[Credit: John Swinbank & Dave Russell]

These instructions have been tested on Debian 5.0.4 (lenny) on the AMD64 platform. This system was freshly installed from the netinst CD image . As part of the installation, I chose the "Standard system" and "Desktop environment" software collections. After installation, I applied all the outstanding system updates.

This instructions are intended to be read in conjunction with the documentation supplied with the various software packages!

Note that $ indicates commands which should be typed at a terminal prompt as a normal user. # indicates commands which are typed at a root prompt (ie, with elevated privileges).

Preparation

Install the required packages from the Debian repository:

```
$ su
# aptitude update
# aptitude install make libc6-dev g++ gfortran x11proto-core-dev libx11-dev libxt-dev libncurses5-dev libpng12-dev zlib1g-dev
```

Unfortunately, the version of slang supplied by the current Debian release is outdated & not compatible with the latest versions of Isis. However, it is straightforward to build and install an updated version using standard Debian tools:

```
# echo "deb-src http://mirrors.nl.kernel.org/debian/ testing main contrib non-free" >> /etc/apt/sources.list
# aptitude update
# aptitude build-dep libslang2-dev
# apt-get -b source -t testing libslang2-dev
# dpkg -i libslang2_2.2.2-4_amd64.deb libslang2-dev_2.2.2-4_amd64.deb
```

libslang2-modules_2.2.2-4_amd64.deb slsh_2.2.2-4_amd64.deb

Note that the precise version numbers of the packages to install might vary between the time of writing and the summer school: you can always use ls to see exactly what has been built. After the above installation, you are free to remove the files that have been created in your working area.

You can now press ctrl+d to leave the root level shell and proceed with the installation.

SLIRP for S-Lang

Available directly from Debian:

```
$ su
# aptitude install slang-slirp
```

S-Lang Stats Module

For S-lang we require the stats module : download it from here (using your browser) or wget, then untar and uncompress it:

```
$ wget http://space.mit.edu/cxc/software/slang/modules/stats/src/slstats-1.0.2.tar.gz
$ tar zxvf slstats-1.0.2.tar.gz
```

Then configure and build it:

```
$ cd slstats-1.0.2/
$ ./configure
$ make
```

```
$ sudo make install
```

You will need to type your password.

This will install the module into /usr/local
. You now need to instruct S-Lang to look for scripts in that location. Add the following lines to $HOME/.slshrc
(creating the file if necessary):

```
  append_to_slang_load_path
("/usr/local/share/slsh/local-packages"$);
  set_import_module_path
```

("/usr/local/lib/slang/v2/modules:"$+ get_import_module_path ());

To use the module in a S-lang script (more info here), it must be loaded into the interpreter:

```
$  slsh
slsh>  require ("stats");
```

To quit slsh:

```
slsh:> quit
```

Heasoft 6.9

HEASoft includes FTOOLS (FITS

manipulation tools) and XANADU (X-ray data analysis).
Any problems with your Heasoft installation? First check for clues here
then
here
Detailed installation guides are also available here and here

You'll need approximately up to 900 Mb free disk space
Download the source (300 Mb) , either using

this direct link
or by visiting
the Heasoft website
.
Untar and uncompress it in the directory you want to unpack it in
:
:

```
$ tar zxvf heasoft6.9src.tar.gz
```

Then configure it. You need to specify the installation location as part of this process: we'll use your home directory in this example.
NB if you don't use your home directory,

you'll need to change the other instructions to match!

```
  $ cd heasoft-6.9/BUILD_DIR
  $ ./configure --prefix=$HOME/heasoft > config.out
```

2>&1

Wait until the configuration has finished, and build:

```
$ make > build.log 2>&1
```

Then install the

software:

```
$ make install
```

At the start of your session, the heasoft environment must be initialised. We can make that happen automatically:

```
  $ echo "export
HEADAS=$HOME/
heasoft/x86_64-unk
nown-linux-gnu-libc
2.7/" >>
$HOME/.bashrc
  $ echo ".
$HEADAS/headas-i
nit.sh" >>
```

$HOME/.bashrc

Note that the platform string above (x86_64-unknown-linux-gnu-libc2.7) might vary if

Debian release updated libc packages. Check what has been created in $HOME/heasoft to confirm the correct value for

your system.

You will need to open a new terminal for this to take effect. Please do that, and close the

old one, before proceeding to the next section.

Now you are ready to run

the various Heasoft software packages: Introduction, tutorials (where available) or

manuals: FTOOLS

XANADU: XSPEC

XRONOS

XIMAGE

Isis 1.6.0

ISIS

interactively fits X-ray spectra. Any problems

with your ISIS installation? First check for clues he

re

then (more generally) here

A detailed

installation guide is also available here

Download the source. You can do this directly with the

command:

```
$ wget ftp://space.mit.edu/pu
```

b/cxc/isis/isis-1.6.0-12.tar.gz

or by

visiting the ISIS website

Untar and

uncompress it in the directory you want to unpack

it in :

$ tar zxvf

isis-1.6.0-12.tar.gz

$ cd isis-1.6.0-

12/

Configure and build:

```
$
./configur
e
--with-hea
```

das=$HE

ADAS

$ make

There are some build in diagnosti

c tests. Before proceeding, run

them and check that everythin

g is ok:

$ make check

If all the tests pass, you can install

the software by running:

```
$ su
# make
install
```

Press ctrl+d to leave the root

environment.

Now you

are ready to run ISIS: Tutorial

Manual

Fermi Science Tools (v9r15p2

)

Unfortun
ately,

numerous errors in the build

system for the Fermi Science

Tools mean that compilin

g them from scratch is

effectivel
y
impossibl
e on this

platform. However, it is possible

to download and install a

pre-compiled version from the

Fermi Science Support Centre

. Choose the version compiled

for Scientiifc Linux 5 libc2.5,

and 32 or 64 bit dependin g on your

platform. If you're not sure, check by

running:

$ uname

-m

A 64 bit machine

will return x86_64 ; a 32 bit

machine will return i686

After you have

identified the correct package,

downloa d with your browser

or with wget:

```
$ wget
```

http://fermi.gsfc.nasa.gov/ssc/data/

analysis/software/tar/ScienceTools-

v9r15p2-fssc-20090808-x86_64-unk

nown-linux-gnu-libc2.5.tar.gz

Note that the instructions provided

by FSSC

for installing the

binary distributi on also contain

some errors. In particular, you

should skip steps 3 & 4.

Installation proceeds as

follows:

```
$ tar zxvf
```

ScienceTools-v9r15p2-fssc-20090805

8-x86_64
-unknow
n-linux-g
nu-libc2.

5.tar.gz

You may wish to

move the resulting files to a more

conveniently memorable

location:

$ mv ScienceT

ools-v9r1
5p2-fssc-
2009080
8-x86_64

-unknown-linux-gnu-libc2.5

$HOME/fermi_science_tools

Then set the $FE RMI_DIR environm

ent
variable
to point
to the

newly-installed tools:

```
$ export FERMI_DIR=$HOME/fer
```

mi_scien
ce_tools/
x86_64-u
nknown-l

inux-gnu-libc2.5

You may

wish to add this to $HOME/.bashr

c , so that it happens automati

cally when you log in:

```
$ echo "export FERMI_DIR=$H
```

OME/fermi_science_tools/x86_64-

unknown-linux-gnu-libc2.5"

>>
$HOME/
.bashrc

In order to access the

science tools, you can now run:

```
$ source
e
$FERMI
_DIR/fer
```

mi-init.sh

Note

that rather than integrati

ng with the rest of the system,

the Fermi Science Tools

include an addition al (and

often outdated) copy of a

number of standard system

tools (such as Python, tcl/tk,

etc). For the duration of your

session after you source the

fermi-init.sh script, you will

automatically use the Fermi-s

upplied tools rather than

your system defaults. Therefor

e, it is strongly suggested you

only source fermi-init.sh

when you specifically need

to work with Fermi tools,

rather than as part of your

normal login process!

SAOImage DS9

6.1.2

DS9 is a tool to

view and analyze astrono

mical images. It is availabl

e for

downloa

d from

its

website either directly using

your browser or using wget on

the
comma
nd line.
Grab

the "Linux64" version

if you have a 64 bit machin

e, or "Linux" for 32 bit. If

you're not sure, check

using:

$

uname

-m

"x86_64

"

indicates 64 bit; "i686" 32.

After downloading, it can be

uncompressed and run directly

without any further configur

ation:

$ wget

http://he

a-www.harvard.edu/saord/down

load/ds9/linux64/ds9.linux64.6

.1.tar.gz

$ tar zxvf ds9.linu

x64.6.1.

tar.gz

$ ./ds9

&

You may wish to move it

to a location on your path so

you can access it without

specifying the full location:

```
$ sudo mv ds9 /usr/local/bin
```

$ ds9 &

AIPS 31DEC 10

AIPS ("Astronomical

Image Processing

System ") is a radio

data reduction/manip

ulation packag e: for

details, see its website

. In particular, for

problems regardi

ng the Install Wizard,

check here ,

otherwise see here

and here . If you

are

replacin

g a

previous installat

ion of AIPS, please

clean up first: follow

these instructions

(half way down

part 2).

The

following

instruct

ions

are for

binary

installation, not "text"

(ie, compilation

from source). This

is

general

ly to be

recommended, as

AIPS is notoriously

picky about compil

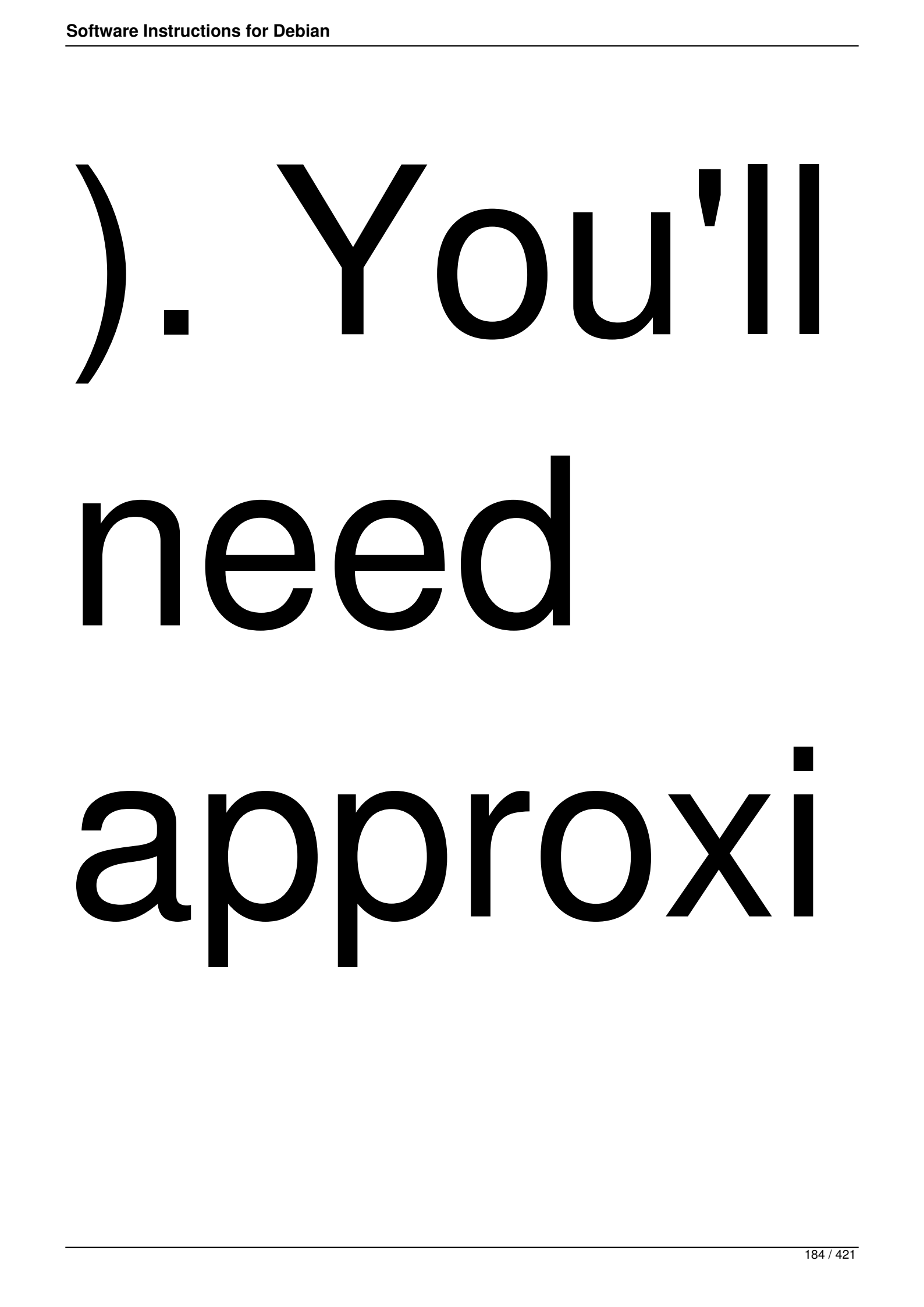
ers

(see

the

vaguel
y
hilariou

s note
on the
website


). You'll
need
approxi

mately
1 GB
free

disk

space.

cvs is required:

$

sudo

aptitud

e install cvs

Next download the

small Install Wizard

file (a Perl script)

from this direct

link

or by

using

wget. Choose a

new directory to

install AIPS, cd to it

and

put the

file

there.

Make

the

install file execut

able

then

execut

e it:

$

mkdir aips

$ cd

aips

$

wget

ftp://ftp.aoc.nr

ao.edu

/pub/software/aips/31

DEC10 /install.pl

```
$
chmod
+x
```

install.

pl

$ perl

install.

pl -n

Read & follow the

on-screen instruct

ions.

Refer

to the

more detailed notes

here at each step.

The following

options seem to work

for me,

but you

may

wish to customize

them.

Note

that the

numbers are not

actuall

y

consec

utive(!)

Screen

0 -- hit enter Screen

4 -- hit enter (ie

accept the default

choice) Screen 4b --

hit

enter

(ie,

allow yoursel f to

have write access

)

Screen 5 --

choose a name;

can be whatever you

like

Screen

5a --

enter "y" Screen

5b -- accept the

default (LNX64 on a

64 bit machine)

Screen 6 -- hit enter

to

accept

LOCAL

HOST Screen 7 --

add the data area

sugges
ted (ie,
/home//

/DATA/LOCALHOST_

1

)

Screen

8 --

press

"A" to

accept current setting

s, then type A4

Screen 9 -- press

"A" to accept current

settings Screen

9b --

press

"A" to

accept current setting

s

Screen

11 --

press "A" to accept,

then "Y" to start

the installation.

You will now

need to wait for several

minute
s while
the

data files are

downlo

aded

and

installe
d.

Eventu
ally,
the

configuration system

will set up configu

ration for a "midnig

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(MNJ;
ie, an

automatic update

of the AIPS files):

just hit return to

acknowledge the

default settings, then

again

to

enter a

blank

cvs

passw

ord (as instructed),

then

again

when

"ready to procee

d" (you can examin

e the d

o_daily

.localh

ost

file if

you

plan to run a midnig

ht job).

You

will

then be prompted to

hit

enter

for a

fourth time(!) before

finally being told:

AipsWi

z:

That's it. You should

now

have

the

latest AIPS!

Enjoy.

Edit your $HOME/

.bashrc to ensure

that AIPS is initialis

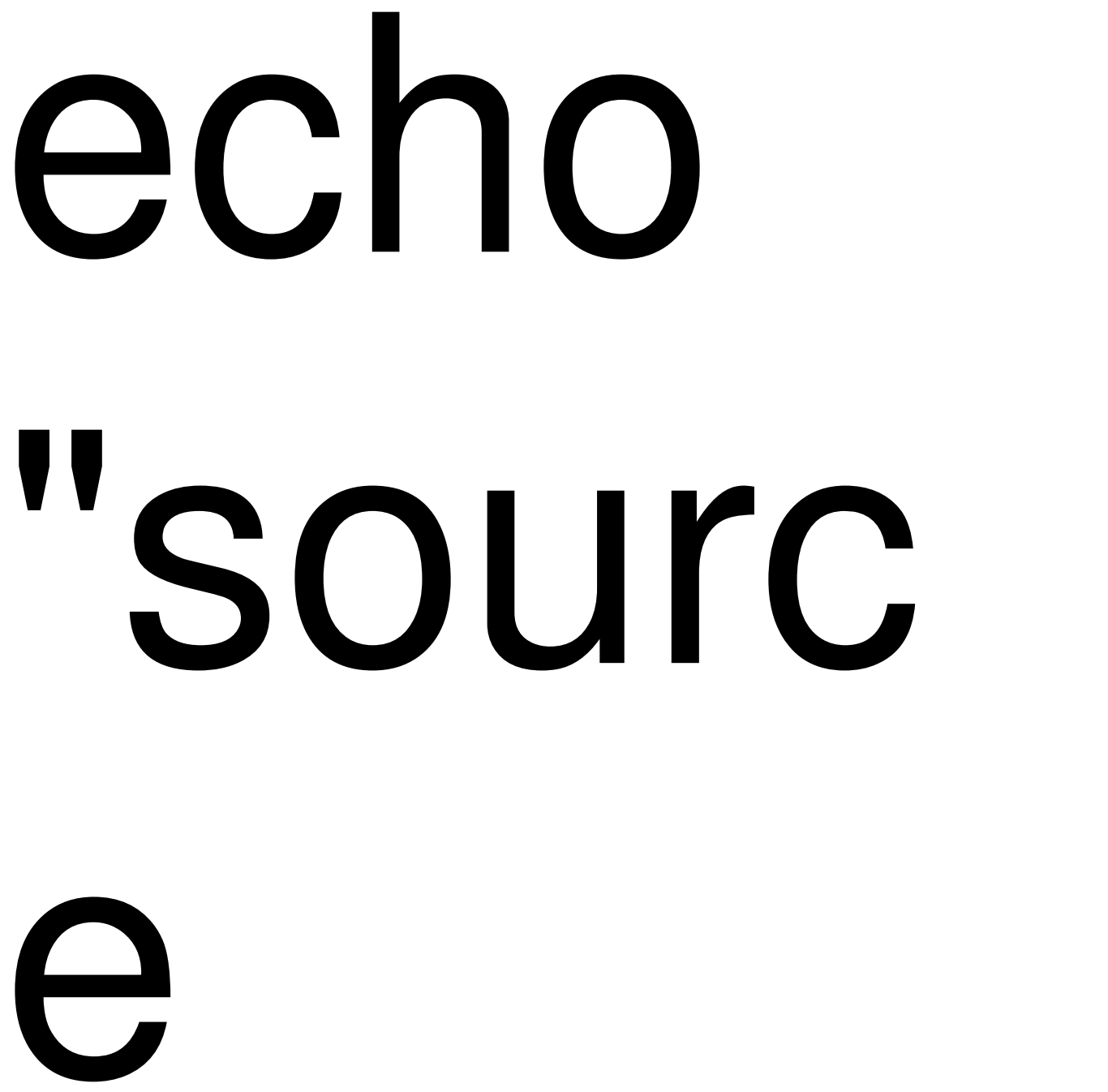
ed

when

you log

in:

$


echo
"sourc
e

$HOME/aips/LOGIN

.SH"

>>

~/.bash

rc

Now

you are ready

to run AIPS. The

cookbook can be

viewed online here

and as a pdf here

CASA 3.0.2

Note that before

downloading CASA

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s etc.

This is

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CASA is releasi

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3.0.2

this

week (10 June

2010). Download

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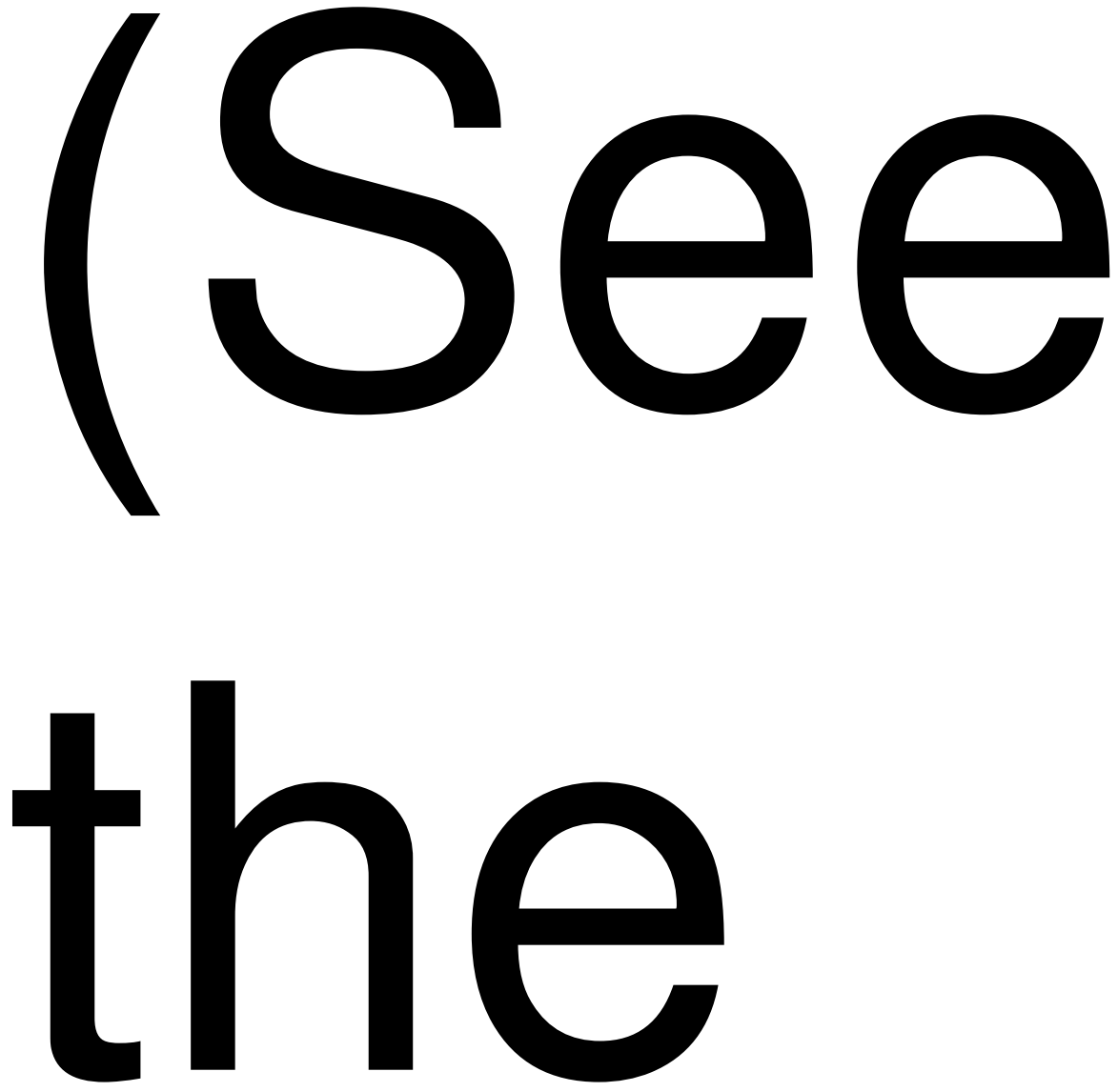
for a 64 bit

machine


(See
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previous

notes on

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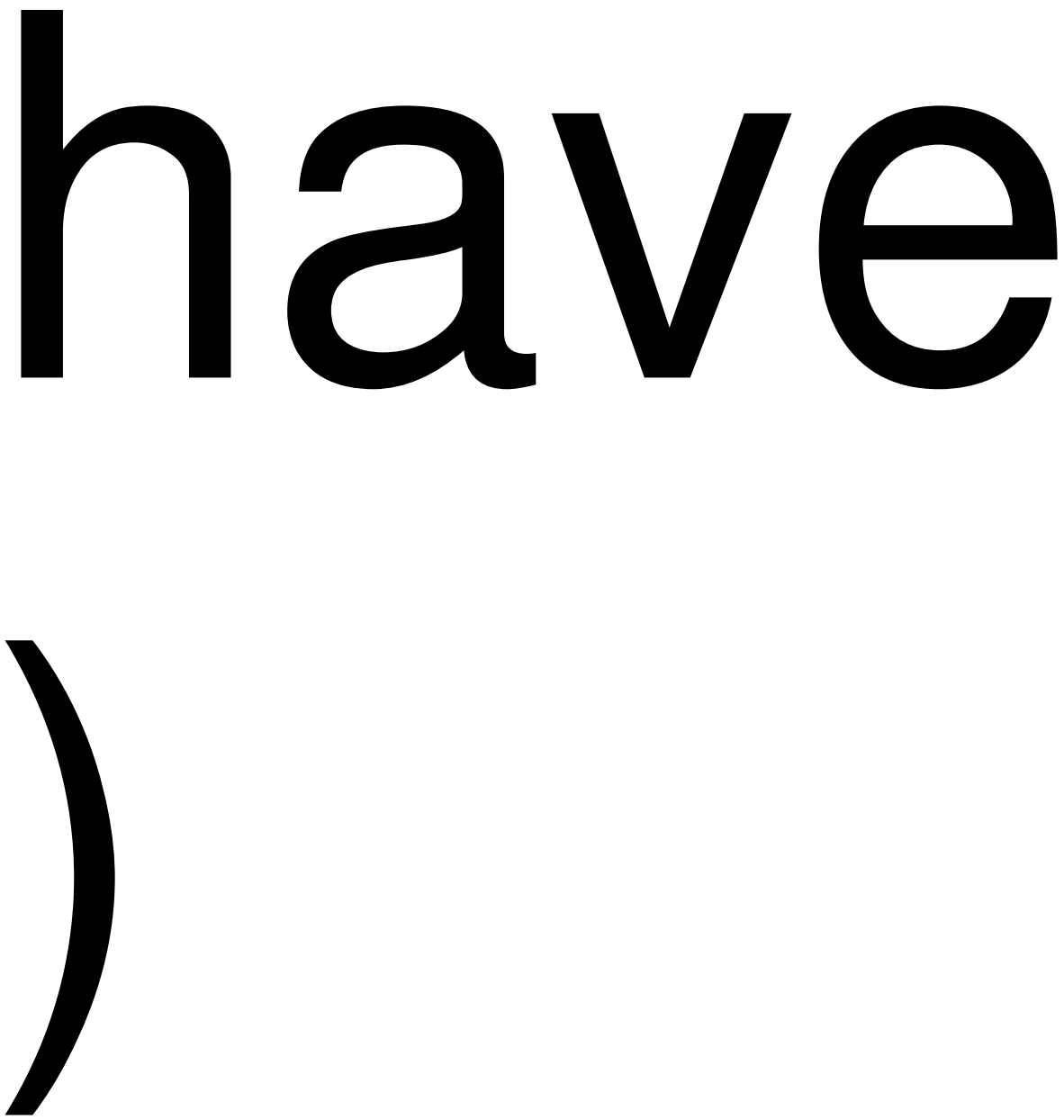
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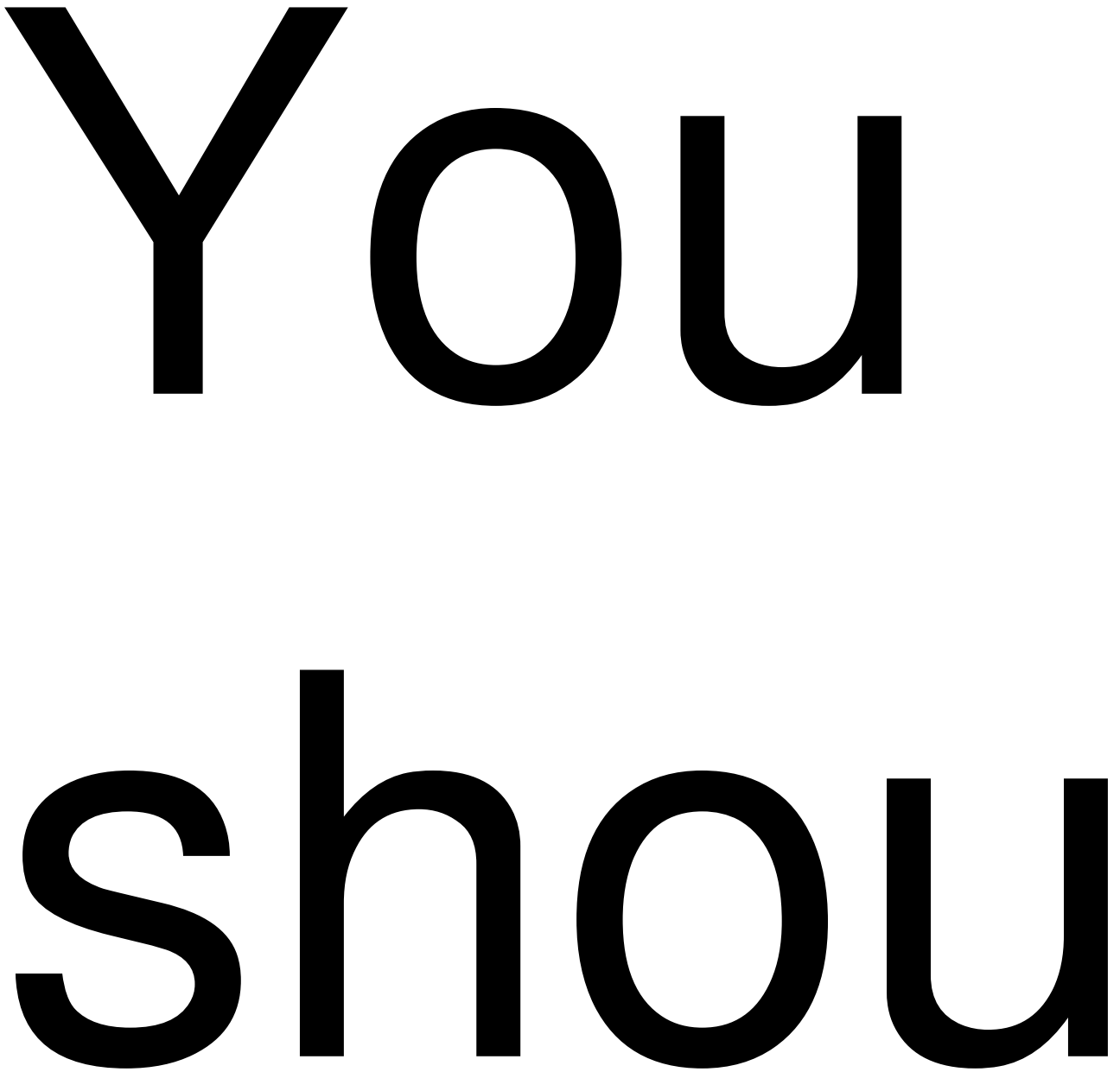
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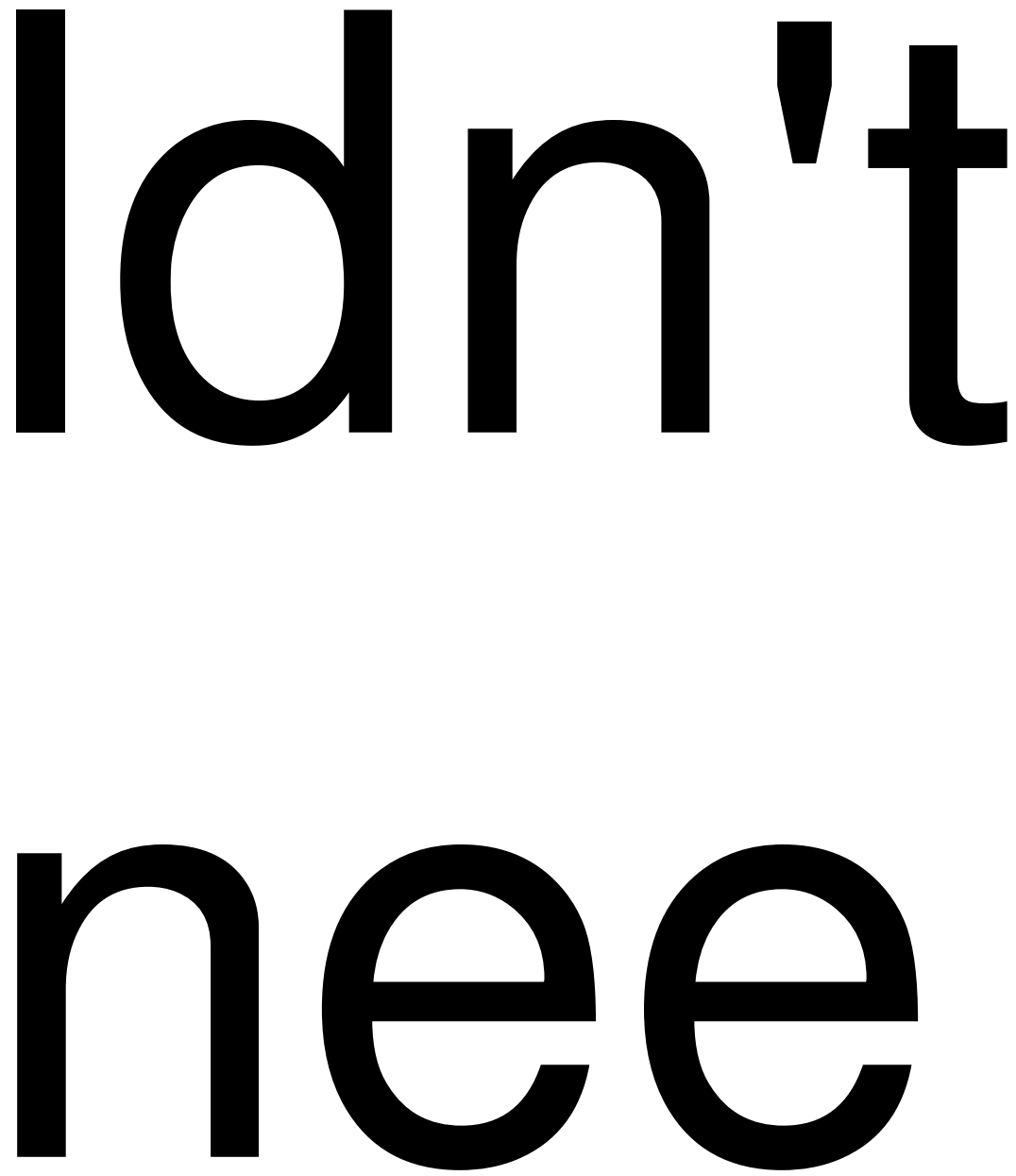
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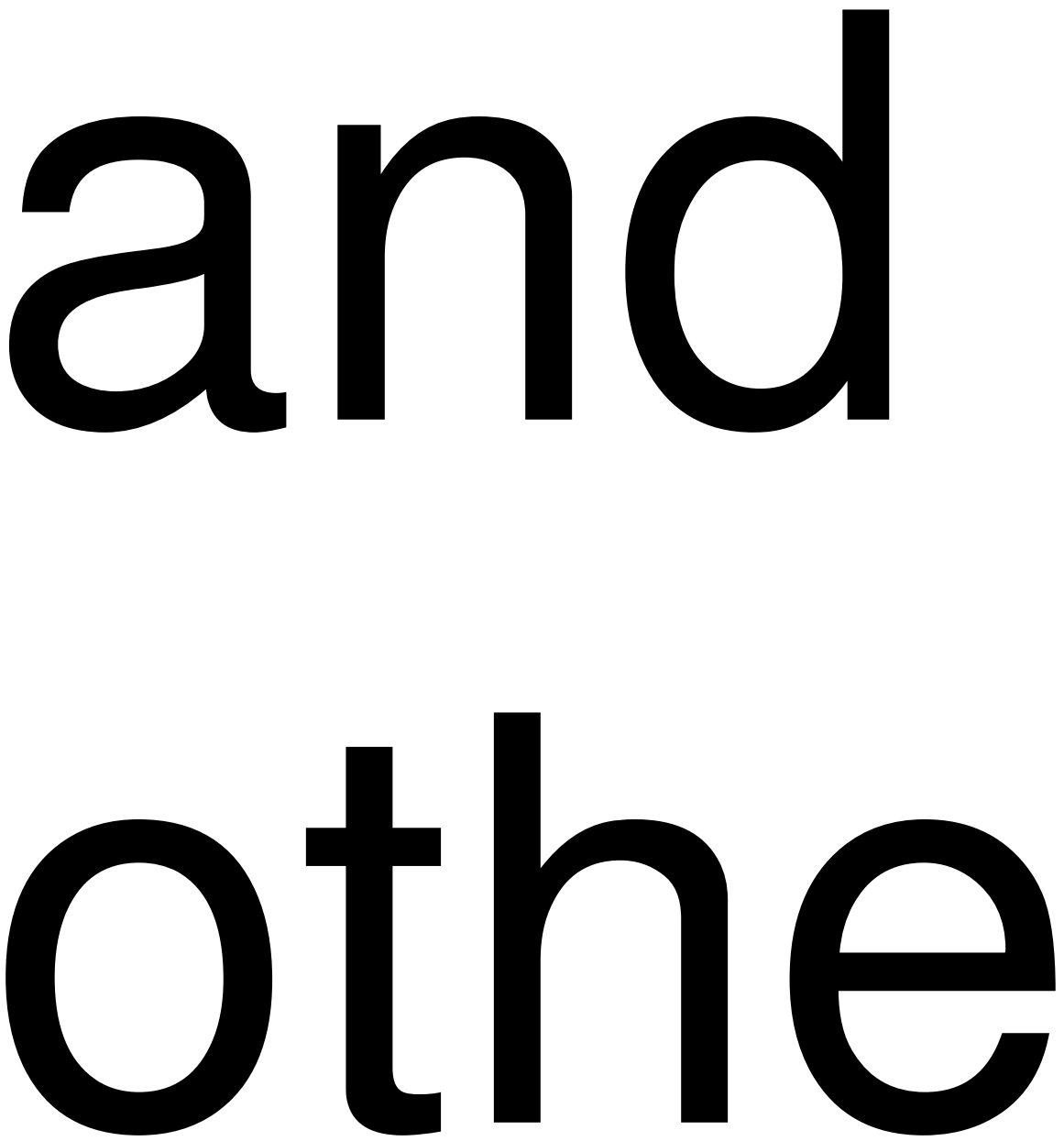
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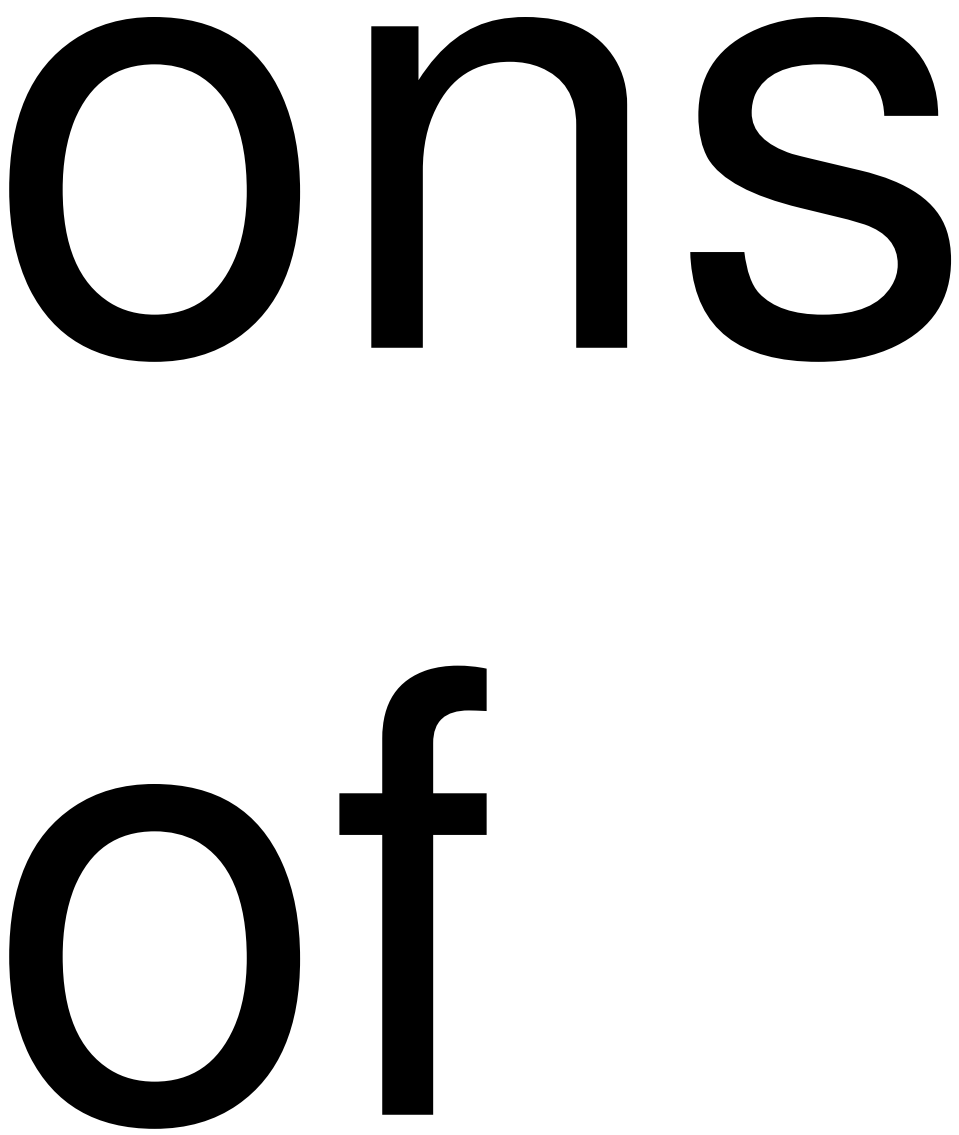
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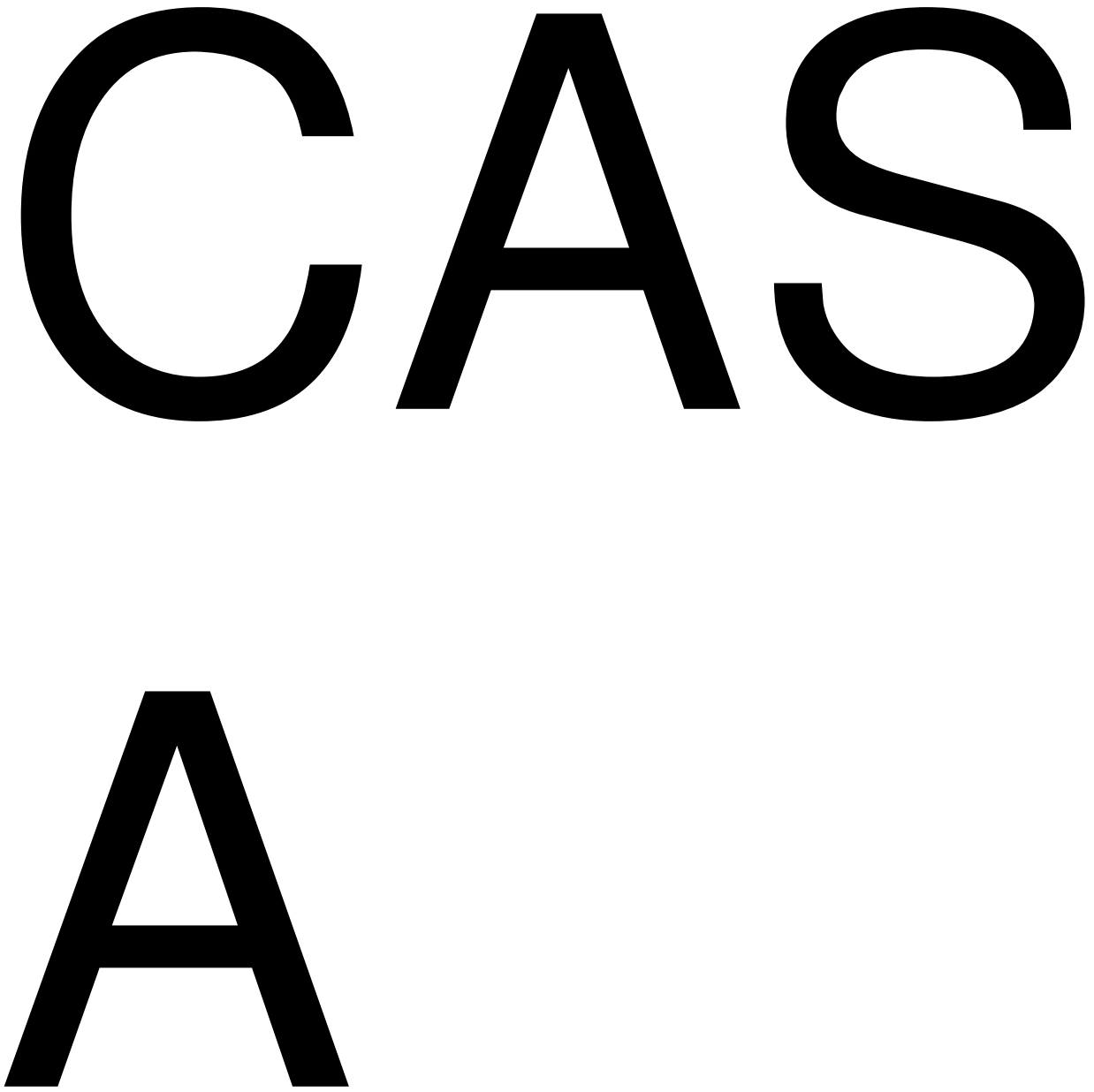
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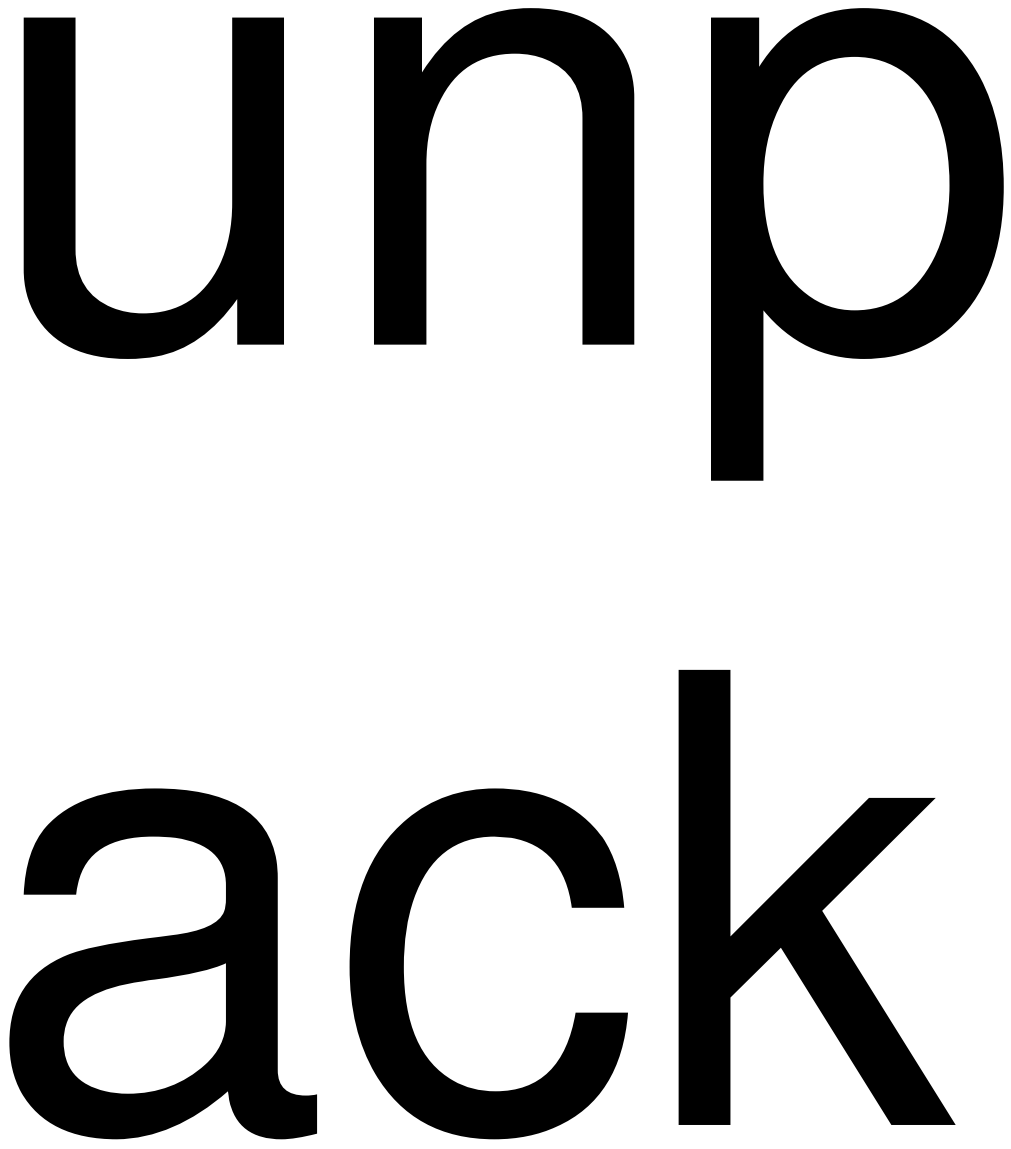
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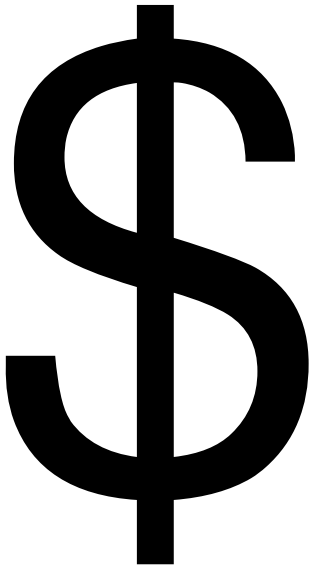
file:



```
$ tar
```

zxvf

casa

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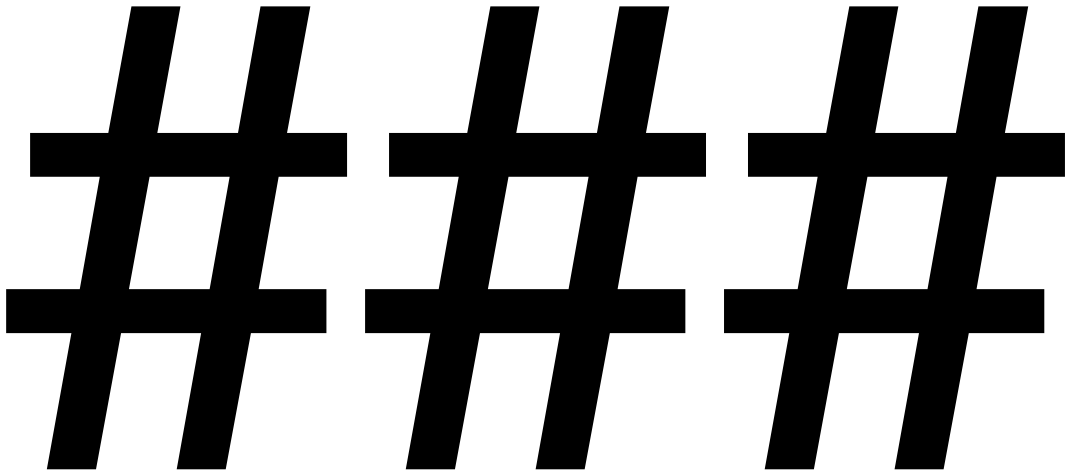
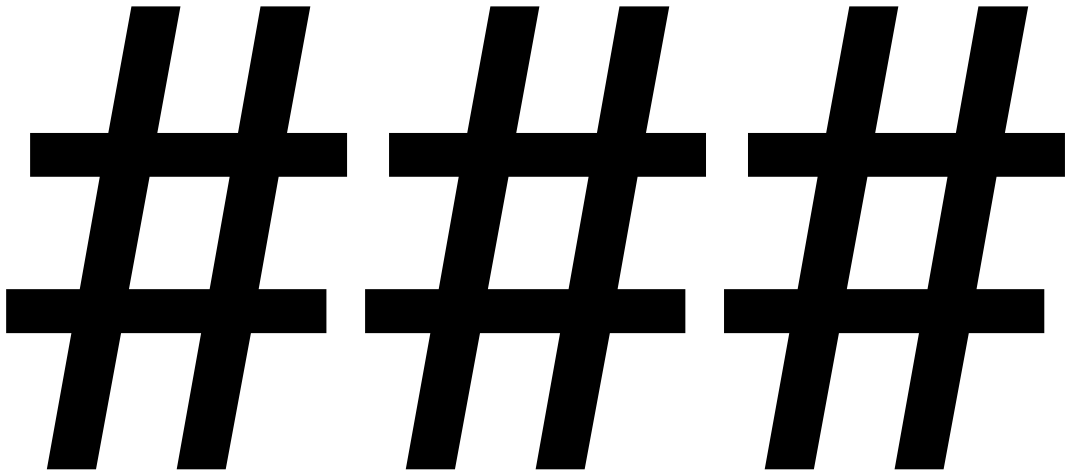
####



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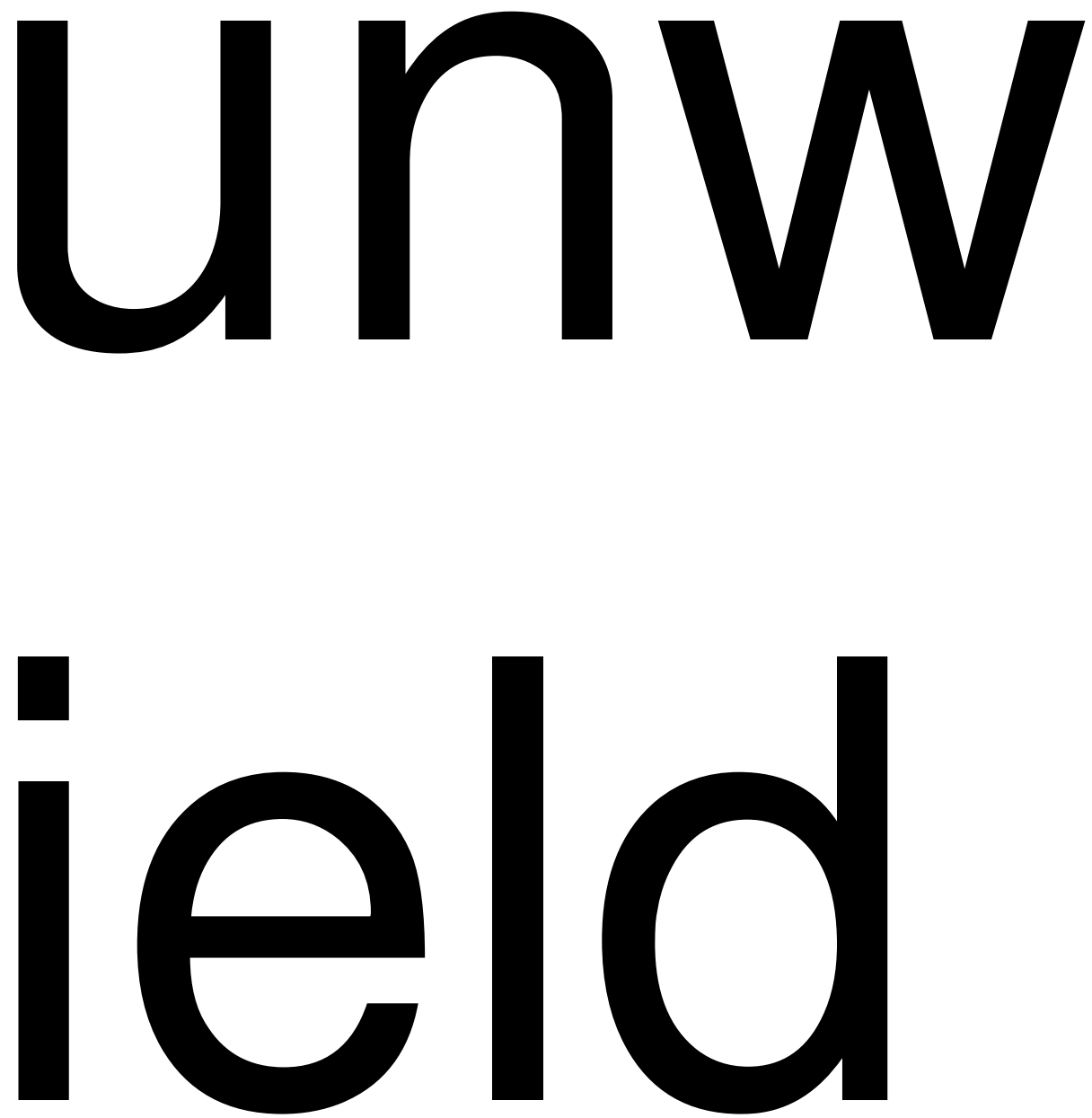
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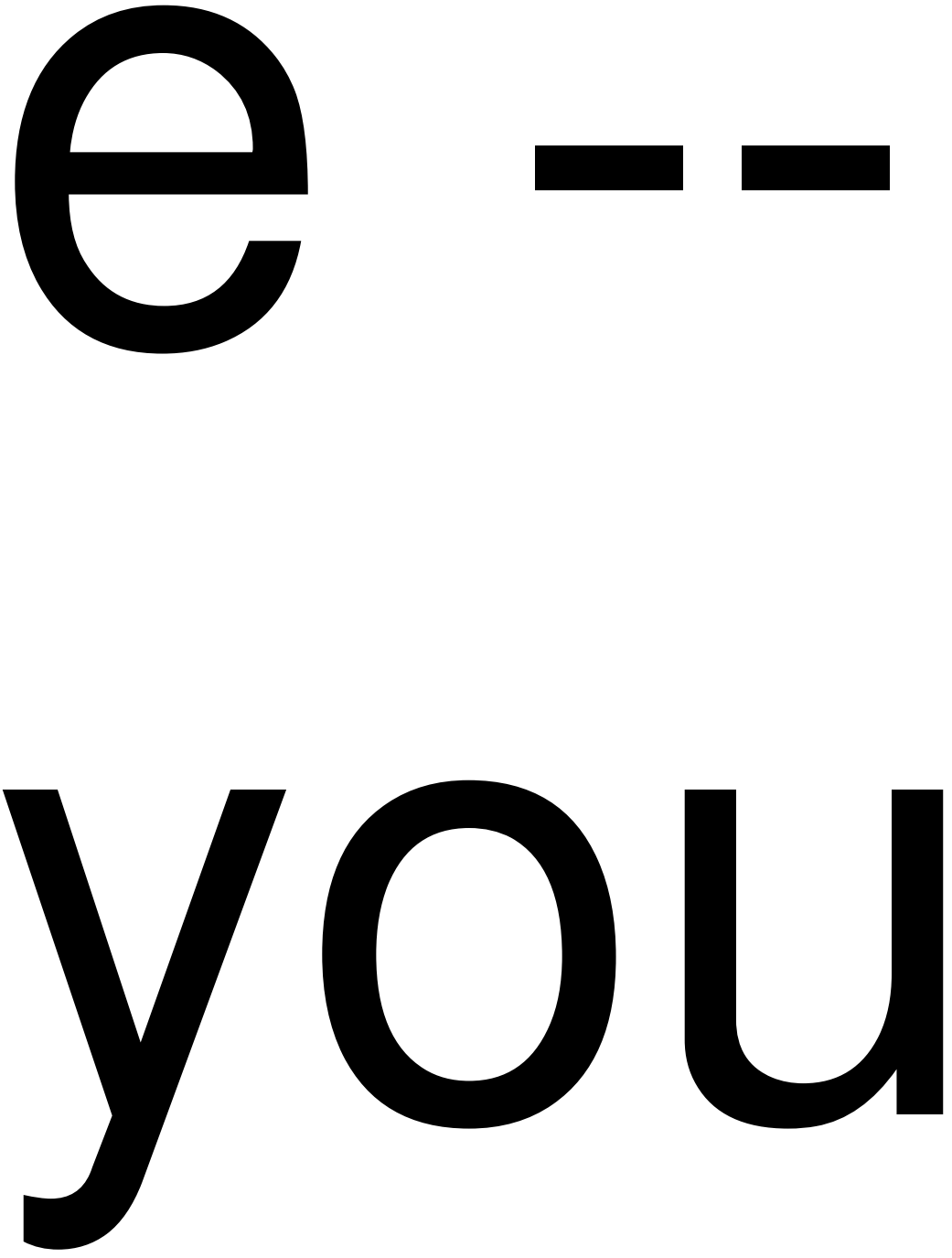
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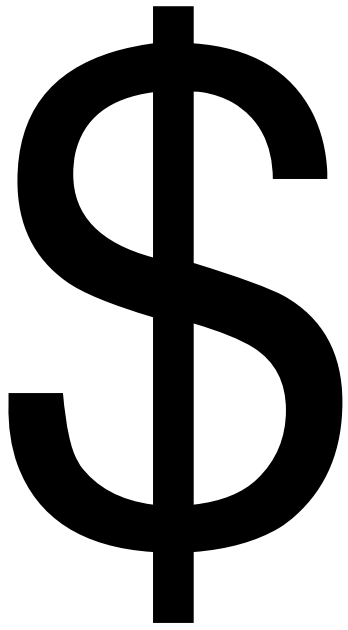

mv

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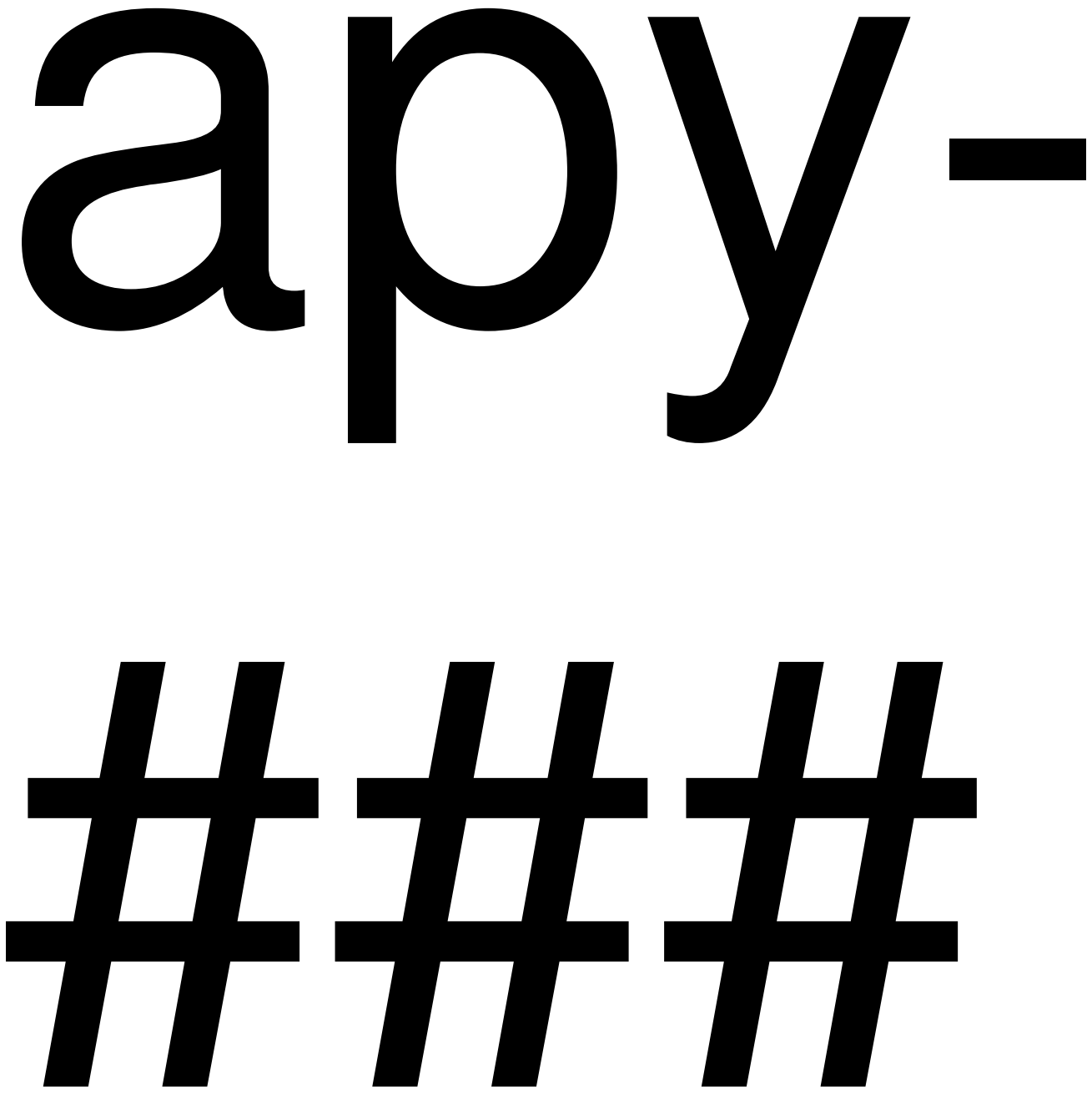
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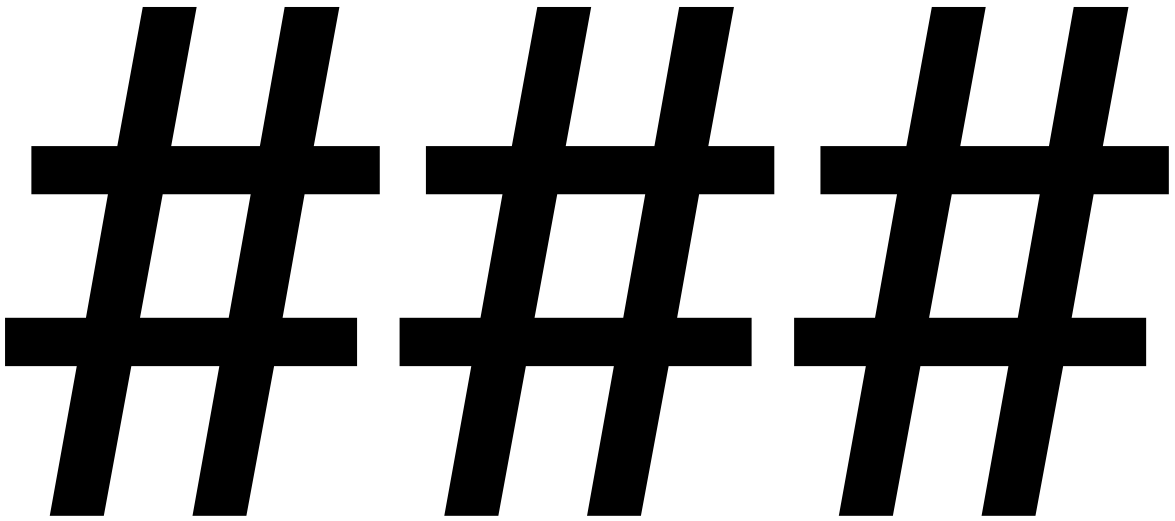

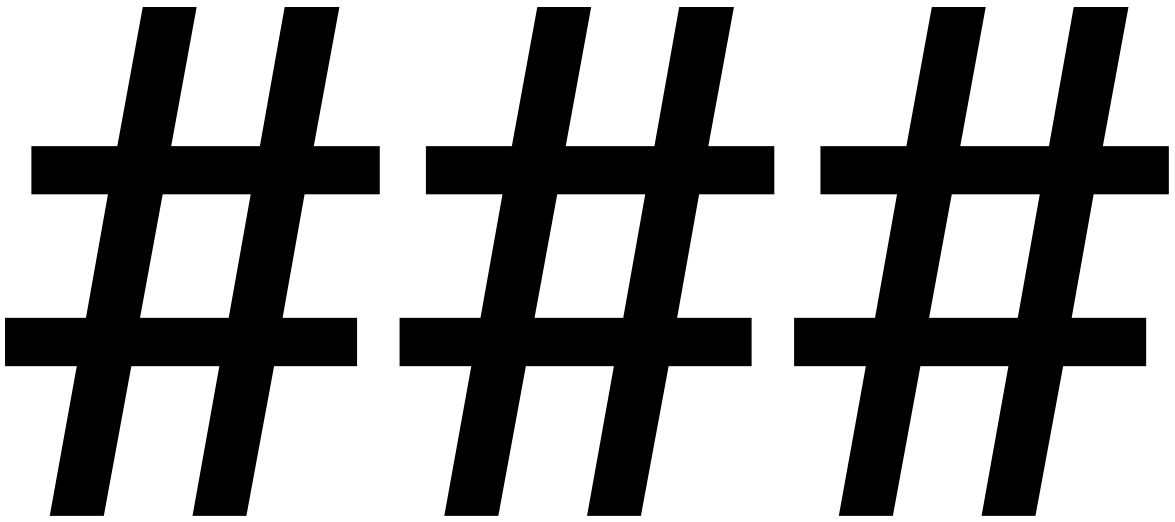


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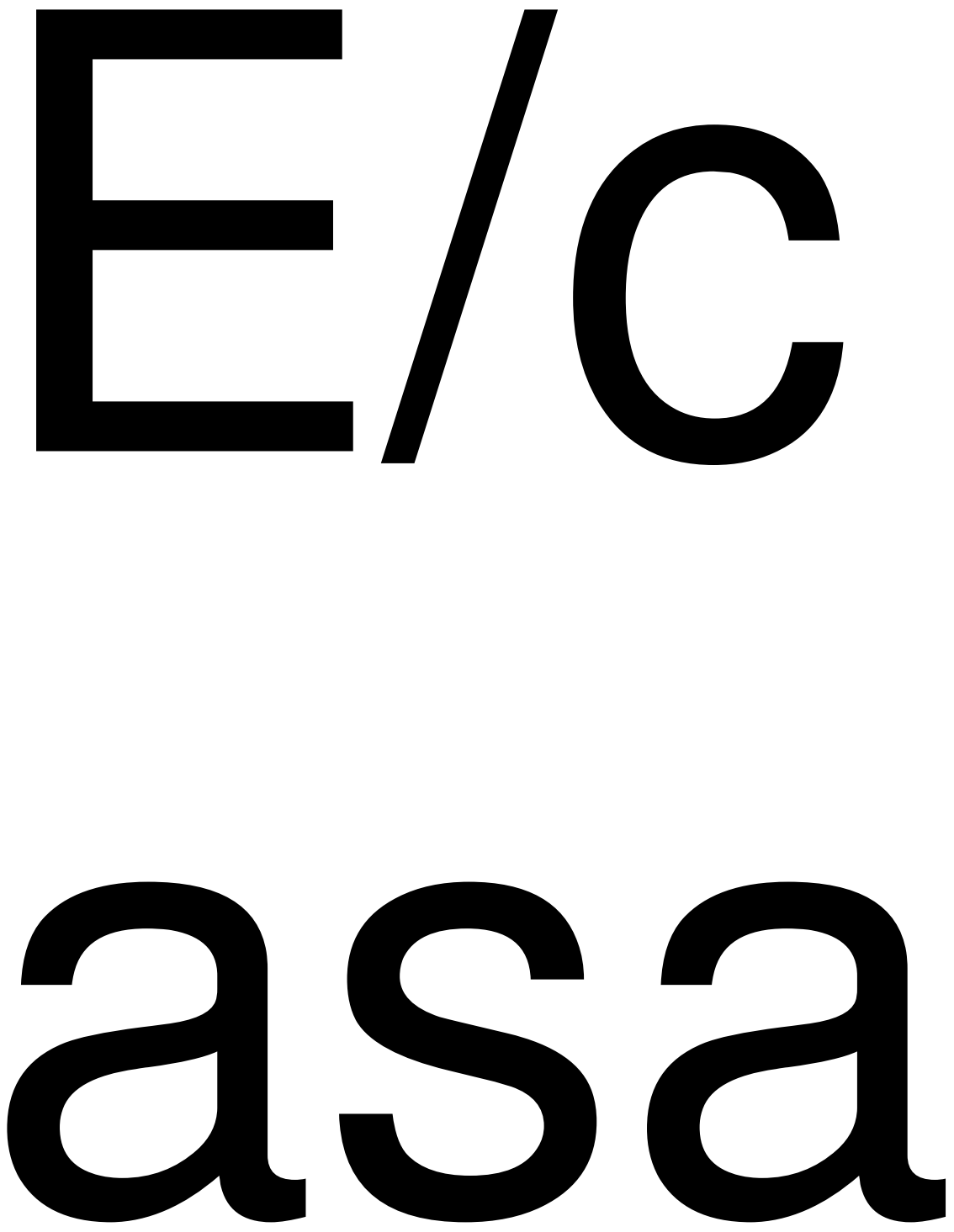
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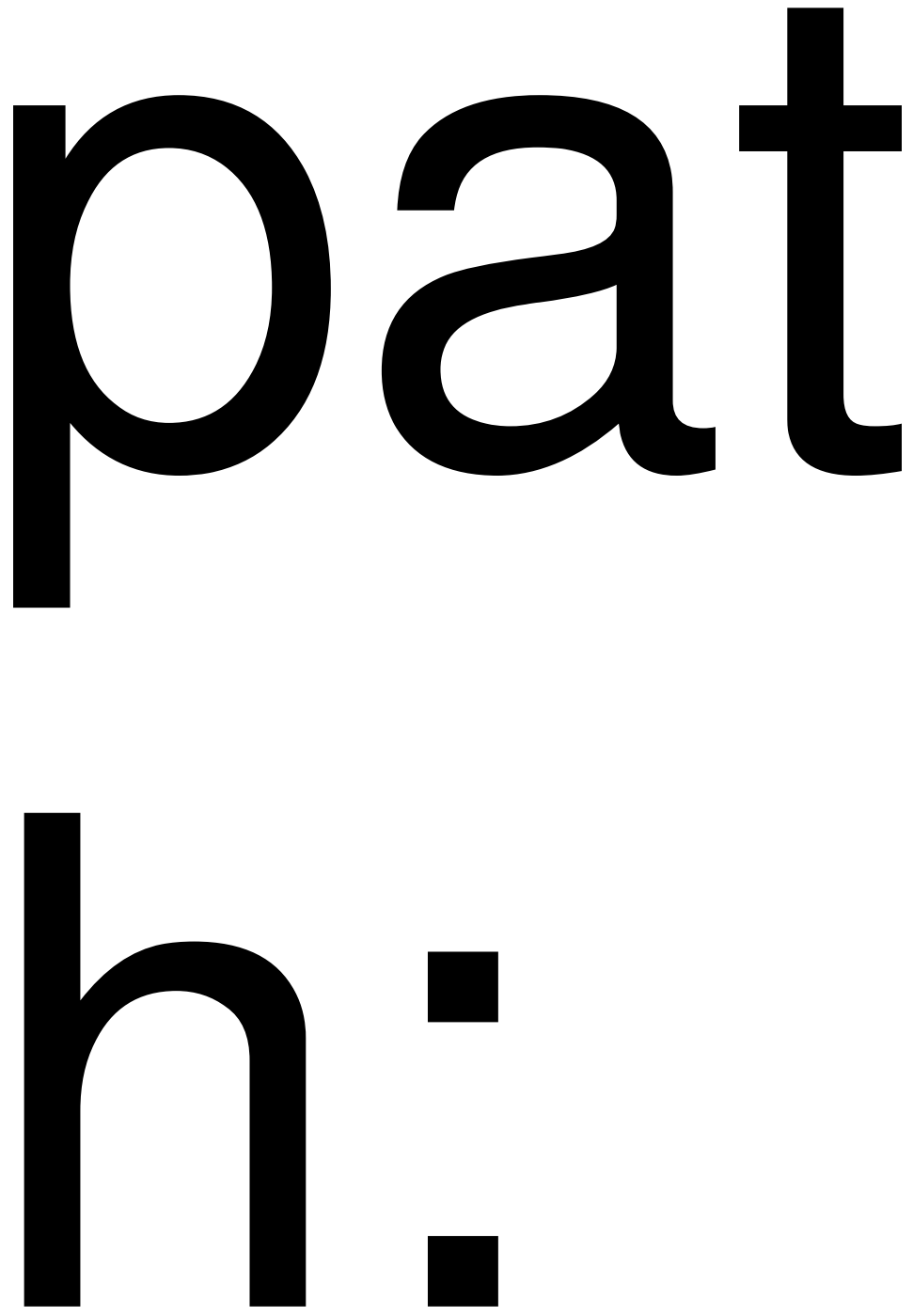
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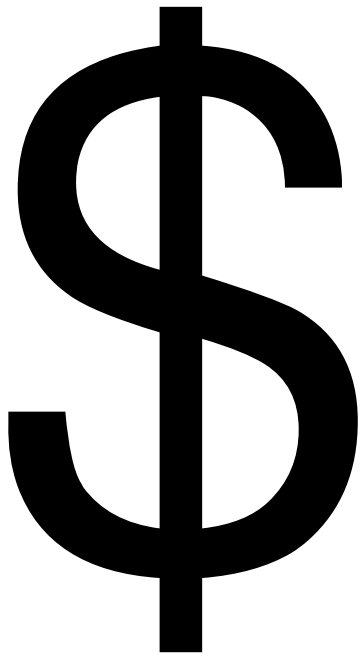


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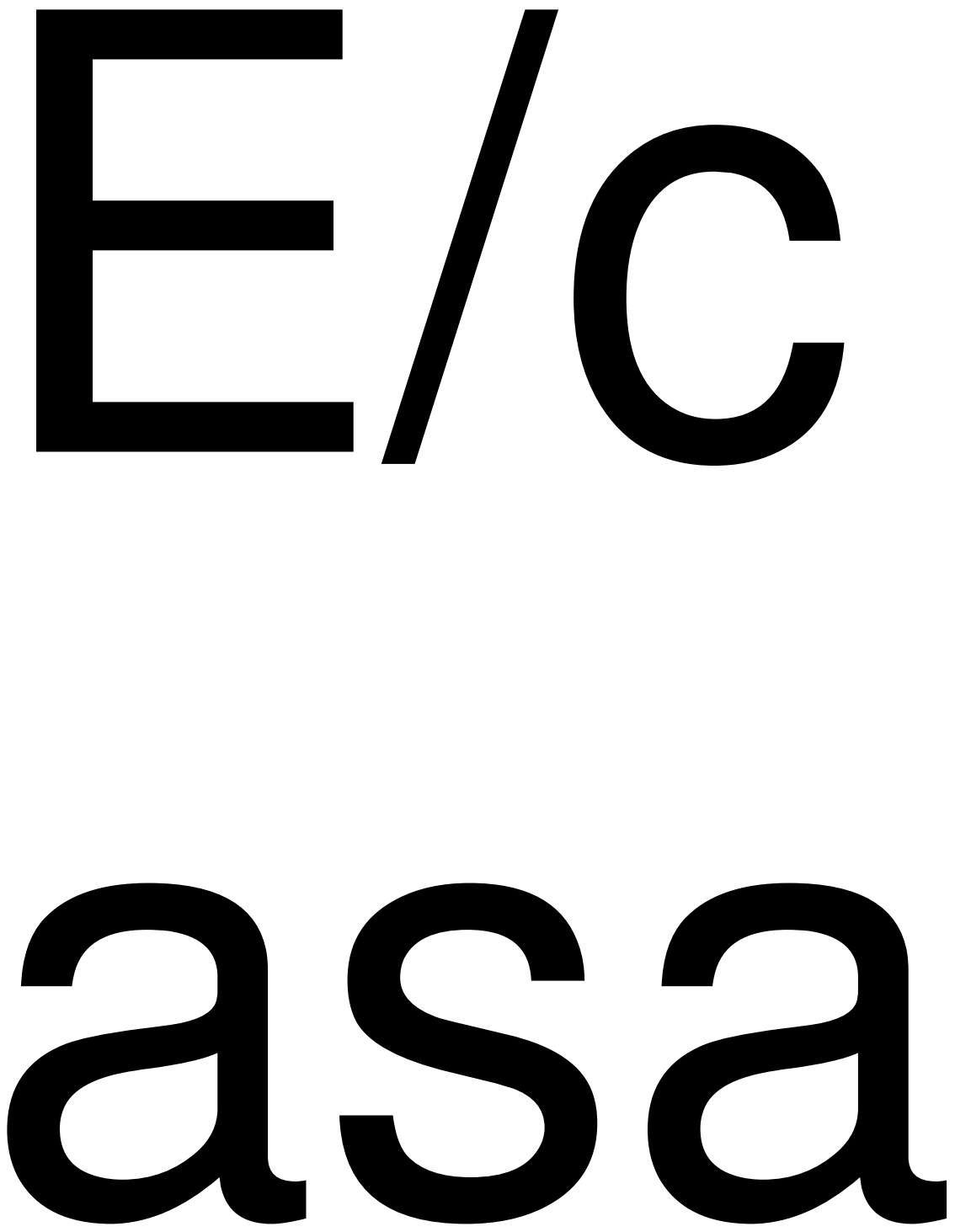
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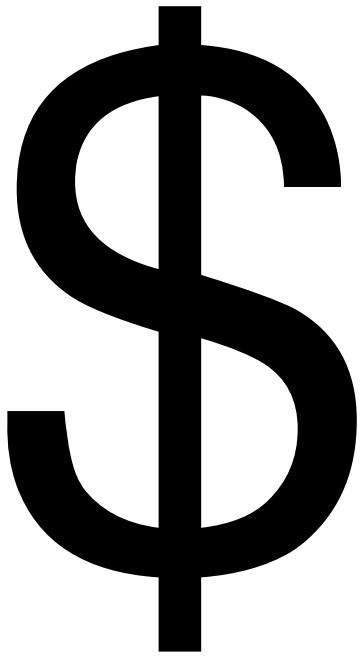


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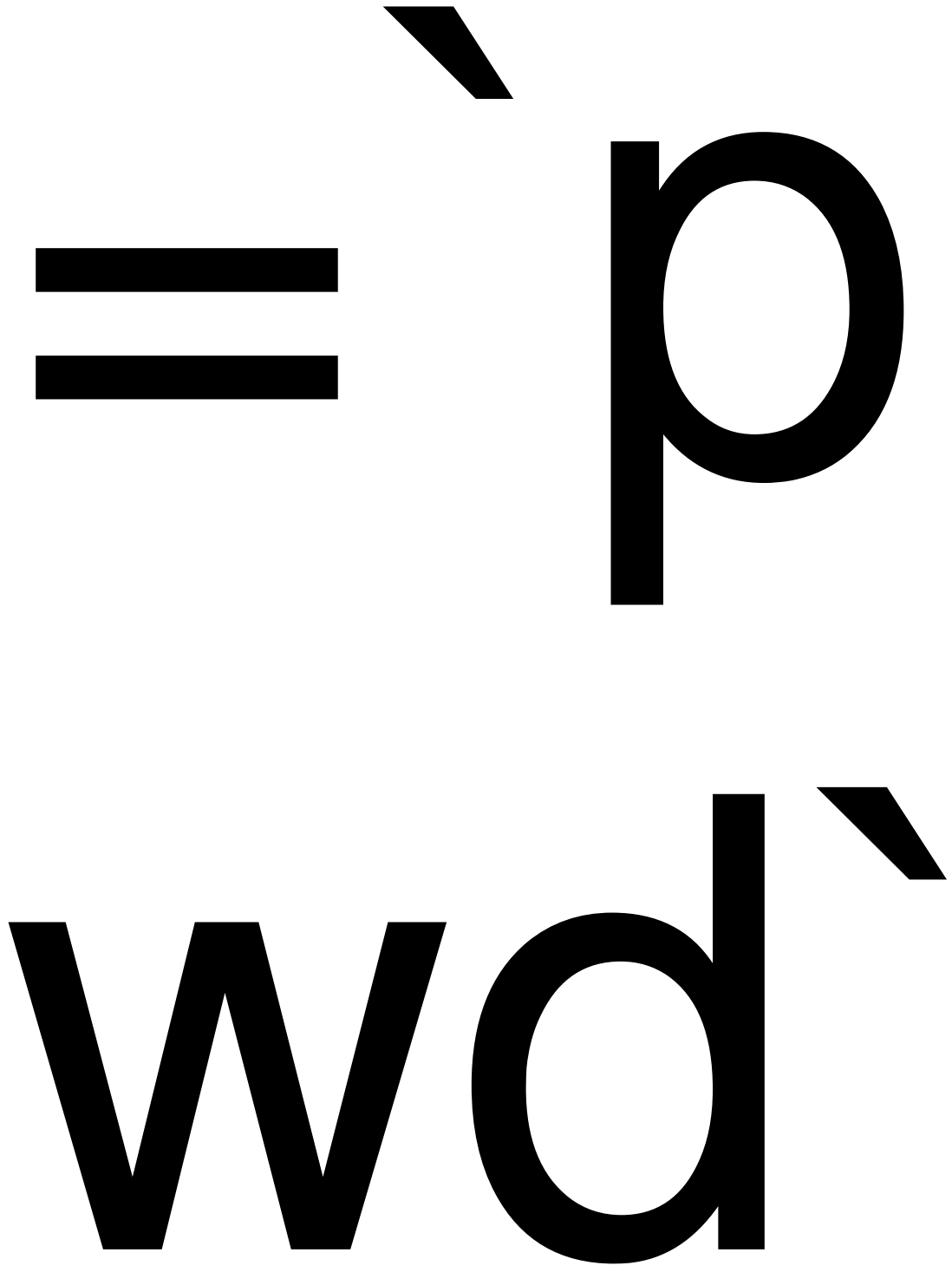

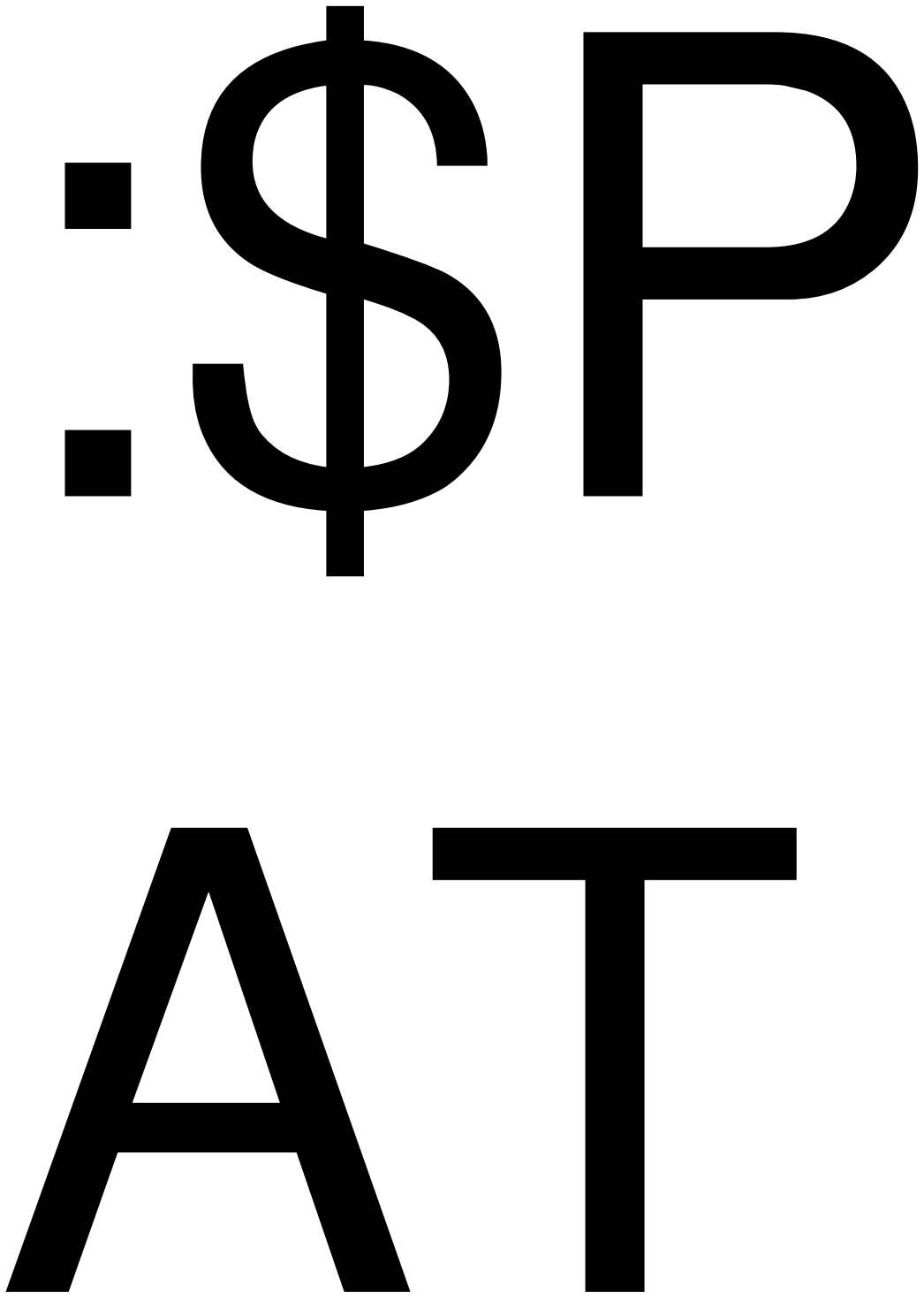
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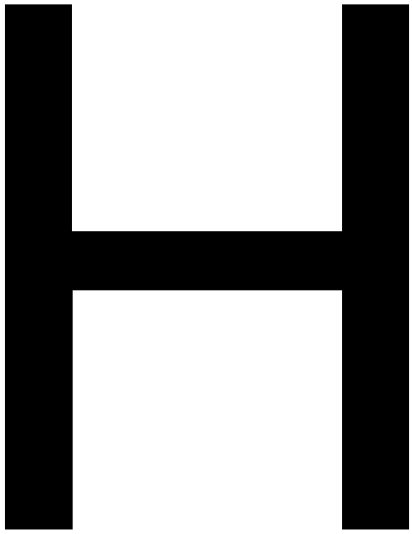


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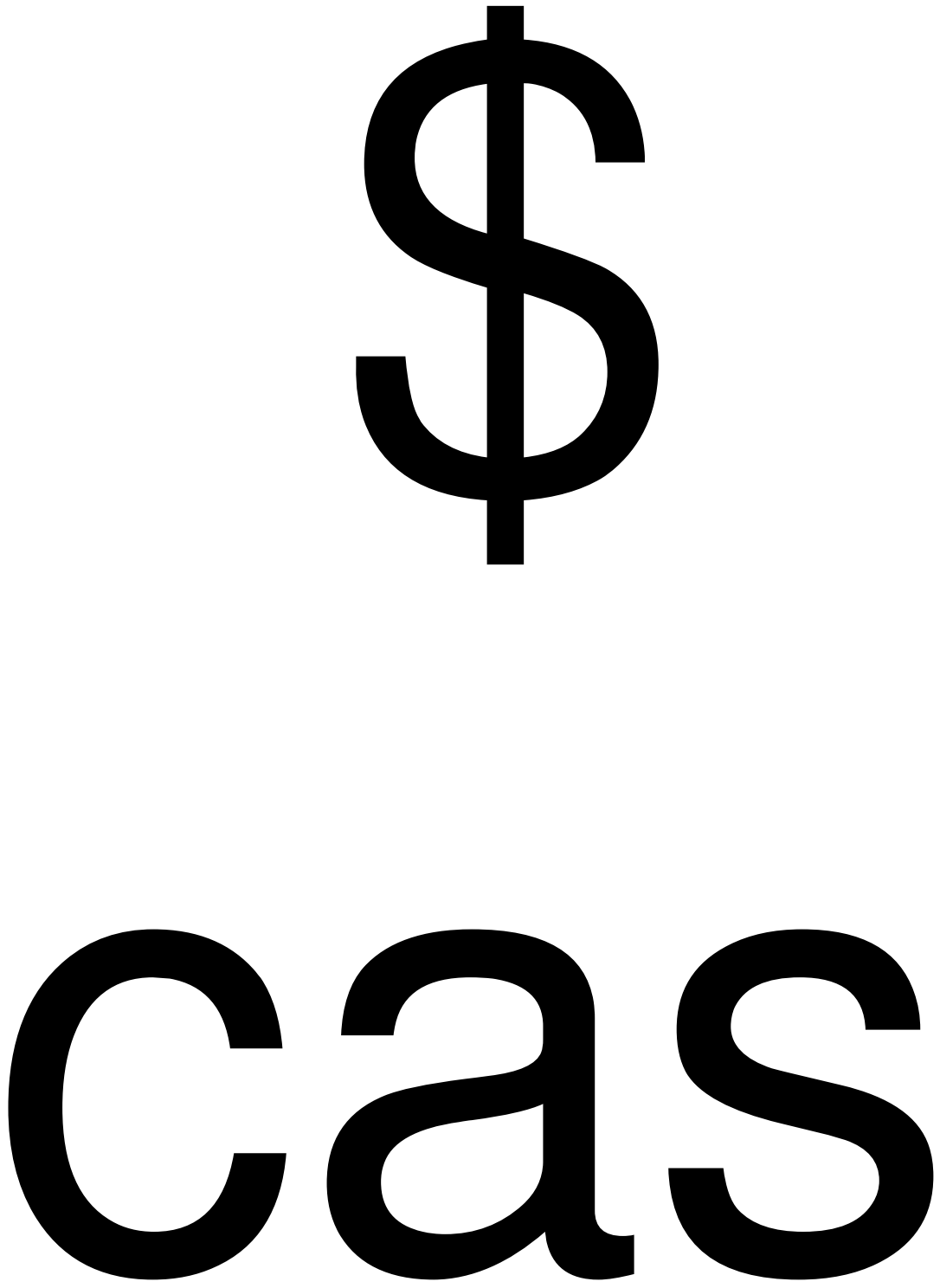
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