KNOPPIX/Math: Portable and distributable collection of mathematical software and free documents

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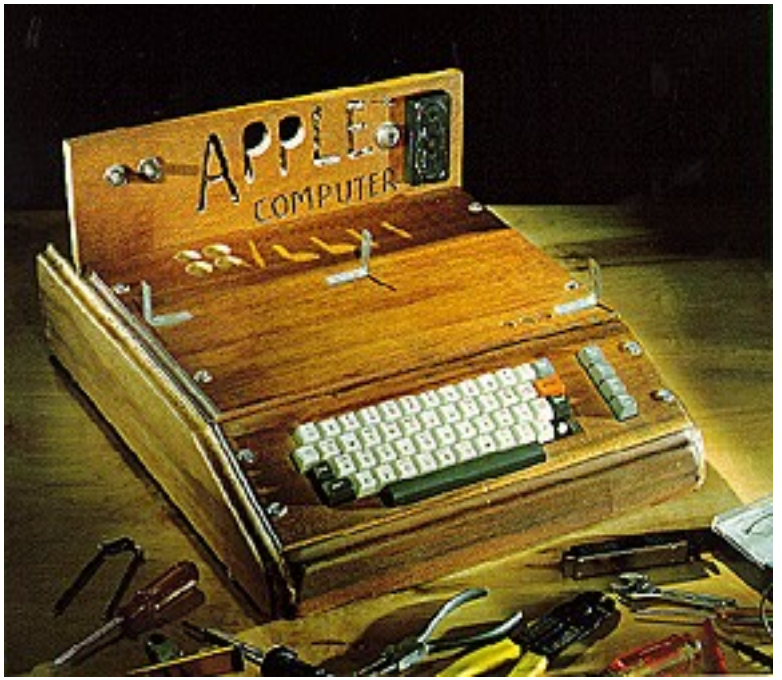
ICMS2006 in Castro Urdiales
2006.09.02

1960s

DEC PDF-7
http://research.microsoft.com/~gbell/Digital/timeline/1964-3.htm

1970s

DECstation PDP-8
http://research.microsoft.com/~gbell/Digital/timeline/1977-2.htm



A prototype of the Apple personal computer
http://www.150.si.edu/chap9/9ap_le.htm

1980s

IBM PC 5150
http://www-03.ibm.com/ibm/history/exhibits/pc/pc_1.html

Apple IIe
http://www.old-computers.com/museum/computer.asp?st=1&c=83

1990s

Apple SE/30
http://www.apple-history.com/?page=gallery&model=se30

IBM ThinkPad 700C
http://www-06.ibm.com/jp/event/museum/rekishi/92_tp.html

1995.08.24
Microsoft Windows 95

1991.08.25
Linus's first announcement
1991.10.05
Linux 0.0.2

Recently

Panasonic recommends Microsoft®
Windows® XP Professional

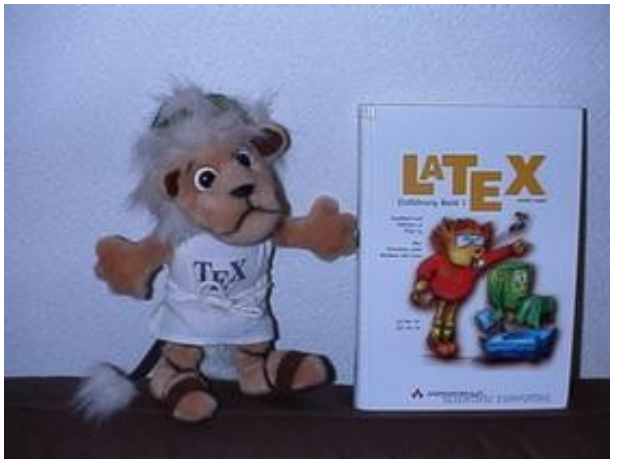
Panasonic Toughbook eLite W4
with Microsoft Windows XP Professional
12.1" XGA Color LCD Display, built-in DVD/CD-RW,
only 2.8 lbs (1270g).

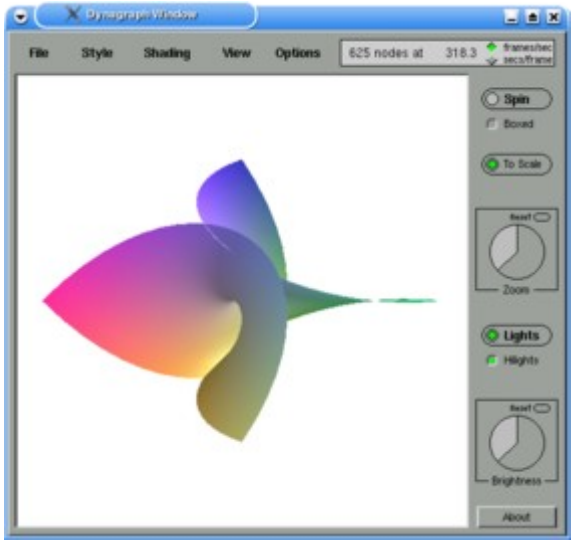
http://www.lenovo.com/us/en/

http://www.sharp.co.jp/products/slc760/index.html

Mathematicians need

- TeX system
  - for writing papers.
- Mathematical software
  - for calculating and visualization





http://www.lg.fukuoka-u.ac.jp/~ynagata/latex/texlion.html

Dynagraph

Mathematicians need

- to communicate other mathematicians
- for deepening our investigations
- for getting new ideas

Conferences and Workshops
held in foreign countries

Laptop computers
become a ubiquitous parts

We want

- to read and write e-mail messages
- in our native language.

We have to set up and configure
the desktop environment
on our laptops.

It's not enjoyable!

Mathematicians need

portable desktop environment
that can be set up easily and quickly.

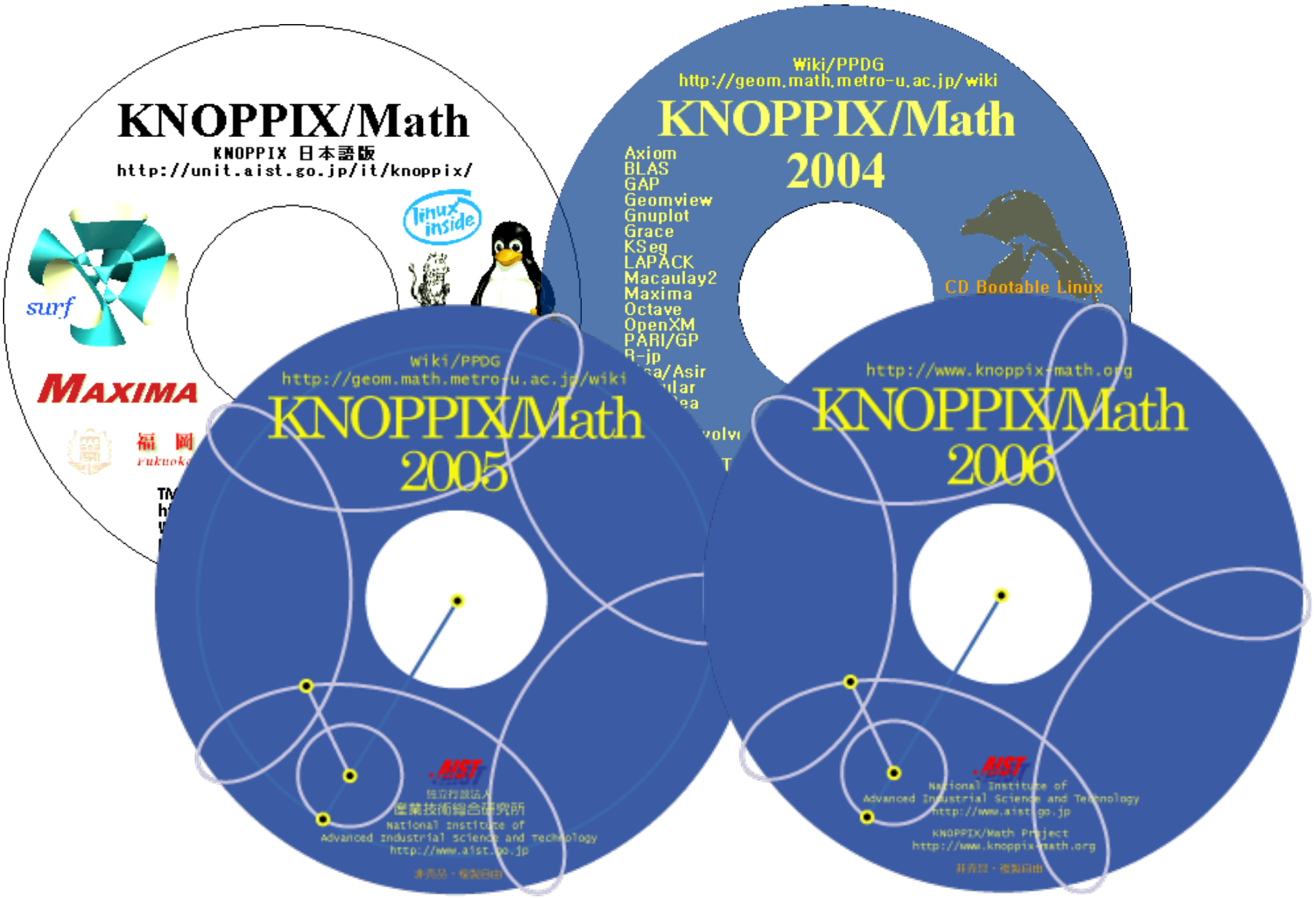
We propose

a new computer environment
for mathematicians.

We call

our computer system
“Desktop Teleportation”.

KNOPPIX/Math



KNOPPIX

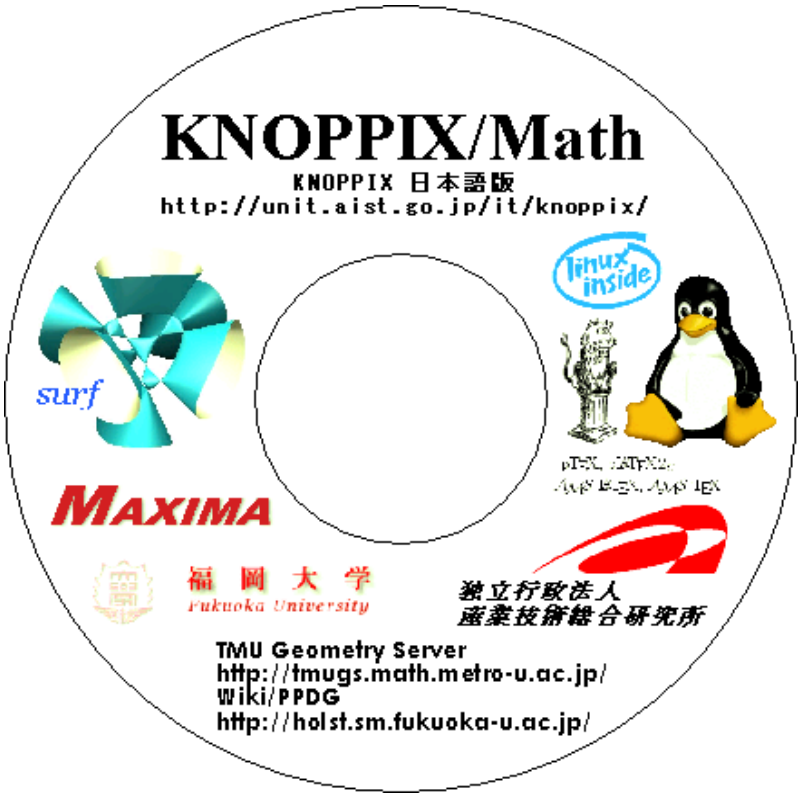
- by Klaus Knopper in Germany
- bootable from only one CD or DVD
- A collection of GNU/Linux software
- for Linux demos
- for educational use
- for system recovery
- no installation on your HD
- automatic hardware detection
- 2GB of executable software in CD
- over 10GB of software are available in DVD

KNOPPIX-jp

- AIST (National Institute of Advanced Industri ral Science and Technology)
- 2002.9.18--20 Linux Conference in Tokyo

KNOPPIX/Math/2003

- MSJ meeting 2003 in Tokyo University
- 2003.03.23--26
- TeX, Maxima, Geomview, *surf*



KNOPPIX/Math/2004

- MSJ meeting 2004 in Tsukuba University
- 2004.03.28--31
- It included many mathematical software.

KNOPPIX/Math/2005

- MSJ meeting 2005 in Nihon University
- 2005.03.27--30

KNOPPIX/Math/2006

- MSJ meeting 2006 in Chuo University
- 2006.03.26--30

KNOPPIX/Math icms2006 DVDs

- ICM2006 in Madrid
  - 2006.08.22--30
- ICMS2006 in Castro Urdiales
  - 2006.09.01--03

Mathematical Software

Programming environment

- C, C++, Java, Fortran, Ruby, Perl, Python, Lisp, Scheme, ・・・
- EGGX/ProCALL
  - Graphics Library by Senri Yamauchi
- Polynomial, Algebra, Rational
  - Ruby library
- NZMATH
  - Tool for Number theory by TMU NZMATH group
- Oorange
  - interactive programming as rapid prototyping

Japanese Free Documents

- “An introduction of Maxima, private edition” by Yoshiyuki Nakagawa
- “Translation of Maxima manual” by Hiroshi Yokota
- “An introduction of writing papers with LaTeX 2e” by Namio Matsuda
- “KSEG Help” by Mr. Hiroshi Yokota
- “Risa/Asir Drill Book” by Nobuki Takayama

The distribution policy

Only free software and free documents

Economical and easy
to copy and redistribute

No patience of license fee

Both software and documents

We expect

installation free system

low-cost and high portability

to compare different math systems

to introduce nice software

We succeeded

to distribute 1000 packages
during the first 3 days in MSJ meeting

$$\frac{1000}{1500}$$

However

Most of users will not use
as “desktop teleportation”.

They use it as “Desktop cloning”
of the computer experts.

We started

the KNOPPIX/Math project
for introducing mathematical
software and writing free documents
and a guide book for KNOPPIX/Math.

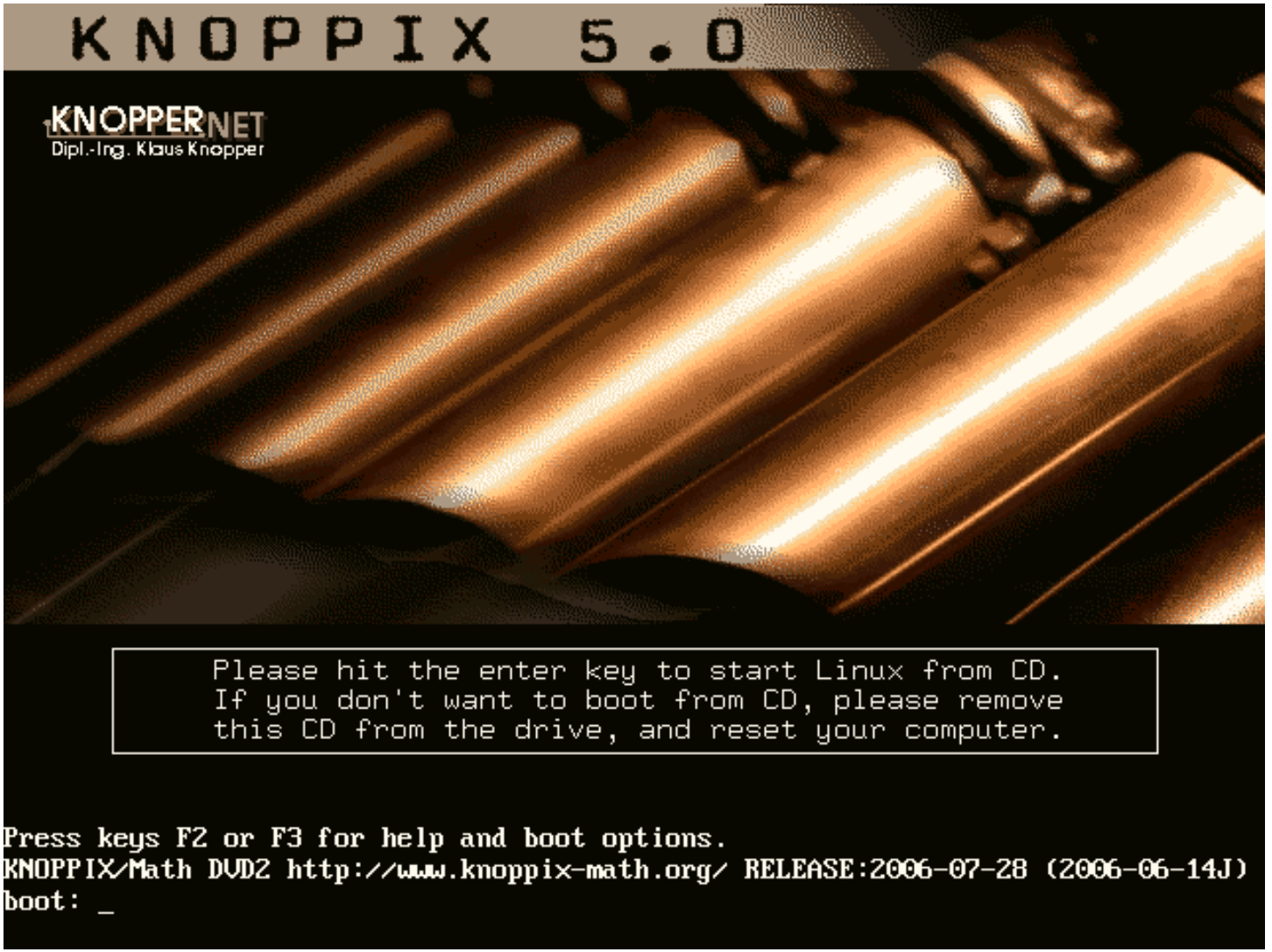
Other remastered versions

- Quantian
- Freeduc
- Live TeXmacs
- SFS-KNOPPIX and HTTP-FUSE KNOPPIX
- CF-KNOPPIX and USB-KNOPPIX
- KNOPPIX Edu
- Accelerated-KNOPPIX

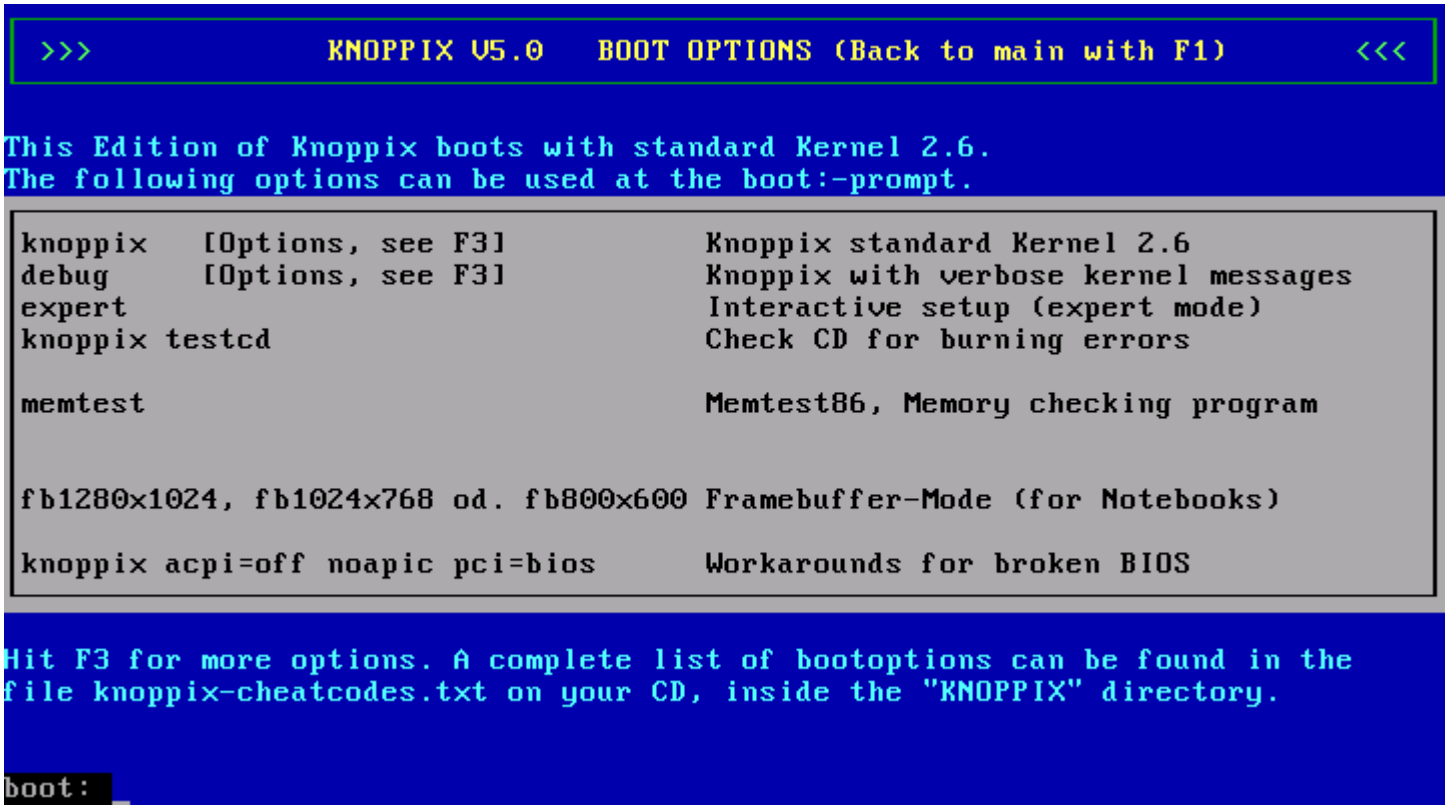
To start the DVD

1. Set up the BIOS of your computer to boot off the DVD.
2. Put the DVD in the drive.
3. Reboot the computer.

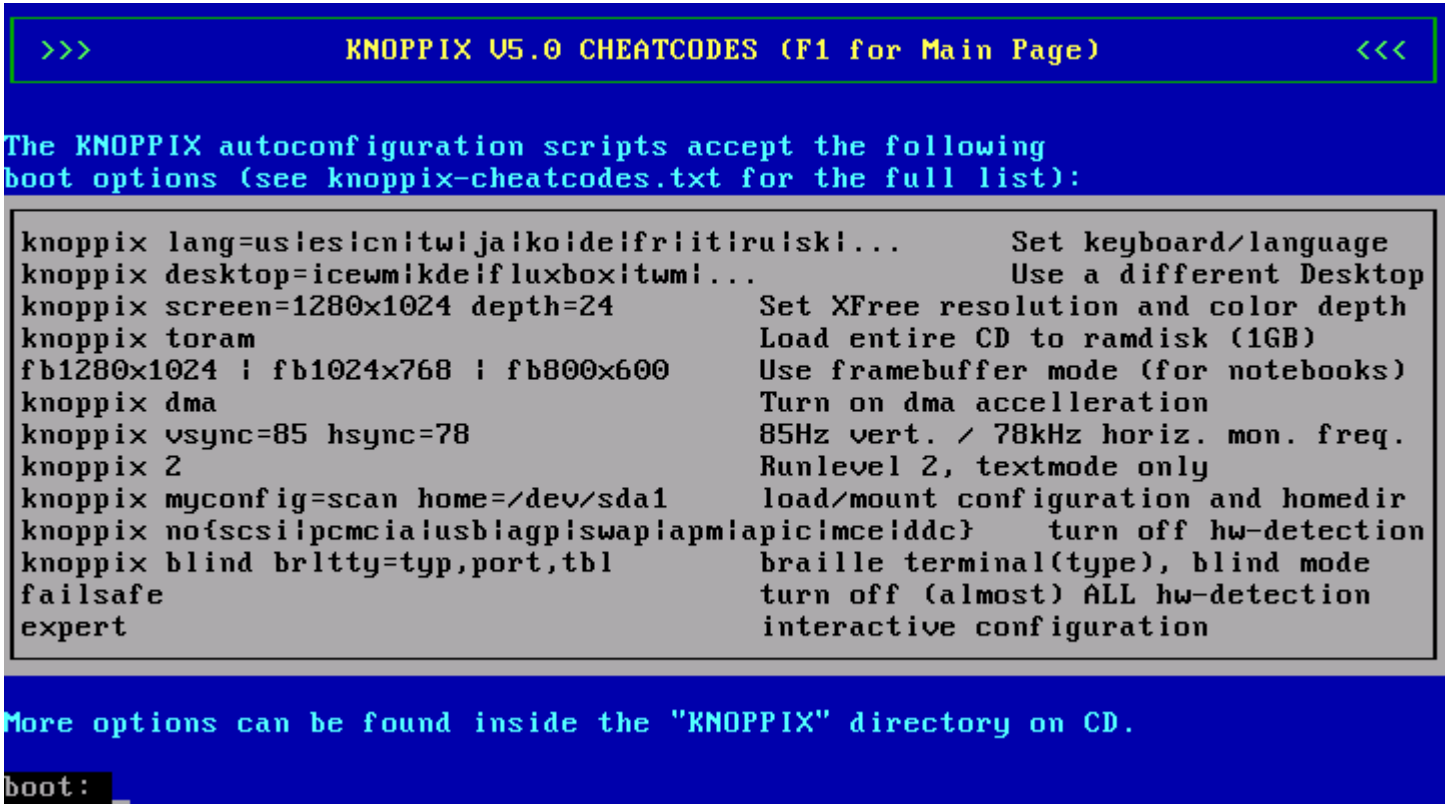
boot:


KNOPPIX 5.0
KNOPPERNET
Dipl.-Ing. Klaus Knopper
Please hit the enter key to start Linux from CD.
If you don't want to boot from CD, please remove
this CD from the drive, and reset your computer.
Press keys F2 or F3 for help and boot options.
KNOPPIX/Math DVD2 http://www.knoppix-math.org/ RELEASE:2006-07-28 (2006-06-14J)
boot: _

Boot Options F2

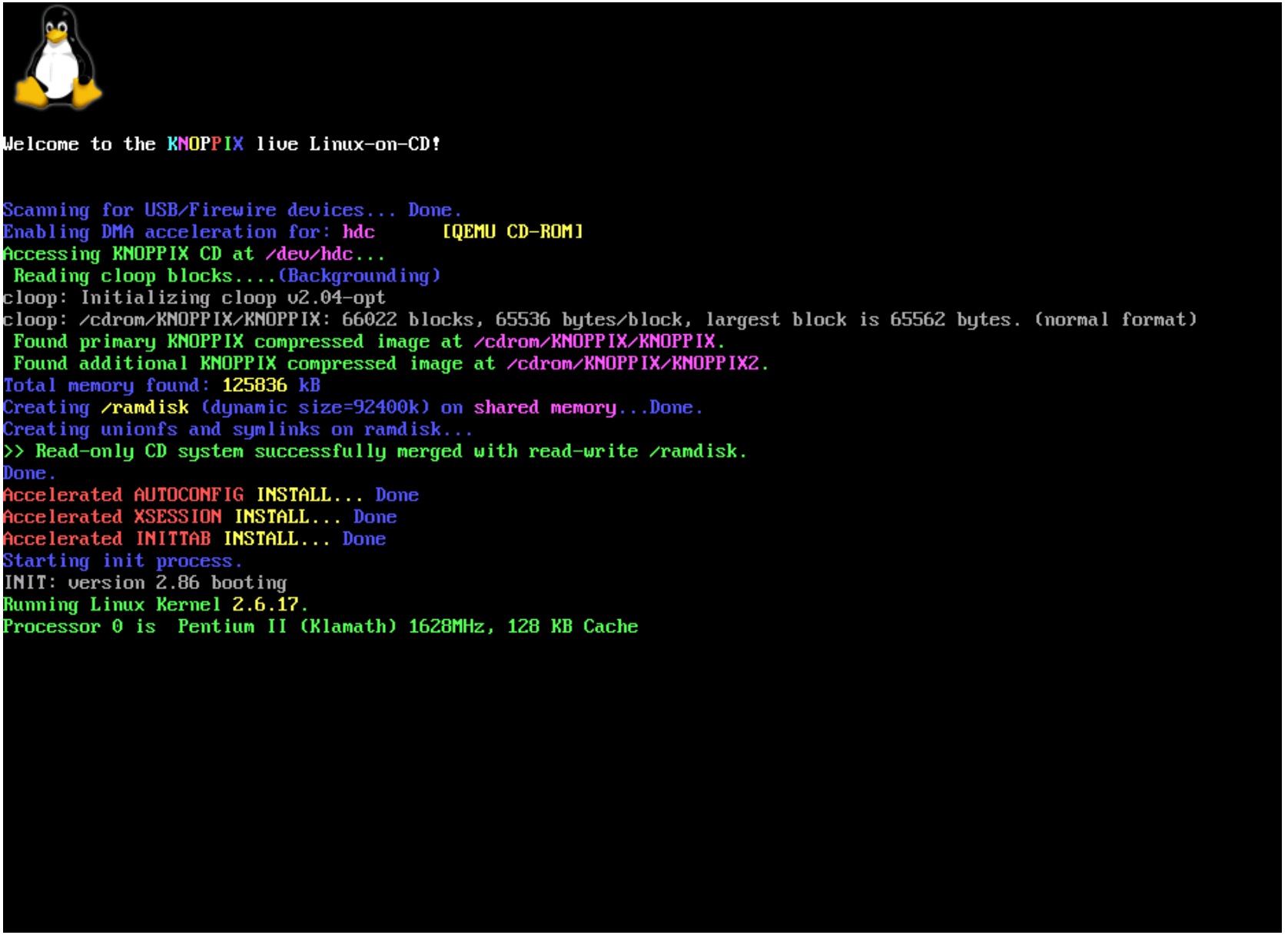


Boot Options F3



- knoppix lang=us|es|cn|tw|ja|ko|de|fr...
- knoppix desktop=icewm|kde|fluxbox|twm...

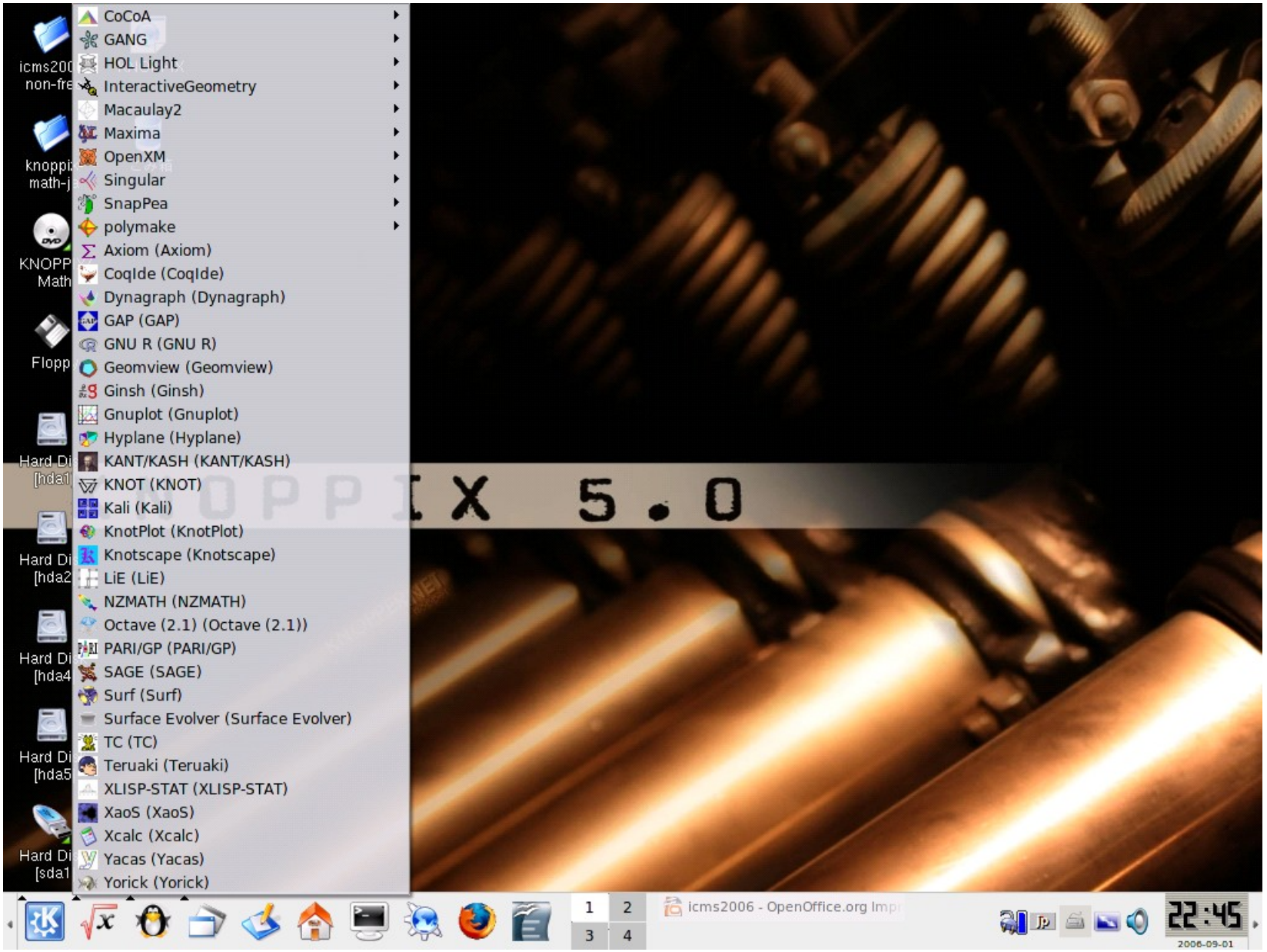
booting KNOPPIX



KDE


icms2006-non-free
KNOPPIX
knoppix-math-ja
ごみ箱
KNOPPIX/Math
Floppy
Hard Disk [hda1]
Hard Disk [hda2]
Hard Disk [hda4]
Hard Disk [hda5]
Hard Disk [sda1]
KNOPPIX 5.0
1
2
3
4
icms2006 - OpenOffice.org Impr
22:45
2006-09-01

Start from $\sqrt{x}$



“knoppix-math-ja” on Desktop

- KNOPPIX-Math.html
  - Links for mathematical software
- OpenXM.html
  - An introduction of OpenXM
- kseg_sample
- surf_sample
- Link

“icms2006-non-free” on Desktop

- index.html
- @Start.html
- links-icms2006.pdf
- program.html
- bin.sh
- icon
- projects

We want

- free documents of mathematical software
- easy sample codes of your software
  - math-polyglot
- icons of your software
- demonstration videos of your software
  - recordwin.sh(vnc2swf,pyvnc2swf), Istanbul,...
- debian packages of your software
- test unit
- clear licenses of your software