

# Interesting Project

Arthur Dent

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## 1 Typing Text

It's easy to write text. Just type it in. You must add an empty line to create a new paragraph otherwise L<sup>A</sup>T<sub>E</sub>X continues on the same line.

Du kan også skrive på *norsk* hvis du vill. Da må du bruke rett tegnsett i dokumentet (utf-8).

### 1.1 An example of subsection

One can also make numbered lists<sup>1</sup>:

1. here goes the first item
2. and here goes the second
3. but you can have as many as you like

You may also refer to other sections like this: [section 2](#).

## 2 Typing Formulas

Typing formulas is a little harder. Here's how you type in a standard math expression:  $c = \sqrt{a^2 + b^2}$ . But there are more advanced formulas

$$e^{i\pi} + 1 = 0.$$

Note that standard math expressions are commands in L<sup>A</sup>T<sub>E</sub>X. For example, you write  $\sin x$  in order to get the right type-setting of the sine function. Standard functions and reserved variables are typed in *roman*. That's why we have typed the number  $e$  and the imaginary unit  $i$  in roman above. If you type  $e$  and  $i$  they come out in *italics*. That's the normal font for **variables**, which you simply enter as  $x$ ,  $y$  or  $z$ .

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<sup>1</sup>and automatically numbered footnotes

Some editors, like **WinEdt**, have built-in interfaces to  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ , and you can click any symbol like Greek letters  $\alpha$ ,  $\beta$  ... and math symbols too, like  $\sum_{k=0}^N 1/k^2$ .

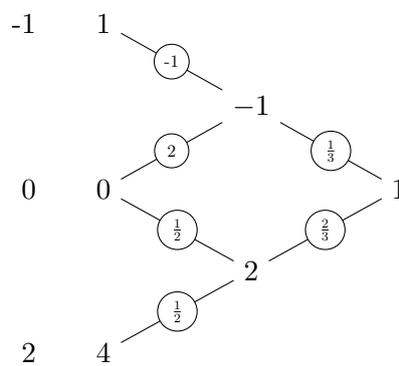
You can also write equation systems:

$$\begin{aligned} 2x + 3y &= 0 \\ x - 2y &= 3. \end{aligned}$$

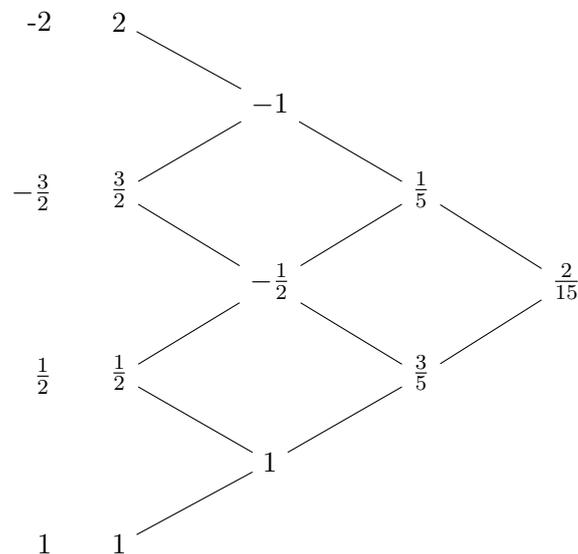
### 3 Some Pyramid Algorithms

Here is an example interpolating the points

$$\begin{array}{c|ccc} x & -1 & 0 & 2 \\ \hline y & 1 & 0 & 4 \end{array}$$



And an example of divided differences:



See [Figure 1](#) for an interesting graph.

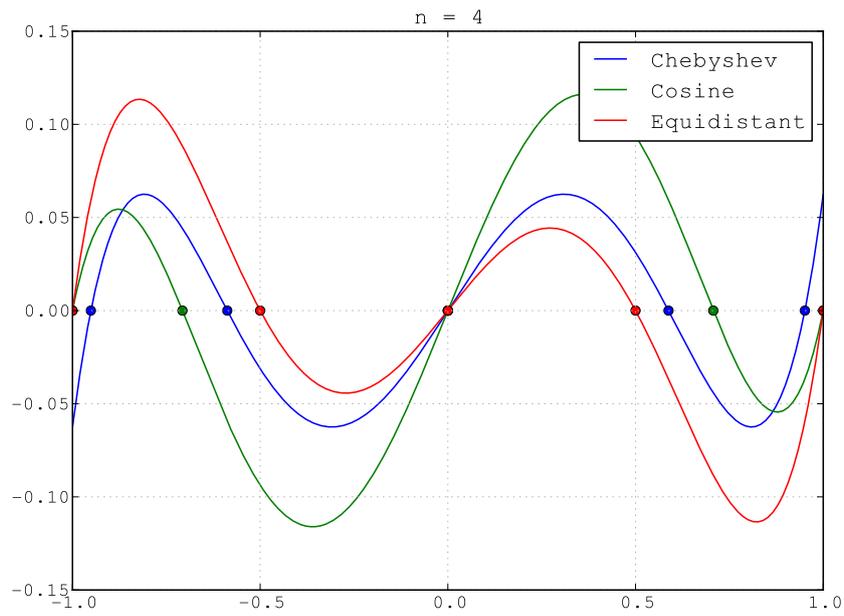


Figure 1: A very interesting graph.

## 4 Code

You may also write small code snippets.

An example of Python code:

```
def f(x):
    return x**2
```

Some Matlab code:

```
x = 3
```