 only first time you have opened the project. If there is no problem the output of your file should be opened through the PDF viewer application you have chosen.
10. If you are using PDFlite as viewer there is no need to press F5 after compiling your code after the first time. You can see your modifications by only compiling the project in PDFLite if there is no error in your project.
11. For more options and command check the *Latex wiki page*.