

```
#include <stdlib.h>
#include <string.h>
#include <ctype.h>

#define MAXPAROLA 30
#define MAXRIGA 80

int main(int argc, char *argv[])
{
    int freq[MAXPAROLA]; /* vettore di contatori
delle frequenze delle lunghezze delle parole */
    char riga[MAXRIGA];
    int i, inizio, lunghezza;
    FILE *f;

    for(i=0; i<MAXPAROLA; i++)
        freq[i]=0;

    if(argc != 2)
    {
        fprintf(stderr, "ERRORE, serve un parametro con il nome del file\n");
        exit(1);
    }
    f = fopen(argv[1], "r");
    if(f==NULL)
    {
        fprintf(stderr, "ERRORE, impossibile aprire il file %s\n", argv[1]);
        exit(1);
    }

    while( fgets( riga, MAXRIGA, f ) != NULL )
```



UNIX/Linux Environment

UNIX & Linux commands (Part B)

Stefano Quer, and Stefano Scanzio

Dipartimento di Automatica e Informatica

Politecnico di Torino

skenz.it/os

stefano.scanzio@polito.it

Archive management

- ❖ Data storage and compression can be managed using the **tar** command
 - tar = an archiving utility

Archive management

- Archiving and compression of the files in the directory `dir`, in a file with name `file.tgz`
 - `tar czvf <file>.tgz <dir>`
- Useful options
 - `C`
 - Creates the archive
 - `z, j, J`
 - Compression (gzip, bzip2, 7z)
 - 7z allows to reach really high compression rates
 - `v`
 - Verbose (print some messages and statistics)
 - `f`
 - Specify the name of the archive (always present)

Archive management

- Extract the content of an archive
 - `tar xzvf <file>.tgz <dir>`
- Useful options
 - `X`
 - Extracts the files from the archive
 - `z, j, J`
 - Compression (gzip, bzip2, 7z)
 - `v`
 - Verbose (print some messages and statistics)
 - `f`
 - Specify the name of the archive (always present)

Archive management

❖ Alternative commands

- gzip, gunzip
- zip, unzip
- rar, unrar
- compress

Disk space occupation

❖ To control disk occupancy, it is possible to use the **df** command

- `df [options] [disk ...]`

File system
disk space
usage

➤ Options

- `--block-size=SIZE, -B SIZE`
 - scale sizes by SIZE before printing them. SIZE can be, e.g., 1K, 10K, 1M, 1G, 1T, etc.
- `-k`
 - corresponds to `--block-size=1K`

Example

```
$ df
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	8183252	0	8183252	0%	/dev
tmpfs	1642600	9248	1633352	1%	/run
/dev/sda1	49808620	14095784	33159648	30%	/
tmpfs	8212992	220	8212772	1%	/dev/shm
tmpfs	5120	4	5116	1%	/run/lock
tmpfs	8212992	0	8212992	0%	/sys/fs/
F_DRIVE	600948732	260043768	340904964	44%	/media/D
G_DRIVE	976760828	897641752	79119076	92%	/media/G
tmpfs	1642600	44	1642556	1%	/run/user/

Disk space occupation

❖ To get the space occupied by a directory and all its subdirectories it is possible to use the command

- `du [options] directory ...`

➤ Options

- `--all, -a`
 - Occupation of each file
- `--summarize, -s`
 - Prints only the total
- `--block-size=1K, -k`
 - Occupation in kB

Example

Space
occupied
by files

```
$ du
4      ./run.sh
8      ./wiFiStat.c
4      ./Makefile
4      ./run2.sh
4      ./README
4      ./adhoc.sh
4      ./TAGS
16     ./last_stat.c
4      ./elab_out.py
8      ./main.c
4      ./inc/net.h
...
184   .
```

Spell checker

- ❖ Check on the spelling of words with list of possible suggestions
 - **Aspell = Interactive spell checker**
 - `aspell options -c <fileName>`
 - **Options**
 - `--check name, -c name`
 - Spell check the file with name equal to name
 - `--master=name, -d name`
 - Dictionary to use (en=English, it=Italian, etc.)

Spell checker

➤ Examples

- `aspell -c <fileName>`
- `aspell -d en -c <fileName>`
- `aspell -d it -c <fileName>`