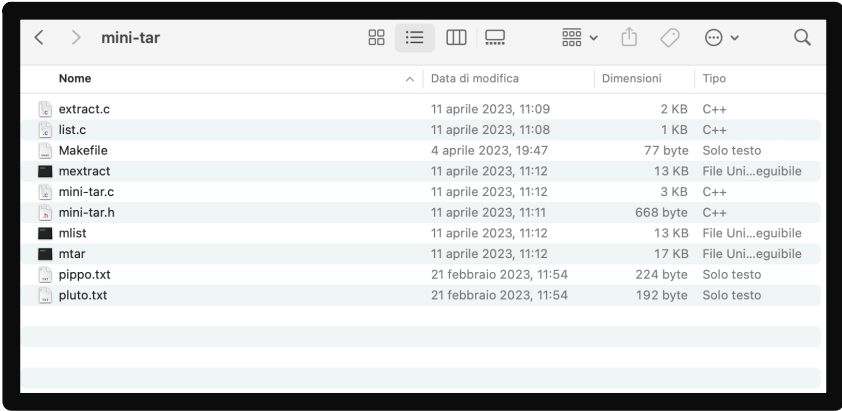


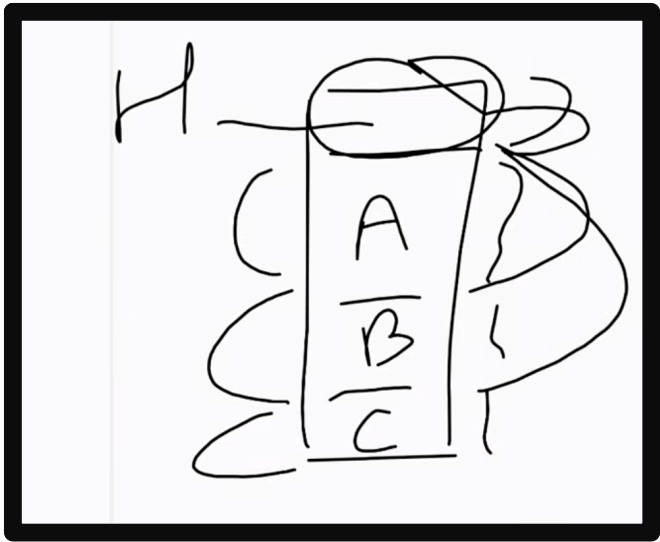
ESEMPIO



TAR

```
LE-SYSTEM/UNIX/copy-command> ls
a.out  copy.c  pippo
francesco@linux-mxb5:~/git-web-site/FrancescoQuaglia.github.io/TEA
LE-SYSTEM/UNIX/copy-command> tar -cvf file.tar copy.c pippo
copy.c
pippo
francesco@linux-mxb5:~/git-web-site/FrancescoQuaglia.github.io/TEA
LE-SYSTEM/UNIX/copy-command> ls
a.out  copy.c  file.tar  pippo
francesco@linux-mxb5:~/git-web-site/FrancescoQuaglia.github.io/TEA
LE-SYSTEM/UNIX/copy-command>
```

MINI-TAR.C è un programma che ci permette di tarare dei file: creiamo un file in cui all'inizio noi inseriamo un header, quindi dei metadati che ci dicono come è organizzato il contenuto successivo, quindi se all'interno di questo file noi ne abbiamo tarati 3, ossia il contenuto del file A,B e C, in questo header noi andiamo ad identificare la presenza di questi 3 file, ossia andiamo a scrivere delle informazioni di controllo che ci dicono dove sono presenti questi file.



Se vogliamo estrarre questi file serve che un altro programma apra questo file, analizzi l'header e in base a questo va a prelevare i contenuti e li riposiziona.

Mini-tar.h

```
#define BUFSIZE 1024
#define MAX_MANAGEABLE_FILES 128
#define MAX_FILE_NAME_LENGTH 128

typedef struct _header{
    int num_files;
    char file_names[MAX_MANAGEABLE_FILES][MAX_FILE_NAME_LENGTH];
    int start_position[MAX_MANAGEABLE_FILES];
    int end_position[MAX_MANAGEABLE_FILES];
} header;

#define AUDIT if(0)
mini-tar.h lines 1-14/14 (END)
```

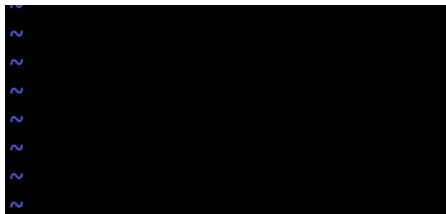
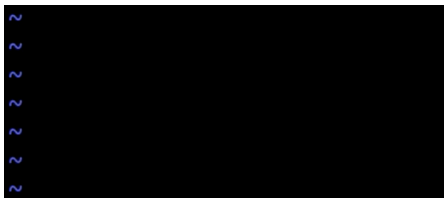
Questa struttura ci dice il valore di quanti files sono impaccati in questo mini-tar, quali sono i loro nomi (matrice di caratteri), poi per l'i-esimo di questi file qual è la posizione iniziale, e anche la posizione finale (per tutti i file rappresentabili).

```
mini-tar.c
1  #include <stdio.h>
2  #include <fcntl.h>
3  #include <stdlib.h>
4  #include <string.h>
5  #include <unistd.h>
6  #include <sys/types.h>
7  #include "mini-tar.h"
8
9  int descriptors[MAX_MANAGEABLE_FILES];
10
11 header tar_head;
12
13 int main(int argc, char *argv[]) {
14     int dd, size, result;
15     char buffer[BUFSIZE];
16     int i;
17     off_t seek;
18     int num_files = 0;
19
20     if (argc < 3) { /* check the number of arguments */
21
22         printf("usage: mini-tar dest source_1 [source_2] .. [source_n]\n");
23         exit(EXIT_FAILURE);
24     }
25
26     /* destination file creation */
27     dd=open(argv[1],O_WRONLY|O_CREAT|O_TRUNC,0660);
28     if (dd == -1) {
29         printf("destination file creation error\n");
30         return EXIT_FAILURE;
31     }
32
33     for (i=2;argv[i]!=NULL;i++){
34         num_files++;
35     }
```

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```
LE-SYSTEM/UNIX/mini-tar> make
gcc mini-tar.c -o mtar
gcc extract.c -o mextract
```

[illegible][illegible]



```
LE-SYSTEM/UNIX/mini-tar> ./mtar tarfile pippo pluto
file pippo correctly opened - access descriptor is 4
file pluto correctly opened - access descriptor is 5
Tar head audit - num files 2 - file names:
pippo
pluto
tar header size is 17412 - fseek is 17412
taring file pippo
start position is 17412
end position is 17636
taring file pluto
start position is 17636
end position is 17828
realigning the header
```

```
LE-SYSTEM/UNIX/mini-tar> ls
extract.c Makefile mextract mini-tar.c mini-tar.h mtar pippo pluto tarfile
francesco@linux-mxb5:~/git-web-site/FrancescoQuaglia.github.io/TEACHING/SISTEMI-OPERAT
LE-SYSTEM/UNIX/mini-tar> ./mextract tarfile pippo
File pippo - found in the archive
File pippo - found in the archive - position is [17412,17636]
seek position for file pippo is 17412
aaaaaaaaaaaa
aaaaaaaaaaaa
aaaaaaaaaaaa
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```