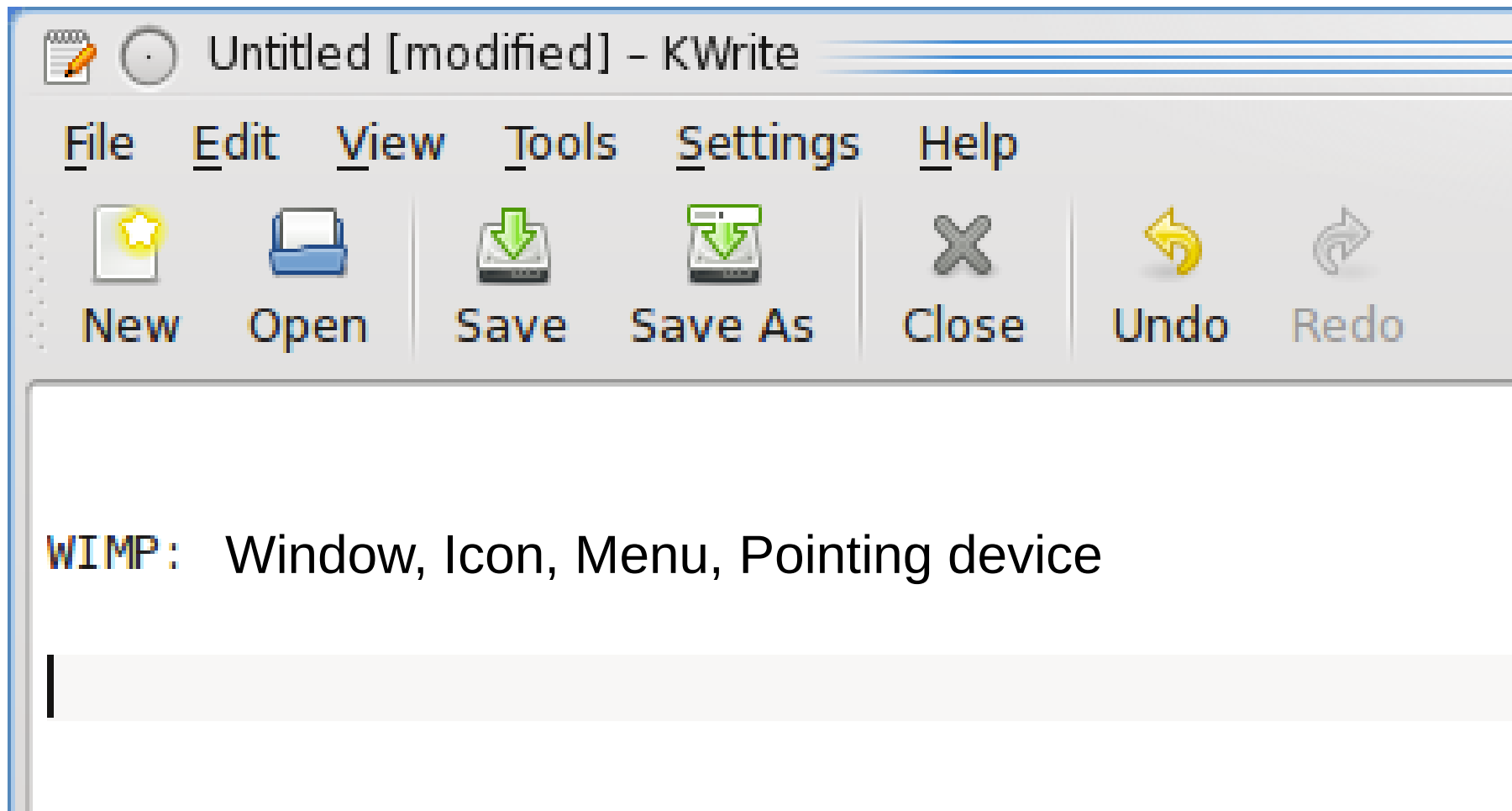


# Text Editors ... and “vi” in particular



Hans Vangheluwe

# Text Editors ...



**WIMP:** Window, Icon, Menu, Pointing device

# WYSIWYG (or not quite ...)

The screenshot shows a Blackboard interface for adding content. At the top, there are navigation tabs for 'My Blackboard', 'My Bucknell for Staff', and 'My World'. On the right, there are icons for Home, Help, and Logout. Below the navigation is a breadcrumb trail: COURSES > MMWEAVER TEST > CONTROL PANEL > COURSE MATERIALS > ADD CONTENT. The main heading is 'Add Content' with a book icon. Below this is a section titled 'Content Information' with a numbered icon. The 'Name' field is set to 'Course Documents' with a dropdown arrow. Below it is a text input field with the prompt 'or specify your own name:'. The 'Choose Color of Name' section shows a black color swatch and a 'Pick' button. The 'Text' section features a rich text editor toolbar with options for font style (Normal), size (7), font face (Times New Roman), bold (B), italic (I), underline (U), bulleted list, numbered list, indent, and outdent. The editor area contains the text: 'This is an example of a formatted document created in Blackboard. It includes' followed by 'Character formatting.' where 'Character' is in a large, multi-colored font. Below this is a numbered list with one item: '1. You can have number lists', which contains a bulleted list item: '• or bulleted lists'. At the bottom of the editor area, the text 'You can center paragraphs....' is visible.

My Blackboard My Bucknell for Staff My World Home Help Logout


COURSES > MMWEAVER TEST > CONTROL PANEL > COURSE MATERIALS > ADD CONTENT

## Add Content























### 1 Content Information

**Name:** Course Documents

or specify your own name:

**Choose Color of Name:** 

**Text:**

Normal 7 Times New Roman **B** *I* U                      

This is an example of a formatted document created in Blackboard. It includes

**Character** formatting.

1. You can have number lists
  - or bulleted lists

You can center paragraphs....

Dit gebouw werd op 15 mei 2003  
ingehuldigd voor het departement  
**Wiskunde - Informatica**

door

**prof. em. Donald E. Knuth** (Stanford University),  
*eredoctor van de Universiteit Antwerpen 2003*

en

**prof. dr. Alain Verschoren,**  
*laatste RUCA-rector*



1974 TAOCP

Extended  
and  
Refined

KNUTH

The Art of Computer Programming  
Combinatorial Algorithms, Part 1

VOLUME  
4A

Addison  
Wesley

Updated  
and  
Revised

KNUTH

The Art of Computer Programming  
Sorting and Searching

VOLUME  
3  
Second Edition

Addison  
Wesley

Updated  
and  
Revised

KNUTH

The Art of Computer Programming  
Seminumerical Algorithms

VOLUME  
2  
Third Edition

Addison  
Wesley

Updated  
and  
Revised

KNUTH

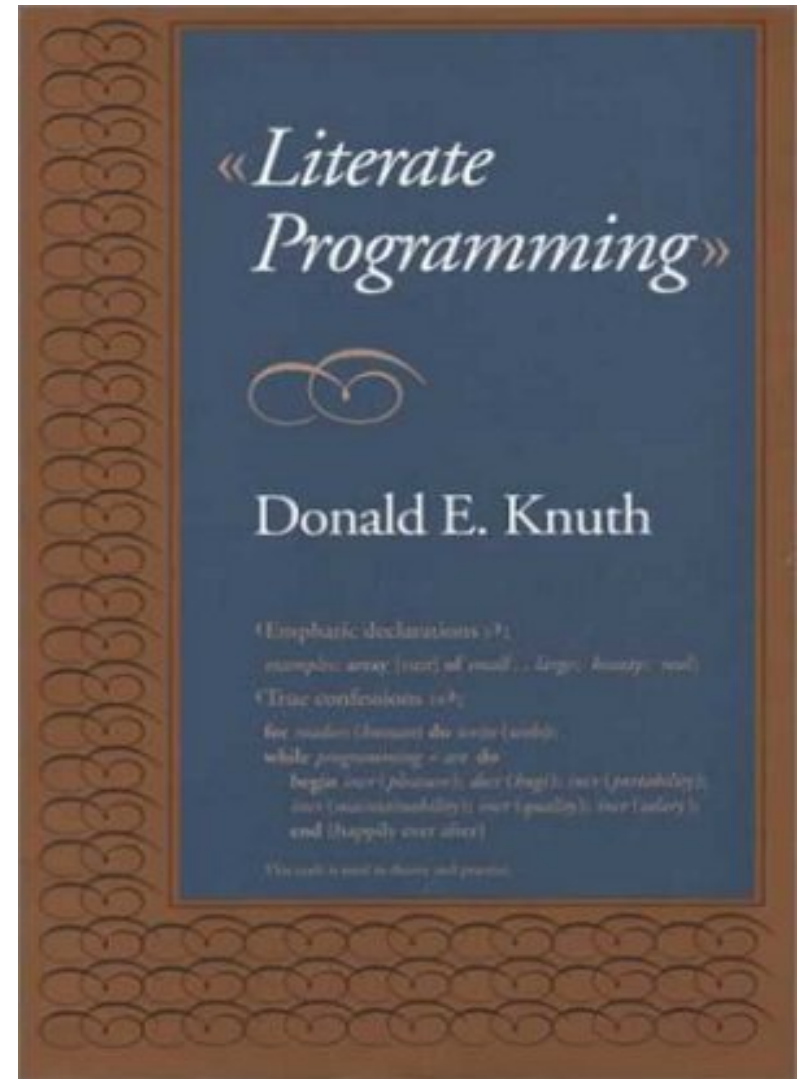
The Art of Computer Programming  
Fundamental Algorithms

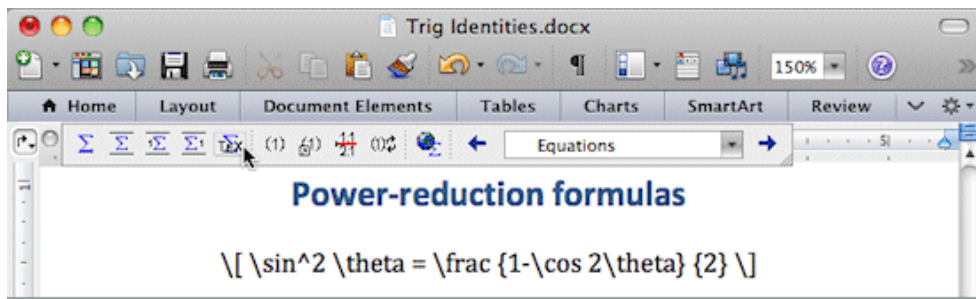
VOLUME  
1  
Third Edition

Addison  
Wesley

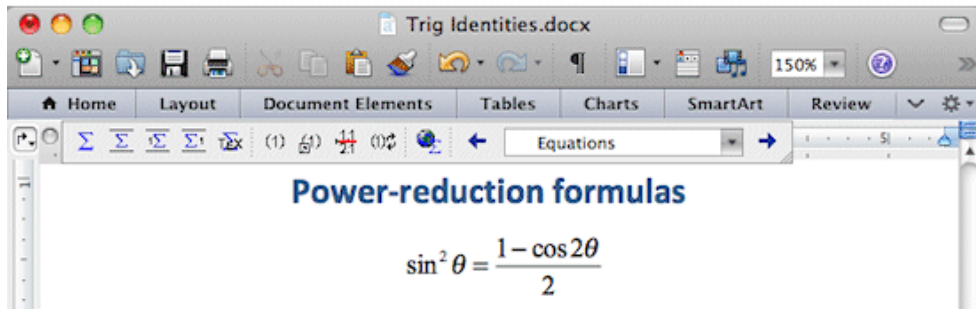
Explicitly state the **thoughts** behind the program:

- **Explain** the link between requirements (what) and design (how)
- **Explain** design decisions (algorithms and data structures)
- **Explain** code-level decisions (for example, for efficiency)

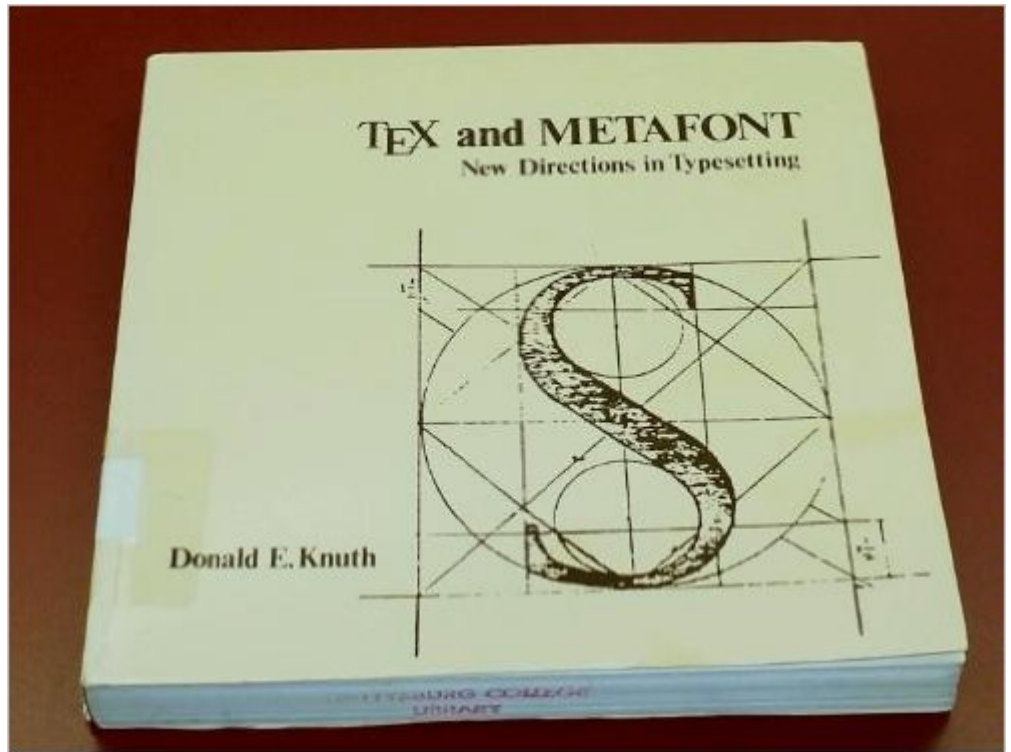




becomes...

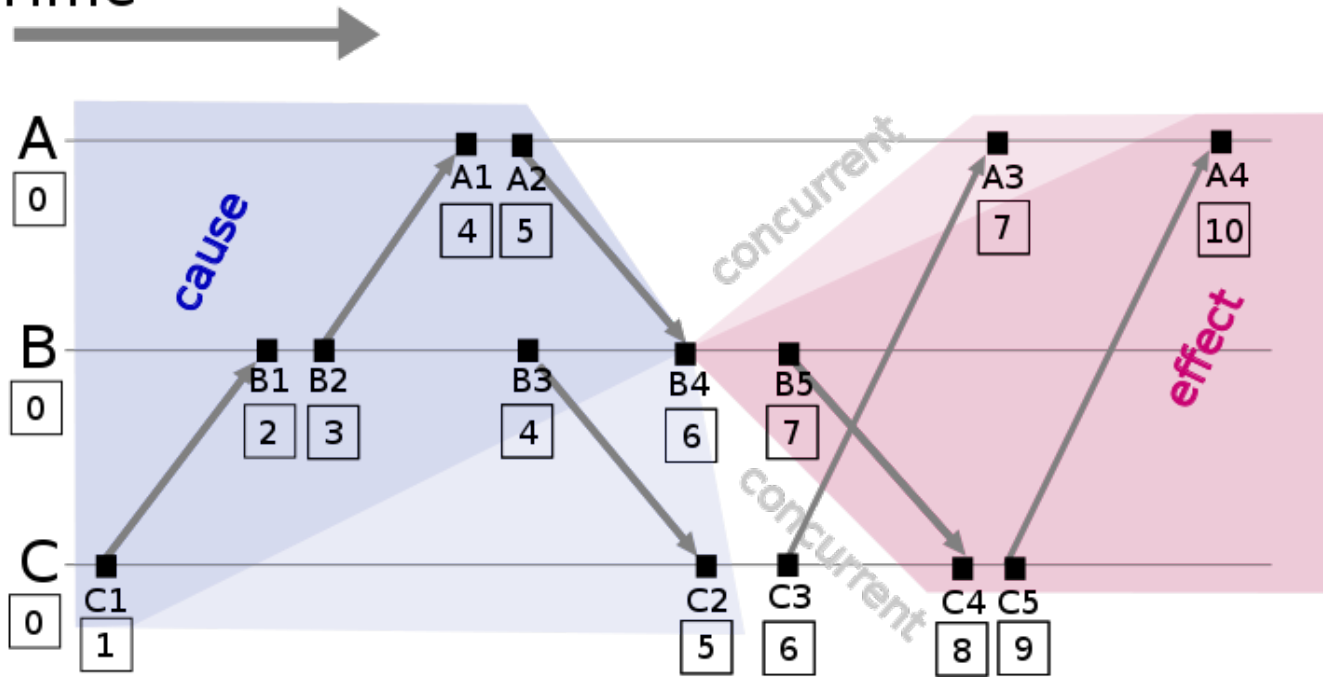


TEX



# Leslie Lamport

Time



# LATEX



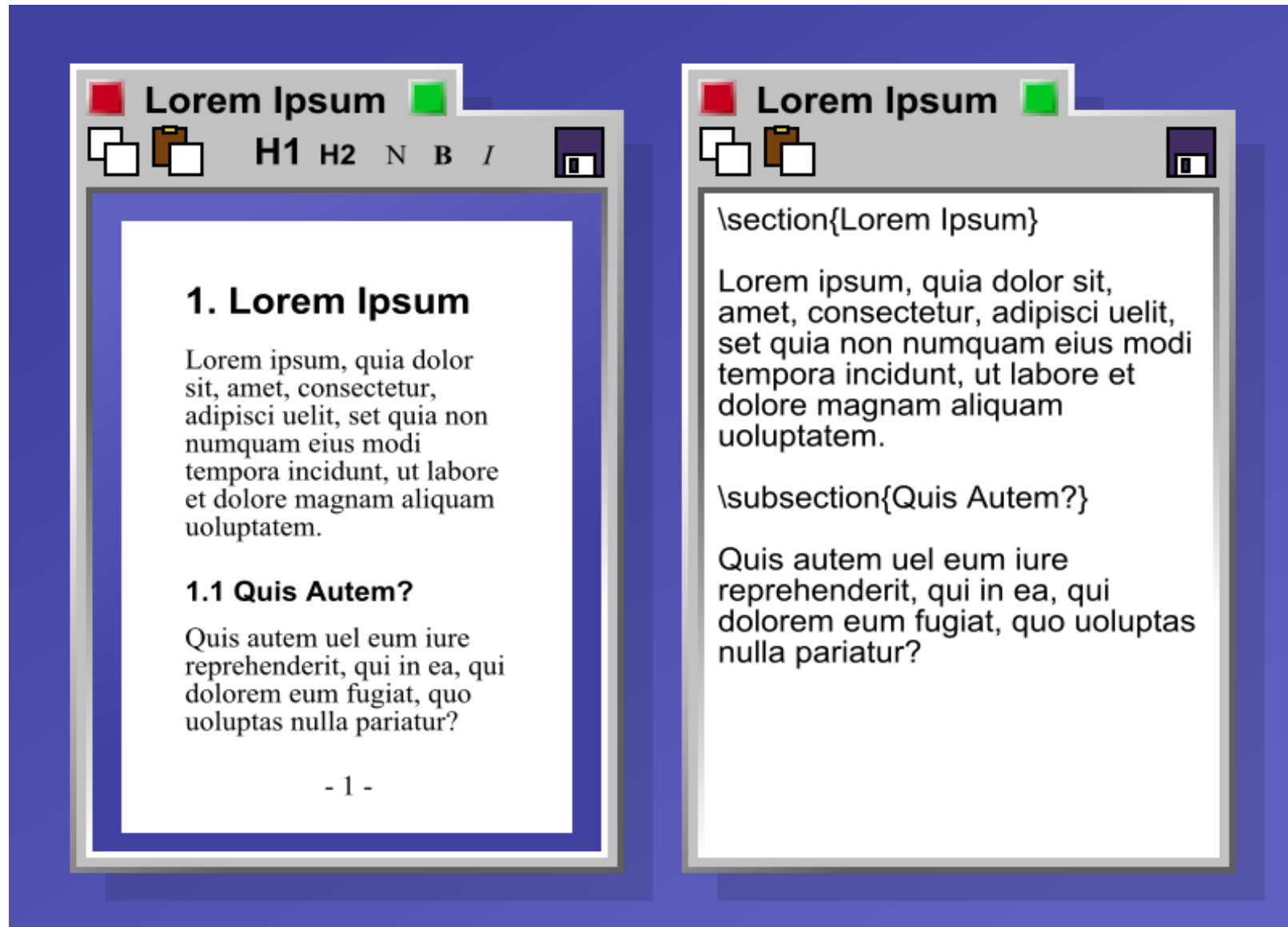
2013



Non-WYSIWYG ...

but optimal “typesetter”

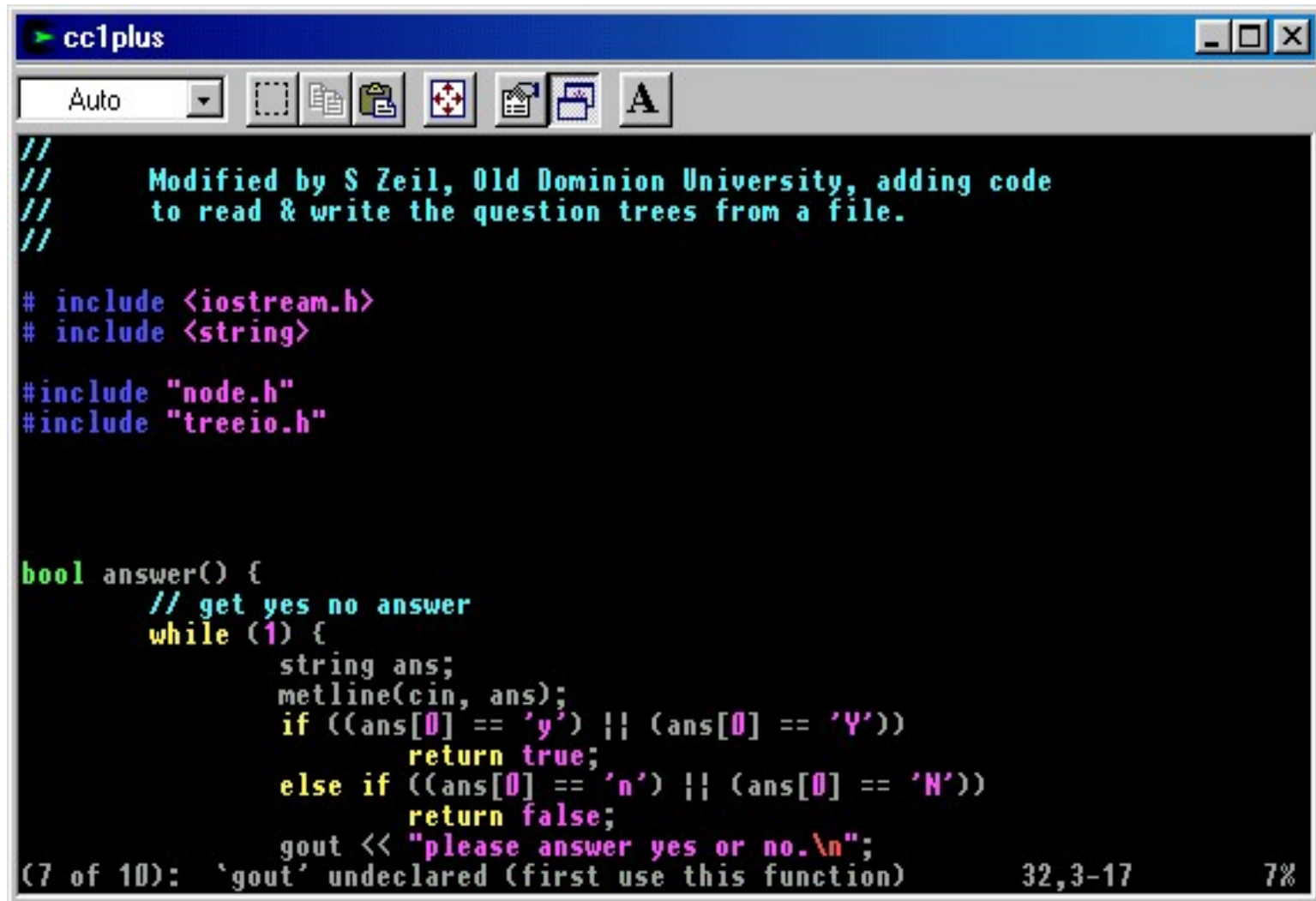
# LATEX



# Who needs a mouse anyway ... “space cadet” keyboard



# Who needs a mouse anyway ... the vi editor (and variants ... vim)



The screenshot shows a window titled "cc1plus" with a toolbar and a code editor. The code is C++ and includes headers for iostream, string, node, and treeio. It defines a function "answer()" that prompts the user for a yes/no answer. A compiler error is shown at the bottom: "(7 of 10): 'gout' undeclared (first use this function) 32,3-17 7%".

```
//  
// Modified by S Zeil, Old Dominion University, adding code  
// to read & write the question trees from a file.  
//  
# include <iostream.h>  
# include <string>  
  
#include "node.h"  
#include "treeio.h"  
  
bool answer() {  
    // get yes no answer  
    while (1) {  
        string ans;  
        getline(cin, ans);  
        if ((ans[0] == 'y') || (ans[0] == 'Y'))  
            return true;  
        else if ((ans[0] == 'n') || (ans[0] == 'N'))  
            return false;  
        gout << "please answer yes or no.\n";  
    }  
}
```

(7 of 10): 'gout' undeclared (first use this function) 32,3-17 7%

# Who needs a mouse anyway ... the vi editor



```
root@fedora:~  
File Edit View Terminal Tabs Help  
[root@fedora ~]# cat /etc/inittab  
# inittab is only used by upstart for the default runlevel  
#  
# ADDING OTHER CONFIGURATION HERE WILL HAVE NO EFFECT ON Y  
#  
# System initialization is started by /etc/event.d/rcS  
#  
# Individual runlevels are started by /etc/event.d/rc[0-6]  
#  
# Ctrl-Alt-Delete is handled by /etc/event.d/control-alt-d  
#  
# Terminal gettys (tty[1-6]) are handled by /etc/event.d/t  
# /etc/event.d/serial  
#  
# For information on how to write upstart event handlers,  
# upstart works, see init(8), initctl(8), and events(5).  
#  
# Default runlevel. The runlevels used are:  
# 0 - halt (Do NOT set initdefault to this)  
# 1 - Single user mode  
# 2 - Multiuser, without NFS (The same as 3, if you do not have networking)  
# 3 - Full multiuser mode  
# 4 - unused  
# 5 - X11  
# 6 - reboot (Do NOT set initdefault to this)  
#  
id:5:initdefault:  
[root@fedora ~]#
```

```
parport0: PC-style at 0x378, irq 7 [PCSP,TRISTATE]  
lp0: using parport0 (interrupt-driven).  
lp0: console ready  
Capability LSM initialized  
Checking non-root filesystems:  
fsck 1.39 (29-May-2006)  
usbfs on /proc/bus/usb type usbfs (rw)  
Mounting non-root local filesystems:  
nothing was mounted  
Using /etc/random-seed to initialize /dev/urandom.  
Skrypt startowy $ zakonczony. Wszystko OK!  
INIT: Entering runlevel: 3  
Going multiuser...  
Updating shared library links: /sbin/ldconfig &  
Starting syslogd daemons: /usr/sbin/syslogd /usr/sbin/klogd -c 3 -x  
Triggering udev events: /sbin/udevtrigger --retry-failed  
Starting Internet super-server daemon: /usr/sbin/inetd  
Starting ACPI daemon: /usr/sbin/acpid  
Loading /usr/share/kbd/keymaps/i386/qwerty/pl.map.gz  
Starting gpm: /usr/sbin/gpm -m /dev/mouse -t ps2  
  
Welcome to Linux 2.6.21.5-smp (tty1)  
slack login: _
```

use in minimal environments, ubiquitous

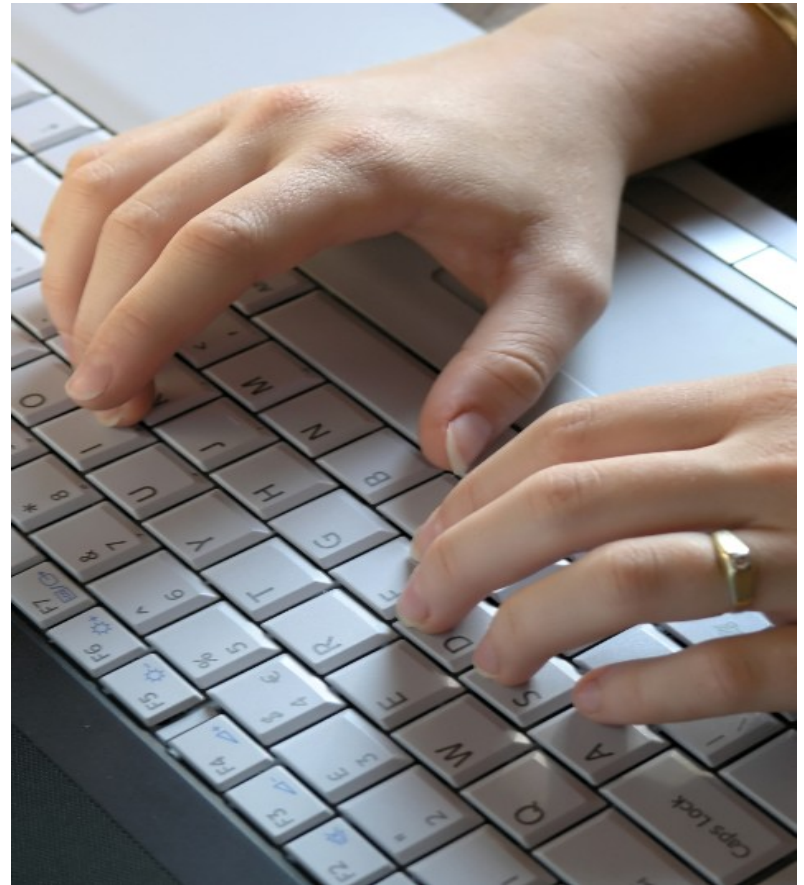
Who needs a mouse anyway ...  
the **vi** editor (based on **ex** line editor)

**Two modes:**

- **Command**
- **Insert**

**Keyboard only!**

**... fast ...**



# vi help sheet

version of 29<sup>th</sup> Oct. 2006

some useful tips and command for the vi editor

You have to use **ESC** (escape key) to get into the vi command mode. You will need to press **RETURN** Key for executing a command starting with the punctuation character " : " or " / " or " ? ". Use **CTRL+c** for cancel a command. Use " ." for repeat your last command and " !:cmd " for execute a shell command (where cmd is the command to execute).

## to get into insert mode

i	insert text before the cursor
a	append text after the cursor
I	insert text at the beginning of the current line
A	append text at the end of the current line
o	insert text in a new line below the cursor
O	insert text in a new line below the cursor

## navigation commands

h or ←	move cursor left
l or →	move cursor right
k or ↑	move cursor up
j or ↓	move cursor down
G	goto the end of file
nG or :n	goto the line number " n "
o	move to the beginning of line
\$	move to the end of line
ctrl+f	move one screen forward
ctrl+b	move one screen backward

## file commands

:q	quit current open file
:q!	force to quit (without saving open file)
:w	save file
:w file	save file as " name "
:wq!	overwrite file then quit
:x,yw file	write from line " x " to line " y " into " file "
:w >> file	append buffer to " file "
:e file	edit another file
:e! file	edit another file without saving the current open file
:r file	insert file content at the current cursor position
:n	edit next file in vi arguments file list
ctrl+G	get file status

You can launch vi with some arguments. One usefull is " -c " for execute vi commands in a file directly from the command line.

ex.:

```
vi -c " %s/false/true/g|:wq " file.txt
```

## search commands

/string	search forward for " string "
?string	search backward for " string "
n	repeat last search
:%s/str1/str2/gc	search and replace " str1 " by " str2 " from the current line (a line number can be specified before the comma) to the end of file. Ask for confirmation before replace.
:%s/str1/str2/g	replace all " str1 " by " str2 " in all the file without confirmation.
:%s/str1/str2/	replace " str1 " by " str2 " for first occurrence of each line of file.

## edit commands

r	replace a character at the cursor position
u	undo last change
mA	set mark " A " (can be any letter, case sensitive) at the beginning of current line
y'A	yank from current line to the mark " A "
d'A	delete from current line to the mark " A "
P (caps P)	put the buffer before the cursor
p (small p)	put the buffer after the cursor
x	delete character at cursor position
dw	delete first word after cursor position
d\$ or D	delete from cursor position to the end of line
dd	delete curent line
J (caps J)	join curent line with the following line

**Look at :**

- :map** for mapping a key in command mode to a group of commands (ex. **:map de :,\$d^M** will delete all file when using **de** command)
- :set** for define or show your editor current options
- :ab** for define a text abbreviation in insert mode (ex. **:ab VIM Vi Improved** will auto complete **VIM** in insert mode)