ESERCIZIO S3_L2

Livello1:

```
[mission 1] $ ls
Castle  Forest  Garden  Mountain  Stall

[use 'gsh help' to get a list of available commands]
[mission 1] $ cd Castle/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/ && ls
Second_floor

[use 'gsh help' to get a list of available commands]
[mission 1] $ cd Second_floor/ && ls
Top_of_the_tower

[use 'gsh help' to get a list of available commands]
[mission 1] $ cd Top_of_the_tower/ && ls

[use 'gsh help' to get a list of available commands]
[mission 1] $ pwd
/home/kali/gameshell/World/Castle/Main_tower/First_floor/Second_floor/Top_of_the_tower

[use 'gsh help' to get a list of available commands]
[mission 1] $ gsh check

Congratulations, mission 1 has been successfully completed!

[ progress was saved in /home/kali/gameshell-save.sh ]
```

Livello2:

```
 /6\/\_..__________________________________________________________________________________________._/\/6\
(          _||                                                                                    || _     )
 \_/\/ ||   Mission goal                                                                           || \/\_/
       ||   ===========                                                                            ||
       ||                                                                                          ||
       ||   Go the castle's cellar.                                                                ||
       ||                                                                                          ||
       ||                                                                                          ||
       ||   Secondary objective                                                                    ||
       ||   ___________________                                                                    ||
       ||                                                                                          ||
       ||   Understand the difference between ``cd -`` and ``cd ..``.                              ||
       ||                                                                                          ||
       ||                                                                                          ||
       ||   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.                                               ||
       ||                                                                                          ||
       ||                                                                                          ||
 /6\/\_|__________________________________________________________________________________________|_/\/6\
(          _|                                                                                    |_     )
 \_/\/ `__________________________________________________________________________________________' \/\_/


[use 'gsh help' to get a list of available commands]
[mission 2] $ pwd
/home/kali/gameshell/World/Castle/Main_tower/First_floor/Second_floor/Top_of_the_tower

[use 'gsh help' to get a list of available commands]
[mission 2] $ cd /home/kali/gameshell/World/Castle/ && ls
Cellar  Great_hall  Main_building  Main_tower  Observatory

[use 'gsh help' to get a list of available commands]
[mission 2] $ cd Cellar

[use 'gsh help' to get a list of available commands]
[mission 2] $ gsh check

Congratulations, mission 2 has been successfully completed!
```

Livello3:

```
[mission 3] $ cd

[use 'gsh help' to get a list of available commands]
[mission 3] $ cd /home/kali/gameshell/World/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!

                 _.--.          Well done!!!
              _.-'_:-'||
          _.-'_.-::::'||        From now on, the current location will be shown just before the command prompt.
   _.-:'_.-::::::'  ||
  .''-.-::::::::'     ||
 /.'`;|:::::::'      ||_
||   ||::::::'     _.;._'-._
||   ||:::::'  _.-!oo @.!-._'-.
\'.  ||:::::.-!()oo @!()@.-'_.|
 '.'-;|:.-'.&$@.& ()$%-'o.'\U||
   `>'-.!@%()@'@_%-'_.-o _.|'||
 jgs||=.._'-.@.-'_.-' _.-o  |'||
    ||=[ '-._.-\U/.-'    o |'||
    || '-.]=||  |'|      o  |'||
    ||      || |'|        _| ';
    ||      || |'|    _.-'_.-'
    |'-._   || |'|_.-'_.-'
     '-._'-.|| |' `_.-'
         '-.||_/.-'


[ progress was saved in /home/kali/gameshell-save.sh ]
```

Livello4:

```
~/Forest
[mission 4] $ cd Forest/ && mkdir Hut && mkdir Forest/Hut/Chest
bash: cd: Forest/: No such file or directory

~/Forest
[mission 4] $ ls
Hut

~/Forest
[mission 4] $ cd Hut

~/Forest/Hut
[mission 4] $ mkdir Chest

~/Forest/Hut
[mission 4] $ gsh goal

     ____________________________________________________________________
    /                                                                    \
(0)===)><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><(=(0)
    \/''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''/
    (                                                                    (
     )  Mission goal                                                     )
    (    ============                                                    (
     )                                                                   )
    (   Build a "Hut" in the forest, and then build a "Chest" in the hut.  (
     )                                                                   )
    (                                                                    (
     )  Useful commands                                                  )
    (    ================                                                (
     )                                                                   )
    (   mkdir DIRECTORY                                                  (
     )    Create a new directory inside the current directory.           )
    (     Remark: ``mkdir`` is an abbreviation for "make directory".     (
     )                                                                   )
    (                                                                    (
    /\''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''\
(0)===)><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><><(=(0)
    \/____________________________________________________________________/


~/Forest/Hut
[mission 4] $ gsh check

Congratulations, mission 4 has been successfully completed!

[ progress was saved in /home/kali/gameshell-save.sh ]
```

Livello5:

```
~/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/ && ls
barrel_of_apples  bat_1  bat_2  spider_1  spider_2  spider_3

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

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

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

Congratulations, mission 5 has been successfully completed!

[ progress was saved in /home/kali/gameshell-save.sh ]
```

Livello6:

```
    ____________________________________________________________________________________________________________________________
   ^                                                                                                                            \
(0)===)><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<)=(0)
   \/''''''
```

Livello7:

```
~/Garden
[mission 7] $ gsh goal

()==(
 '
      |
      | 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.
      |
()==(
 '

~/Garden
[mission 7] $ ls -a
.  ..  .18712_coin_1  .46764_coin_2  .54021_coin_3  Flower_garden  Maze  Shed

~/Garden
[mission 7] $ mv .18712_coin_1 ~/Forest/Hut/Chest/ && mv .46764_coin_2 ~/Forest/Hut/Chest/ && mv .54021_coin_3 ~/Forest/Hut/Chest/

~/Garden
[mission 7] $ gsh check

Congratulations, mission 7 has been successfully completed!
```

Livello8:

```
~/Garden
[mission 8] $ gsh goal

 /0\/\_
(       )
 \_/\/ '
      ||   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
      ||       *o*    ---> Folder-1 potato
      ||       xx     ---> error, no matching file
      ||       *-?    ---> file-1 Folder-1
      ||       *-??   ---> file-14
      ||
 /0\/\_
(       )
 \_/\/ '

~/Garden
[mission 8] $ cd ~/Castle/Cellar/ && ls -a
.                13700_spider_13  14443_spider_15  16112_spider_44  19003_spider_43  19965_spider_14  22595_spider_6   24841_spider_20  25864_spider_24  28426_spider_40  30854_spider_9   32615_spider_35  4909_spider_21  7549_spider_23  9621_spider_12
..               14148_spider_16  14448_bat_2      17402_spider_25  19700_spider_32  20079_spider_3   2284_spider_19   25006_spider_11  26135_spider_49  2861_spider_36   31181_spider_17  3448_bat_3       5065_spider_48  7609_bat_5      barrel_of_apples
11919_spider_10  14362_spider_45  14532_spider_27  17517_spider_5   19743_spider_2   21556_spider_37  23845_spider_39  25633_spider_7   26239_spider_4   2879_spider_33   31369_bat_4      4137_spider_38  5604_spider_22  8152_spider_42
13403_spider_18  14368_spider_47  15973_spider_50  18034_spider_26  19885_spider_30  21720_spider_34  2432_spider_8    25723_spider_31  28211_bat_1      30319_spider_1   32125_spider_28  4307_spider_41  6833_spider_46  8807_spider_29

~/Castle/Cellar
[mission 8] $ rm *spider*

~/Castle/Cellar
[mission 8] $ ls -a
.  ..  14448_bat_2  28211_bat_1  31369_bat_4  3448_bat_3  7609_bat_5  barrel_of_apples

~/Castle/Cellar
[mission 8] $ gsh check

Congratulations, mission 8 has been successfully completed!
```

Livello9:

```
(0)==)>◇◇◇
```

Livello11:

```
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.

~/Castle/Great_hall
[mission 11] $ ls -a
./  ../  13389_tapestry_03  13729_decorative_shield  20413_tapestry_02  21673_tapestry_07  27941_stag_head  34106_tapestry_06  35416_tapestry_05  38880_tapestry_10  40702_tapestry_04  4246_tapestry_08  47835_suit_of_armour  55147_tapestry_09  60480_tapestry_01  standard_1  standard_2  standard_3  standard_4

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

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

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

Livello12:

```
(0)===)><<<
```

Livello13:

```
  | cal YEAR
  |   Print a calendar for the given year.
  __)_____________________________________________________________________
()==(                                                                  (@=()
    '______________________________________________________________________'


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


~/Castle/Main_tower/First_floor
[mission 13] $ cal 1913
                               1913
      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                     1                 1
 5  6  7  8  9 10 11   2  3  4  5  6  7  8   2  3  4  5  6  7  8
12 13 14 15 16 17 18   9 10 11 12 13 14 15   9 10 11 12 13 14 15
19 20 21 22 23 24 25  16 17 18 19 20 21 22  16 17 18 19 20 21 22
26 27 28 29 30 31     23 24 25 26 27 28     23 24 25 26 27 28 29
                                            30 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                 1  2  3   1  2  3  4  5  6  7
 6  7  8  9 10 11 12   4  5  6  7  8  9 10   8  9 10 11 12 13 14
13 14 15 16 17 18 19  11 12 13 14 15 16 17  15 16 17 18 19 20 21
20 21 22 23 24 25 26  18 19 20 21 22 23 24  22 23 24 25 26 27 28
27 28 29 30           25 26 27 28 29 30 31  29 30


        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                 1  2      1  2  3  4  5  6
 6  7  8  9 10 11 12   3  4  5  6  7  8  9   7  8  9 10 11 12 13
13 14 15 16 17 18 19  10 11 12 13 14 15 16  14 15 16 17 18 19 20
20 21 22 23 24 25 26  17 18 19 20 21 22 23  21 22 23 24 25 26 27
27 28 29 30 31        24 25 26 27 28 29 30  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                     1  2  3  4  5  6
 5  6  7  8  9 10 11   2  3  4  5  6  7  8   7  8  9 10 11 12 13
12 13 14 15 16 17 18   9 10 11 12 13 14 15  14 15 16 17 18 19 20
19 20 21 22 23 24 25  16 17 18 19 20 21 22  21 22 23 24 25 26 27
26 27 28 29 30 31     23 24 25 26 27 28 29  28 29 30 31
                      30

~/Castle/Main_tower/First_floor
[mission 13] $ gsh check
What was the day of the week for the 10-20-1913?
  1 : Monday
  2 : Tuesday
  3 : Wednesday
  4 : Thursday
  5 : Friday
  6 : Saturday
  7 : Sunday
Your answer: 1

Congratulations, mission 13 has been successfully completed!
```

Livello14:

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

 /6\/\_..__________________________________________________________________________________________________________._/\/6\
(      _||                                                                                                          || _      )
 \_/\/  ||   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.                                        ||
        ||                                                                                                           ||
 /6\/\_|__________________________________________________________________________________________________________|_/\/6\
(      _|                                                                                                          |_      )
 \_/\/  `__________________________________________________________________________________________________________' \/\_/


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

~/Castle/Main_tower/First_floor
[mission 14] $ la
.nice_rock  painting_CBPnXNTB  painting_nbQmqZHJ  painting_XyuuBfYR  Second_floor/

~/Castle/Main_tower/First_floor
[mission 14] $ gsh check

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

Livello15:

```
()=(                                                                                                                    (@=()
   '-------------------------------------------------------------------------------------------------------------------------'|
      |                                                                                                                      |
      | 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] $

~/Castle/Main_tower/First_floor
[mission 15] $ touch ~/Forest/Hut/Chest/journal.txt && nano ~/Forest/Hut/Chest/journal.txt

~/Castle/Main_tower/First_floor
[mission 15] $ gsh check

Congratulations, mission 15 has been successfully completed!
```

Livello16:

```
~/Castle/Main_tower/First_floor
[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.  ||
        ||                                                                                                                          ||
 /@\/\_ |-------------------------------------------------------------------------------------------------------------------------|_/\/@\
(      _|                                                                                                                        |_      )
 \_/\/  `-------------------------------------------------------------------------------------------------------------------------' \/\_/


~/Castle/Main_tower/First_floor
[mission 16] $ alias journal="nano ~/Forest/Hut/Chest/journal.txt"

~/Castle/Main_tower/First_floor
[mission 16] $ journal

~/Castle/Main_tower/First_floor
[mission 16] $ gsh check

Congratulations, mission 16 has been successfully completed!
```

Livello17:

```
[mission 17] $ gsh goal

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 cannot 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.

~/Castle/Cellar/.Lair_of_the_spider_queen lyhOweiqUDkhoWMu orixKvtxxnWRtxNW
[mission 17] $ gsh reset 86 la
You are back in the cellar.

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

14448_bat_2  .17797_bat_5  .1976_bat_1  .20267_bat_4  .22941_bat_3  28211_bat_1  31369_bat_4  3448_bat_3  .6118_bat_2  7609_bat_5  barrel_of_apples  .Lair_of_the_spider_queen OsevYfDRqNkWufLq xxoZuzzattDcaUqA/

~/Castle/Cellar
[mission 17] $ cd .Lair_of_the_spider_queen\ OsevYfDRqNkWufLq xxoZuzzattDcaUqA/

~/Castle/Cellar/.Lair_of_the_spider_queen OsevYfDRqNkWufLq xxoZuzzattDcaUqA
[mission 17] $ la
ccfpbWwDRVNmUsZM_spider_queen_SOkszZtzpiVeUyVP  DsImXCxazshjNjDq_baby_bat_rMeDfUNSAuehgSFj

~/Castle/Cellar/.Lair_of_the_spider_queen OsevYfDRqNkWufLq xxoZuzzattDcaUqA
[mission 17] $ rm ccfpbWwDRVNmUsZM_spider_queen_SOkszZtzpiVeUyVP

~/Castle/Cellar/.Lair_of_the_spider_queen OsevYfDRqNkWufLq xxoZuzzattDcaUqA
[mission 17] $ gsh check
Perfect, it took you only 15 seconds to complete this mission!

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

Livello18:

```
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

~/Castle/Cellar/.Lair_of_the_spider_queen OsevYfDRqNkWufLq xxoZuzzattDcaUqA
[mission 18] $ xeyes
^C

~/Castle/Cellar/.Lair_of_the_spider_queen OsevYfDRqNkWufLq xxoZuzzattDcaUqA
[mission 18] $ xeys -b
Command 'xeys' not found, did you mean:
  command 'xeyes' from deb x11-apps
Try: sudo apt install <deb name>

~/Castle/Cellar/.Lair_of_the_spider_queen OsevYfDRqNkWufLq xxoZuzzattDcaUqA
[mission 18] $ xeyes -b
Unknown argument(s): -b

usage: xeyes [-display [{host}]:{vs}]
             [-geometry [{width}][x{height}][{+-}{xoff}{+-}{yoff}]]]
             [-fg {color}] [-bg {color}] [-bd {color}] [-bw {pixels}]
             [-shape | +shape] [-outline {color}] [-center {color}]
             [-backing {backing-store}] [-distance]
             [-biblicallyAccurate]
             [-render | +render]
             [-present | +present]
       xeyes -help
       xeyes -version

~/Castle/Cellar/.Lair_of_the_spider_queen OsevYfDRqNkWufLq xxoZuzzattDcaUqA
[mission 18] $ xeyes &
[1] 174541

~/Castle/Cellar/.Lair_of_the_spider_queen OsevYfDRqNkWufLq xxoZuzzattDcaUqA
[mission 18] $ gsh check

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

Livello19:

```
Let's have a look:

~
[mission 19] $

Great, that looked good!

Congratulations, mission 19 has been successfully completed!

[ progress was saved in /home/kali/gameshell-save.sh ]
```

Livello20:

```
~
[mission 20] $ charmiglio qwer

It works! The special incantation is qwer

~
[mission 20] $ ghs check
Command 'ghs' not found, did you mean:
  command 'gjs' from deb gjs
  command 'gs' from deb ghostscript
  command 'ghb' from deb handbrake
  command 'xhs' from deb xh
  command 'gss' from deb libgss-dev
  command 'ghc' from deb ghc
  command 'gh' from deb gh
Try: sudo apt install <deb name>

~
[mission 20] $ gsh
Error: unknown gsh command ''.
Use one of the following commands:  check, goal, help, reset

~
[mission 20] $ gsh check
What's a valid 4 letters sequence? qwer

Congratulations, mission 20 has been successfully completed!
```

Livello21:

```
~/Garden/Maze/4721ecac4519f942
[mission 21] $ cd ..

~/Garden/Maze
[mission 21] $ find -name "*coin*"
./e8ec4d8493631b4a02d69cbe5e/9c7eb2cecd2f316eeb9f092b19cd/b09fa29083b4a50a667b2f25300a7/OOOOO_copper_coin_OOOOO

~/Garden/Maze
[mission 21] $ mv ./e8ec4d8493631b4a02d69cbe5e/9c7eb2cecd2f316eeb9f092b19cd/b09fa29083b4a50a667b2f25300a7/00000_copper_coin_00000 ~/Forest/Hut/Chest/
mv: cannot stat './e8ec4d8493631b4a02d69cbe5e/9c7eb2cecd2f316eeb9f092b19cd/b09fa29083b4a50a667b2f25300a7/00000_copper_coin_00000': No such file or directory

~/Garden/Maze
[mission 21] $ mv /e8ec4d8493631b4a02d69cbe5e/9c7eb2cecd2f316eeb9f092b19cd/b09fa29083b4a50a667b2f25300a7/00000_copper_coin_00000 ~/Forest/Hut/Chest/
mv: cannot stat '/e8ec4d8493631b4a02d69cbe5e/9c7eb2cecd2f316eeb9f092b19cd/b09fa29083b4a50a667b2f25300a7/00000_copper_coin_00000': No such file or directory

~/Garden/Maze
[mission 21] $ find -name "*coin*"
./e8ec4d8493631b4a02d69cbe5e/9c7eb2cecd2f316eeb9f092b19cd/b09fa29083b4a50a667b2f25300a7/OOOOO_copper_coin_OOOOO

~/Garden/Maze
[mission 21] $ cd /e8ec4d8493631b4a02d69cbe5e/9c7eb2cecd2f316eeb9f092b19cd/b09fa29083b4a50a667b2f25300a7/
bash: cd: /e8ec4d8493631b4a02d69cbe5e/9c7eb2cecd2f316eeb9f092b19cd/b09fa29083b4a50a667b2f25300a7/: No such file or directory

~/Garden/Maze
[mission 21] $ cd ./e8ec4d8493631b4a02d69cbe5e/9c7eb2cecd2f316eeb9f092b19cd/b09fa29083b4a50a667b2f25300a7/

~/Garden/Maze/e8ec4d8493631b4a02d69cbe5e/9c7eb2cecd2f316eeb9f092b19cd/b09fa29083b4a50a667b2f25300a7
[mission 21] $ ls
OOOOO_copper_coin_OOOOO

~/Garden/Maze/e8ec4d8493631b4a02d69cbe5e/9c7eb2cecd2f316eeb9f092b19cd/b09fa29083b4a50a667b2f25300a7
[mission 21] $ mv OOOOO_copper_coin_OOOOO ~/Forest/Hut/Chest/

~/Garden/Maze/e8ec4d8493631b4a02d69cbe5e/9c7eb2cecd2f316eeb9f092b19cd/b09fa29083b4a50a667b2f25300a7
[mission 21] $ gsh check

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

```
                 _.--.           Congratulations!
             _.-'_:-'||
        _.-'_.-::::'||           From now on, the command ``ls`` will try using a color code to make it easier to differentiate between directories and several kinds of files.
   _.-:'_.-::::::'  ||
 .'`-.-:::::::'     ||
/.'`;|:::::::'      ||_
||   ||::::::'     _.;._'-._
||   ||:::::'  _.-!oo @.!-._'-.
\'.  ||:::::.-!()oo @!()@.-'_.|
 '.'-;|:.-'.&$@.& ()$%-'o.'\U||
   `>'-.!@%()@'@_%-'_.-o _.|'||
jgs||-._'-.@.-'_.-' _.-o  |'||
   ||=[ '-._.-\U/.-'    o |'||
   || '-.]=|| |'|      o  |'||
   ||      || |'|        _| ';
   ||      || |'|    _.-'_.-'
   |'-._   || |'|_.-'_.-'
    '-._'-.|| |' `-._
        '-.||_/.-'
```

Livello22:

```
    ___________________________________________________________________________________________
    ^                                                                                         \
(0)===)><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<)==(0)
    \/''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''/
    (                                                                                         (
     )  Mission goal                                                                          )
    (   ===========                                                                           (
     )                                                                                        )
    (   Find the silver coin in the maze in the garden and move it to your chest using the shell.     (
     )                                                                                        )
    (                                                                                         (
     )  Useful commands                                                                       )
    (   ================                                                                      (
     )                                                                                        )
    (   ls -R                                                                                 (
     )    Print the list of all files / directory, including those in sub-directories (recursively).    )
    (                                                                                         (
     )  tree                                                                                  )
    (     Print the tree of files and directories, starting from the current working directory.        (
     )                                                                                        )
    (                                                                                         (
    /\''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''\
(0)===)><<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<)==(0)
    \/_________________________________________________________________________________________/


~/Garden/Maze
[mission 22] $ find -name "*silver*"
./f07eb06be2e39/ecf4af5a27d5/3ac6b948c4b34/OOOOO_silver_coin_OOOOO

~/Garden/Maze
[mission 22] $ mv ./f07eb06be2e39/ecf4af5a27d5/3ac6b948c4b34/OOOOO_silver_coin_OOOOO ~/Forest/Hut/Chest/

~/Garden/Maze
[mission 22] $ gsh check

Congratulations, mission 22 has been successfully completed!

[ progress was saved in /home/kali/gameshell-save.sh ]
```

Livello23:

```
~/Garden/Maze
[mission 23] $ gsh goal

 ,_____________________________________________________________________________________________________________________________________.
 (_\                                                                                                                                   \
   |  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 exemple search for the string "-name" in the manual.) |
   |                                                                                                                                   |
   |                                                                                                                                   |
 (_/_____________________________________________________________________________________________________________________________(*)___/
                                                                                                                                     \\
                                                                                                                                      ))
                                                                                                                                      ^


~/Garden/Maze
[mission 23] $ find . -iname "*gold*"
./065078da1ffa/8b41711f50711f53d455/704c3c79b9faff99c/GolD_CoiN_2
./dfd96fcd0f7169ff94744b9854e7fc4/eb6d7ff3a9df3278/8f93a7eb3e2a78c0ed72/gold_coin_1

~/Garden/Maze
[mission 23] $ mv ./065078da1ffa/8b41711f50711f53d455/704c3c79b9faff99c/GolD_CoiN_2 ~/Forest/Hut/Chest/ && mv ./dfd96fcd0f7169ff94744b9854e7fc4/eb6d7ff3a9df3278/8f93a7eb3e2a78c0ed72/gold_coin_1 ~/Forest/Hut/Chest/

~/Garden/Maze
[mission 23] $ gsh check

Congratulations, mission 23 has been successfully completed!
```

Livello24:

```
~/Mountain/Cave
[mission 24] $ 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 24] $ cat Book_of_potions/page_07
vvvvvvvvvv
Herbal tea
^^^^^^^^^^
1) Boil water.
2) Add herbs from the forest.
3) Let it sit for five minutes and drink while hot.
vvvvvvvvv
```

Livello25:

```
~/Mountain/Cave
[mission 25] $ tail Book_of_potions/page_12 -n9
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!
```

Livello26:

```
[mission 26] $ gsh goal

 __^__                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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                                                         
 | / |  Mission goal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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 | / |  ==========                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                                                                                                                                                                                         | \ |
 | / |  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/page_01 && cat Book_of_potions/page_02
vvvvvvvvvvvvvvvvvvvvv
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!
```

Livello27:

```
~/Mountain/Cave
[mission 27] $ tail Book_of_potions/page_03 -n7 && cat Book_of_potions/page_04
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!
```

Livello28:

```
~/Mountain/Cave
[mission 28] $ tail Book_of_potions/page_13
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 -n5 Book_of_potions/page_13 | tail -n3
^^^^^^^^^^^^^^^
1) Boil water in a big pot.
2) Condense the vapor in a fresh container.

~/Mountain/Cave
[mission 28] $ head -n6 Book_of_potions/page_13 | tail -n3
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!
```

Livello29:

```
~/Mountain/Cave
[mission 29] $ kill 269282

~/Mountain/Cave
[mission 29] $ gsh check

Congratulations, mission 29 has been successfully completed!
```

Livello30:

```
~/Mountain/Cave
[mission 30] $ kill -9 274546
bash: kill: (274546) - No such process

~/Mountain/Cave
[mission 30] $ kill -9 274546
bash: kill: (274546) - No such process

~/Mountain/Cave
[mission 30] $ kill -9 274546
bash: kill: (274546) - No such process

~/Mountain/Cave
[mission 30] $ gsh check

Congratulations, mission 30 has been successfully completed!
```

Livello31:

```
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 -p 366073
    PID TTY          TIME CMD
 366073 pts/1    00:00:00 mischievous_imp

~/Castle/Cellar
[mission 31] $ pstree -p 366073
mischievous_imp(366073)─┬─spell(366092)───sleep(391482)
                        ├─spell(366093)───sleep(391548)
                        ├─spell(366094)───sleep(391407)
                        └─tail(366096)

~/Castle/Cellar
[mission 31] $ kill 366092

~/Castle/Cellar
[mission 31] $ kill 366093

~/Castle/Cellar
[mission 31] $ kill 366094

~/Castle/Cellar
[mission 31] $ kill 366096

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

~/Castle/Cellar
[mission 31] $ gsh check

Congratulations, mission 31 has been successfully completed!
```

Livello32:

```
~/Castle/Cellar
[mission 32] $ gsh goal

     ____________________________________________________________________________
    / \                                                                          \.
   |   | Mission goal                                                           |.
    \_ | ============                                                           |.
       |                                                                        |.
       | To get better in the magical art, one needs to know mental math.       |.
       |                                                                        |.
       | Get ready, because Merlin is about to test your precision with sums.   |.
       |                                                                        |.
       | Run the command ``gsh check`` to start.                                |.
       |                                                                        |.
       |  ______________________________________________________________________|
       | /                                                                      /.
       \_/______________________________________________________________________/.


~/Castle/Cellar
[mission 32] $ gsh check
89 + 1 = ?? 90
62 + 15 = ?? 77
75 + 33 = ?? 108
37 + 23 = ?? 60
34 + 49 = ?? 83

Congratulations, mission 32 has been successfully completed!
```

Livello33:

```
2140
3312
4032
65 * 50 = ?? 40 * 8 = ?? 31 * 38 = ?? 44 * 91 = ?? 100 * 52 = ?? 39 * 84 = ?? 66 * 88 = ?? 33 * 23 = ?? 54 * 82 = ?? 59 * 99 = ?? 56 * 19 = ?? 96 * 51 = ?? 9 * 68 = ?? 59 * 87 = ?? 35 * 53 = ?? 78 * 74 = ?? 85 * 1 = ?? 54 * 13 = ?? 79 * 7 = ?? 96 * 86 = ?? 74 * 51 = ?? 22 * 89 = ?? 62 * 19 = ?? 90 * 69 = ?? 20 * 96
= ?? 54 * 78 = ?? 47 * 27 = ?? 21 * 52 = ?? 85 * 68 = ?? 94 * 51 = ?? 88 * 67 = ?? 51 * 36 = ?? 87 * 94 = ?? 28 * 24 = ?? 40 * 96 = ?? 45 * 85 = ?? 85 * 91 = ?? 68 * 55 = ?? 96 * 46 = ?? 15 * 28 = ?? 80 * 19 = ?? 86 * 58 = ?? 61 * 89 = ?? 100 * 48 = ?? 34 * 78 = ?? 25 * 82 = ?? 73 * 77 = ?? 19 * 68 = ?? 51 * 48 =
?? 60 * 9 = ?? 15 * 54 = ?? 25 * 28 = ?? 85 * 59 = ?? 44 * 31 = ?? 39 * 31 = ?? 51 * 59 = ?? 93 * 89 = ?? 9 * 4 = ?? 74 * 9 = ?? 78 * 92 = ?? 56 * 96 = ?? 72 * 81 = ?? 78 * 72 = ?? 77 * 39 = ?? 97 * 13 = ?? 84 * 38 = ?? 68 * 3 = ?? 12 * 34 = ?? 59 * 4 = ?? 32 * 83 = ?? 28 * 4 = ?? 76 * 55 = ?? 87 * 39 = ?? 85 * 78
= ?? 20 * 98 = ?? 76 * 100 = ?? 78 * 26 = ?? 30 * 78 = ?? 68 * 97 = ?? 41 * 83 = ?? 75 * 73 = ?? 11 * 58 = ?? 33 * 75 = ?? 2 * 35 = ?? 12 * 86 = ?? 62 * 9 = ?? 58 * 48 = ?? 53 * 55 = ?? 10 * 49 = ?? 5 * 89 = ?? 28 * 62 = ?? 64 * 42 = ?? 97 * 35 = ?? 97 * 95 = ?? 81 * 9 = ?? 88 * 96 = ?? 50 * 56 = ?? 46 * 72 = ?? 96
* 42 = ??
Congratulations, mission 33 has been successfully completed!
```

Livello34:

```
(  ________________                                                                                                                                  )
(  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.                                                                           )
(  ''''''
```

Livello35:

```
grimoire_eIGXtyNzjcbJtzZiEASEBSWiEb
grimoire_XeYKuiaQaBM
grimoire_ioIQEVMlOLmGQeprdmoJINw
grimoire_wJwTfjJKEhGVoyYOftS
grimoire_lfoDIQEpjJqBvURvslgBLEPGtsaJWn
grimoire_NVmilMJZHpoNdcNRQ
grimoire_SgjoJKuhgNFFjEAokExTKfjxvh
grimoire_PEDwjwiJlzM
grimoire_zwNKwOrB
grimoire_YnPMASUnqtkCZSXCbYi
grimoire_zRkqYrdNxZVxSGLaFFINfYxlrcygN
grimoire_NgIBrgmOZkOLsoplM
grimoire_qFEbPHVgwZtBzOSxiZgaZvCiyITzCuP
grimoire_oghStprIlPSvRNYI
grimoire_kTSUdrUTLMM
grimoire_YKvWniotqfGyKoEnmhFom
grimoire_FSqqFDTFzrxJcLjtEIqyXmIP
grimoire_GSypXxcrLXtetZdoPmvIagKnB
grimoire_mJgdIJGFtDIL
grimoire_EjGmUrwcVZRtHWYIltQrVVR
grimoire_anAWVjfhCnQePrSnLzkjEwYXjK
grimoire_pzfXDWArhtGdRFoJievDkx
grimoire_QIUUpWrLDTduAlGXFKjKLjIi
grimoire_QhOAdULXyTjqoelpvly
grimoire_tLaBwNJsAXxyJHRVjUuARr
grimoire_jIyhmlMbJXYVXiKfyCXCaDkRqAjKZ
grimoire_lIGKVvQtIAgUDKqG
grimoire_faTfRoXGPhoDDajmsnsRonApFsg
grimoire_mMuDHgHFQKHcqIaS

~/Castle/Main_building/Library/Merlin_s_office
[mission 35] $ gsh check

Congratulations, mission 35 has been successfully completed!
```

Livello36:

```
~/Castle/Observatory
[mission 36] $ ./merlin 2> key.txt
THESECRETKEYISONSTDERR

~/Castle/Observatory
[mission 36] $ key.txt < gsh check
bash: gsh: No such file or directory

~/Castle/Observatory
[mission 36] $ gsh check < key.txt
What is the secret key?
Congratulations, mission 36 has been successfully completed!

[ progress was saved in /home/kali/gameshell-save.sh ]
```

Livello37:

```
[mission 37] $ gsh goal

  ,_____________________________________________________________________.
 (_\                                                                    \
    |  Mission goal                                                     |
    |  ============                                                     |
    |                                                                   |
    |  The door to the King's quarter is in the throne room.            |
    |  Go to the King's quarter.                                        |
    |                                                                   |
    |  Remark                                                           |
    |  ======                                                           |
    |                                                                   |
    |  Access to this part of the castle is probably restricted.        |
    |                                                                   |
    |                                                                   |
    |  Useful commands                                                  |
    |  ================                                                 |
    |                                                                   |
    |  ls -l                                                            |
    |    List the files with their important meta-data.                 |
    |                                                                   |
    |    Access permissions are listed first on each line.              |
    |                                                                   |
    |  chmod [OPTIONS] FILE                                             |
    |    Modify the permissions for the file (or directory).            |
    |                                                                   |
    |    Refer to the manual to discover which options are available.   |
    _|                                                                  |
  (_/___________________________________________________________________(*)___/
                                                                        \\
                                                                         ))
                                                                         ^


~/Castle/Observatory
[mission 37] $ cd ~/Castle/
Cellar/        Great_hall/    Main_building/ Main_tower/    Observatory/

~/Castle/Observatory
[mission 37] $ cd ~/Castle/Main_building/
Library/     Throne_room/

~/Castle/Observatory
[mission 37] $ cd ~/Castle/Main_building/Throne_room/ && ls -l
total 4
drw-rw-r-- 2 kali kali 4096 Jul 15 08:02 Kings_quarter/

~/Castle/Main_building/Throne_room
[mission 37] $ cd Kings_quarter/
bash: cd: Kings_quarter/: Permission denied

~/Castle/Main_building/Throne_room
[mission 37] $ chmod +x Kings_quarter/

~/Castle/Main_building/Throne_room
[mission 37] $ cd Kings_quarter/

~/Castle/Main_building/Throne_room/Kings_quarter
[mission 37] $ ls

~/Castle/Main_building/Throne_room/Kings_quarter
[mission 37] $ la

~/Castle/Main_building/Throne_room/Kings_quarter
[mission 37] $ gsh check

Congratulations, mission 37 has been successfully completed!
```

Livello38:

```
--+-------------------------------------+--
  |                                     |


~/Castle/Main_building/Throne_room/Kings_quarter
[mission 38] $ chmod +r .secret_note

~/Castle/Main_building/Throne_room/Kings_quarter
[mission 38] $ cat .secret_note
66839207

~/Castle/Main_building/Throne_room/Kings_quarter
[mission 38] $ ^C

~/Castle/Main_building/Throne_room/Kings_quarter
[mission 38] $ gsh check
What's the combination to open the King's safe? 66839207

Congratulations, mission 38 has been successfully completed!
```

Livello39:

```
~/Castle/Main_building/Throne_room/Safe
[mission 39] $ chmod +rwx crown

~/Castle/Main_building/Throne_room/Safe
[mission 39] $ cat crown
  _.+._         jgs
(^\/^\/^)
 \@*@*@/
 {_408_}

~/Castle/Main_building/Throne_room/Safe
[mission 39] $ mv crown ~/Forest/Hut/Chest/

~/Castle/Main_building/Throne_room/Safe
[mission 39] $ gsh check
What are the 3 digits inscribed on the base of the crown? 408

Congratulations, mission 39 has been successfully completed!
```

Livello40:

```
Look for the ruby in the maze in the garden, and move it to your chest.

Hint
----

The filename does not contain the string "ruby". Since there aren't many files in the maze, a possible strategy is to look for all **file** (as opposed to directories), and check by hand which one contains the string "ruby".


Useful commands
===============

find
  Search files / directories from the current working directory.

  Conditions may be added about names, size, modification date, etc.
  An interesting condition is:
    -type TYPE

cat FILE
  Output the content of the file on the screen.

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 "-type" in the manual.)


~/Garden/Maze
[mission 40] $ find -type f
./810b27a20825ebf0ad0610573214437/37a7ea91def22bf4aef89/940f4fe9/15410
./06bbce6817a1a99b/82b038bb4b14709d4d9f99a33/c53e38ab68c4980/35094
./2c3179bb/a2ddb840040/d4f30d5f1bcce6f1c1a7c140bb/45035
./2c3179bb/ec389e039ce136370f6a094f/4764b454f7b43af24/62750
./61057eb3a2e861aa7dbdaea1/8c1b8c9b3d67e/121f3b46e783d4d47d912bd9800/51100
./cd928dc95c39de9db835/23307b10cfbe/3d4ff8c100c456fcded816134059d/40988

~/Garden/Maze
[mission 40] $ cat ./810b27a20825ebf0ad0610573214437/37a7ea91def22bf4aef89/940f4fe9/15410 | grep -i "ruby"
15410 ruby 58a60eaea027fbafd62d92a6173c8630c13777a3

~/Garden/Maze
[mission 40] $ mv ./810b27a20825ebf0ad0610573214437/37a7ea91def22bf4aef89/940f4fe9/15410 ~/Forest/Hut/Chest/

~/Garden/Maze
[mission 40] $ gsh check

Congratulations, mission 40 has been successfully completed!
```

Livello41:

```
Mission goal
============

Combine several commands with "|" in order to find the diamond in the maze, and move it to your chest.


Remark
------

The filename doesn't contain the string "diamond". You need to find a file that contains the string "diamond".


Useful commands
===============

find
  Search files from the current working directory.
  Conditions on the file may be added about filenames, size, modification date, etc.

grep [OPTIONS] STRING FILE1 ... FILEn
  Search for a string inside the files.

  Useful option:
    -l only print the names of files containing the string.

xargs COMMAND
  read lines from stdin and run the command
    COMMAND LINE1 LINE2 ... LINEn
  ``xargs`` is particularly useful after a ``|`` redirection.


~/Garden/Maze
[mission 41] $ find -type f | grep -ir "diamond"
35f66e97b4885a7b5ab23e6e5bc8bb/89d1c2d6f9b1ac4d09b91608e69/f446ade7b7:f446ade7b7 diamond 3a82c1f5ee7a78133cdb742262e3a5e6bd314114

~/Garden/Maze
[mission 41] $ mv 35f66e97b4885a7b5ab23e6e5bc8bb/89d1c2d6f9b1ac4d09b91608e69/f446ade7b7 ~/Forest/Hut/Chest/

~/Garden/Maze
[mission 41] $ gsh check

Congratulations, mission 41 has been successfully completed!
```

Livello42:

```
(0)
~/Stall
[mission 42] $ find -type f | xargs grep "King"
./b856b1c10b6e3a_s_c_r_o_l_l_b856b1c10b6e3a8f:the King bought a pick for 6 coppers -- PAID.
./b856b1c10b6e3a_s_c_r_o_l_l_b856b1c10b6e3a8f:the King bought a stool for 6 coppers -- PAID.
./b856b1c10b6e3a_s_c_r_o_l_l_b856b1c10b6e3a8f:the King bought a knife for 6 coppers.
./b856b1c10b6e3a_s_c_r_o_l_l_b856b1c10b6e3a8f:the King bought a goat for 6 coppers.
./b856b1c10b6e3a_s_c_r_o_l_l_b856b1c10b6e3a8f:the King bought a shiny rock for 6 coppers.
./b856b1c10b6e3a_s_c_r_o_l_l_b856b1c10b6e3a8f:the King bought a pick for 5 coppers.
./b856b1c10b6e3a_s_c_r_o_l_l_b856b1c10b6e3a8f:the King bought a leather ball for 6 coppers -- PAID.
./b856b1c10b6e3a_s_c_r_o_l_l_b856b1c10b6e3a8f:the King bought a chackal for 2 coppers.
./b856b1c10b6e3a_s_c_r_o_l_l_b856b1c10b6e3a8f:the King bought a ruby for 4 coppers -- PAID.
./b856b1c10b6e3a_s_c_r_o_l_l_b856b1c10b6e3a8f:the King bought a goat for 4 coppers.
./b856b1c10b6e3a_s_c_r_o_l_l_b856b1c10b6e3a8f:the King bought an apple for 2 coppers -- PAID.
(1)
~/Stall
[mission 42] $ gsh check
How much does the king owe? 29

Congratulations, mission 42 has been successfully completed!
```

Livello43:

```
~/Stall
[mission 43] $ gsh goal

  ,_____________________________________________________________________________________________________.
 (_\                                                                                                    \
    |  Mission goal                                                                                     |
    |  ============                                                                                     |
    |                                                                                                   |
    |  Combine several commands with ``|`` in order to find the number of unpaid items.                  |
    |                                                                                                   |
    |  Remark                                                                                           |
    |  ======                                                                                           |
    |                                                                                                   |
    |  You are only allowed a single command.                                                           |
    |                                                                                                   |
    |  You can always reset the counter with `gsh reset`, but the whole stall will be re-generated.     |
    |                                                                                                   |
    |                                                                                                   |
    |  Useful commands                                                                                  |
    |  ================                                                                                 |
    |                                                                                                   |
    |  grep [OPTIONS] STRING FILE1 ... FILEn                                                            |
    |    Filter the files lines, keeping only those that contain the given string.                      |
    |    If no file is given, the command uses stdin.                                                   |
    |                                                                                                   |
    |    Useful option                                                                                  |
    |      -v : only show the lines that **do not contain** the string.                                 |
    |                                                                                                   |
    |  wc FILE                                                                                          |
    |    Count the number of lines / words / characters in a file                                       |
    |    If no file is given, ``wc`` counts lines / words / characters on stdin.                        |
   _|                                                                                                   |
  (_/____________________________________________________________________________________________(*)___/
                                                                                                    \\
                                                                                                     ))
                                                                                                     ^


(0)
~/Stall
[mission 43] $ find -type f | xargs grep -iv "paid" | wc
     57     504    5336
(1)
~/Stall
[mission 43] $ gsh check
How many unpaid items are there? 57

Congratulations, mission 43 has been successfully completed!
```

Livello44:

```
        a → k b → l c → m
        d → n e → o f → p

    Note: instead of "abcdefg", it is possible to write "a-g".

    This command is particularly useful with a redirection ``<``.

~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 44] $ tr 'a-z' 'l-zabcdefghijk' < secret_message
gdqd hr lx vhkk:
xnt vhkk fds lx bgdrs, zmc dudqxsghmf hs bnmszhmr.
sghr bgdrs hr hm sgd bdkkzq, zmc sgd vnqc sn lzjd
hs qd-zoodzq hr: fjbw
ldqkhm sgd dmbgzmsdq

~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 44] $ tr 'a-z' 'm-zabcdefghijkl' < secret_message
here is my will:
you will get my chest, and everything it contains.
this chest is in the cellar, and the word to make
it re-appear is: gkcx
merlin the enchanter

~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 44] $ gsh check
What's the key that will make Merlin's chest to appear?
gkcx

Congratulations, mission 44 has been successfully completed!

[ progress was saved in /home/kali/gameshell-save.sh ]

    CONGRATULATIONS!

    You have finished all the missions.
```

Livello45:

```
~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 45] $ gsh goal

    Congratulations!

    You have finished all the missions.

    You can now quit GameShell, or go back to some old missions.

    Use ``gsh HELP`` to get a list of all GameShell commands.
    The commands ``gsh index`` and ``gsh goto N`` are particularly interesting.

    Note: the admin password has been changed to 'qwerty'.
```

Conclusione:

Questo esercizio, sotto forma di gioco, si è rivelato estremamente utile per approfondire la mia comprensione della Bash e dei suoi comandi principali. Attraverso sfide pratiche e obiettivi concreti, ho imparato a utilizzare strumenti che ancora non conoscevo come alias, iname, tr.

L'approccio interattivo e progressivo mi ha permesso di consolidare le basi della shell Linux, migliorando al tempo stesso la mia capacità di risolvere problemi in ambienti reali. Un'esperienza didattica stimolante, divertente e formativa.