

A demonstration of the program environment

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1 Example with `\first\do5(s)etn` and `.`

The `program` style defines two environments, `program` and `programbox` for typesetting programs and algorithms. Within the `program` environment:

1. Newlines are significant;
2. Each line is in math mode, so for example spaces in the input file are not significant;
3. The command `\` within a line causes an extra linebreak in the output;
4. The indentation of each line is calculated automatically;
5. To cause extra indentation, use the commands `\tab` to set a new tab, and `\untab` to remove it (see the examples below);
6. Vertical bars are used to delimit long variable names with underscores (and other unusual characters).

Here is a small program: It shows how to typeset mathematics as part of a program. Since each line is typeset in maths mode, all spacing is done automatically. The set brackets expand automatically, for example in this program (which also demonstrates the `\tab` and `\untab` commands):

[Sorry. Ignored `\beginprogram ... \endprogram`]

You can use `nvariable\do5(n)amesn` in text or math mode: . Names can have nodd\do5(c)haracters:!`@#` x. y. $y > x$ (yes, I use these in my programs!)
 I often use bold letter to represent program fragments, formulas etc.
 so I have set up commands `$`, etc. for the most common ones.
 The commands have one argument (a subscript, eg $\$1, \$2, \$23$)
 or a sequence of `k` prime characters: `$', $''` etc.
 If you want both a subscript and one or more primes, then you must use math mode,
 eg $\$2j$. Consider the difference between typing ``\S2'` which gives $\$2'$ and ``\$2l'`
 which gives $\$2l$

[Sorry. Ignored `\beginprogrambox ... \endprogrambox`]

Note that then and else should be at the *start* of a line (as in the examples above), not at the end. This is so that you can line them up in short if statements, for example:

[Sorry. Ignored `\beginprogram ... \endprogram`]

If the test is long, then you probably want an extra linebreak:

[Sorry. Ignored `\beginprogram ... \endprogram`]