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Propositions for Scripting Exercises

These are just ideas, not elaborated propositions. Extend them to your liking. Thanks to Holger Dinkel and Chrysoula Pantzartzi for the ideas.

## General “Unpacker”

Purpose:

Unpack a file or a number of files according to their packing or compression format (tar, gzip, zip, bzip, xz, see http://en.wikipedia.org/wiki/List\_of\_archive\_formats for more ideas). This script can be used as a general wrapper around the various compression and packing tools with an uniform set of options

Usage Example:

$ ls -F

archive.tar.gz text.txt zuppfile

$ unpack \*

archive.tar.gz is a gzip compressed tarfile … uncompressed and unpacked

text.txt is not compressed or packed … skipping

zuppfile is a zip compressed archive … uncompressed and unpacked

$

Required tools and commands:

file, tar, gzip/gunzip, zip/unzip, bzip2/bunzip2, xz, etc.

Things to consider:

* The type of a file is no necessarily deductible from its extension
* What if the file doesn’t have an extension at all?
* Depending on tool and how the file has been archived, the inpacking/uncompressing can result in files being created in a subdirectory or directly in the current working directory. Is this, what one wants?
* What if the destination directory already exists?
* Some tools preserve the original archive, others don’t

Extendibility:

* Add option to keep/remove the original archives
* Add option to unpack files in a separate directory
* Add option to unpack files in directories named after the archive names. Check for already existing target directories!

## Safety Backup Creator

Purpose:

Create a backup copy of a directory/file in a defined location. E.g. as a safety copy/fallback before applying changes to a dataset etc.

Usage Example:

$ backup.sh datadir

datadir contains 12 files and is 12 MB in size

Copying datadir to /home/fthommen/safety\_backups/datadir\_20-MAY-2014 … done

$ backup.sh datadir2

datadir contains 154 files and is 3 TB in size

Sorry, /home/fthommen/safety\_backups/datadir2\_20-MAY-2014 already exists … aborting

$

Required tools and commands:

cp, rsync, du, ls, date

Things to consider:

* Already existing safety backups should not be overwritten
* Do you want or don’t you want to keep the full original path in some form? (dirname, basename)

Extendibility:

* Add option to pack/compress the data

## Column Chooser (advanced)

Purpose:

Write a script, which takes a textfile with columnar layout and a header line and prints out only columns with the named headers of a textfile with columnar layout

Datafile:

NAME FIRSTNAME BIRTHDATE STREET NO

Meier Daniel 30-MAY-1990 Meyerhofstrasse 12

Mueller Andreas 29-FEB-1960 Bahnhofstr. 1b

Schmid Ariane 1-DEC-1990 Bahnhofstrasse 13

vonMyra Nikolaus 15-MAR-270 Dezemberstrasse 6

Usage Example:

$ columnchooser.sh FIRSTNAME NO

Daniela 12

Andreas 1b

Ariane 13

Nikolaus 6

$ columnchooser.sh CITY

Sorry, no column “CITY” found

$

Required tools and commands

awk, eval

Extendibility:

* Add options to define alternate column separators (awk -F)
* Add option to customize the concatenation of the printed fields