```
  ___                      ___  _          _ _
 / __| __ _ _ __ ___   __/ __|| |__   __| | |
| |  _ / _` | '_ ` _ \ / _ \__ \| '_ \ / _ \ | |
| |_| | (_| | | | | | |  __/__) | | | |  __/ | |
 \____|\__,_|_| |_| |_|\___|____/|_| |_|\___|_|_|

                          _
                        _/ \
          _            /   \
        / \_   __      /\/\  ^
       /   \ /  \     /    V  \
      /\/\  ^    `--./.'-    `-.\
     /    V  ' ^ _    _  _
    ^ ____..      YY  Y     _   |~  _
   /._/  _ \_        Y  Y   [_]--'--[_]
  / / .'/#\_ `-.    Y  YY   |'|""`""|'|
    .-_/#@##\  `\"" ' Y     | | /^\ | |
   " "'"''"'"'''" '         |_|_|I|_|_|

Press Enter to continue.
```

```
[mission 1] $ gsh goal

  ,_____________________________________________________________
 (_\
    |  Mission goal
    |  ============
    |
    |  Go to the top of the main tower of the castle.
    |
```

```
[mission 1] $ pwd
/home/kali/gameshell/World
[mission 1] $ ls
Castle  Forest  Garden  Mountain  Stall
[mission 1] $ cd Castle/
[mission 1] $ ls
Cellar  Great_hall  Main_building  Main_tower  Observatory
[mission 1] $ cd Main_tower/
[mission 1] $ ls
First_floor
[mission 1] $ cd First_floor/
[mission 1] $ ls
Second_floor
[mission 1] $ cd Second_floor/
[mission 1] $ ls
Top_of_the_tower
[mission 1] $ cd Top_of_the_tower/
[mission 1] $ ls
[mission 1] $ gsh check

Congratulations, mission 1 has been successfully completed!
```

```
[mission 2] $ gsh goal

  __^__
( ___ )_____________________________________________________________
  |   |
  | / |  Mission goal
  | / |  ============
  | / |
  | / |  Go the castle's cellar.
  | / |
```

```
[mission 2] $ pwd
/home/kali/gameshell/World/Castle/Main_tower/First_floor/Second_floor/Top_of_the_tower
[mission 2] $ cd -
/home/kali/gameshell/World/Castle/Main_tower/First_floor/Second_floor
[mission 2] $ cd ../..
[mission 2] $ pwd
/home/kali/gameshell/World/Castle/Main_tower
[mission 2] $ ls
First_floor
[mission 2] $ cd ..
[mission 2] $ ls
Cellar  Great_hall  Main_building  Main_tower  Observatory
[mission 2] $ cd Cellar/
[mission 2] $ gsh check

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

```
[mission 3] $ gsh goal

  .____________________________________________________________________________________
 /  .-.
|  /   \
| |\_.  |   Mission goal
|\|  | /|   ===========
| `___' |
|       |   Go back to the starting location and then go to the throne room using only two commands.
```

```
[mission 3] $ cd
[mission 3] $ cd Castle/Main_building/Throne_room/
[mission 3] $ gsh check

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

```
~/Castle/Main_building/Throne_room
[mission 4] $ gsh goal

  ____________________________________________________________________________
 /  __                                                                  __  \
|  /  \   Mission goal                                                 /  \  |
|\ \   |  ===========                                                |   / /|
| \___/|                                                              |\___/ |
|      |  Build a "Hut" in the forest, and then build a "Chest" in the hut.  |      |
|      |                                                              |      |
|      |                                                              |      |
```

```
~/Castle/Main_building/Throne_room
[mission 4] $ cd ../../..

~
[mission 4] $ ls
Castle  Forest  Garden  Mountain  Stall

~
[mission 4] $ cd Forest/

~/Forest
[mission 4] $ mkdir Hut

~/Forest
[mission 4] $ cd Hut/

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

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

Congratulations, mission 4 has been successfully completed!
```

```
~/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.                                                                                                                       |      |
|      |                                                                                                                              |      |
```

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

~
[mission 5] $ ls
Castle  Forest  Garden  Mountain  Stall

~
[mission 5] $ cd Castle/

~/Castle
[mission 5] $ cd 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!
```

```
~/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 your hut in the forest.  |      |
|      |                                                                                                                              |      |
|      |                                                                                                                              |      |
```

```
~/Castle
[mission 6] $ cd ..

~
[mission 6] $ ls
Castle  Forest  Garden  Mountain  Stall

~
[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 /home/kali/gameshell/World/Forest/Hut/Chest

~/Garden
[mission 6] $ gsh check

Congratulations, mission 6 has been successfully completed!
```

```
~/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).  |
    |                                                                                                                |
```

```
~/Garden
[mission 7] $ ls -la
total 32
drwxr-xr-x 5 kali kali 4096 Jul 16 13:06 .
drwxr-xr-x 7 kali kali 4096 Jul 16 13:07 ..
-rw-r--r-- 1 kali kali   47 Jul 16 13:06 .19684_coin_2
-rw-r--r-- 1 kali kali   47 Jul 16 13:06 .29434_coin_3
-rw-r--r-- 1 kali kali   47 Jul 16 13:06 .5265_coin_1
drwxr-xr-x 2 kali kali 4096 Jul 16 12:27 Flower_garden
drwxr-xr-x 2 kali kali 4096 Jul 16 12:27 Maze
drwxr-xr-x 2 kali kali 4096 Jul 16 12:27 Shed

~/Garden
[mission 7] $ mv .5265_coin_1 .19684_coin_2 .29434_coin_3 /home/kali/gameshell/World/Forest/Hut/Chest

~/Garden
[mission 7] $ gsh check

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

```
~/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.
       ||
       ||
```

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

~/Castle/Cellar
[mission 8] $ ls
13529_bat_1  18474_bat_5  31361_bat_2  4594_bat_4  8597_bat_3  barrel_of_apples

~/Castle/Cellar
[mission 8] $ ls -a
.  ..  13529_bat_1  18474_bat_5  31361_bat_2  4594_bat_4  8597_bat_3  barrel_of_apples

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

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

```
~/Castle/Cellar
[mission 9] $ gsh goal

                                                                                                                                  .__.
                                                                                                                                 /  .  \
                                                                                                                               |\_/|   |
                                                                                                                               |   |  /|
  .____________________________________________________________________________________________________________________________' |
 /  .-.                                                                                                                             |
|  /   \                                                                                                                             |
| |\_.  |   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.                                   |
|       |                                                                                                                             |
```

```
~/Castle/Cellar
[mission 9] $ rm .*spider*

~/Castle/Cellar
[mission 9] $ ls
13529_bat_1  18474_bat_5  31361_bat_2  4594_bat_4  8597_bat_3  barrel_of_apples

~/Castle/Cellar
[mission 9] $ ls -a
.  ..  13529_bat_1  18474_bat_5  .18908_bat_4  .24227_bat_5  .25047_bat_1  .25064_bat_3  .25503_bat_2  31361_bat_2  4594_bat_4  8597_bat_3  barrel_of_apples

~/Castle/Cellar
[mission 9] $ gsh check

Congratulations, mission 9 has been successfully completed!
```

```
~/Castle/Cellar
[mission 10] $ gsh goal

      ____________________________________________________________________________________________________________________________
()==(                                                                                                                          (@==()
     '____________________________________________________________________________________________________________________________'|
       |                                                                                                                             |
       | 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.                                                                                  |
       |                                                                                                                             |
```

```
~/Castle/Cellar
[mission 10] $ cd ..

~/Castle
[mission 10] $ ls
Cellar/  Great_hall/  Main_building/  Main_tower/  Observatory/

~/Castle
[mission 10] $ cd Great_hall/

~/Castle/Great_hall
[mission 10] $ ls
13661_suit_of_armour  22429_stag_head  47422_decorative_shield  standard_1  standard_2  standard_3  standard_4

~/Castle/Great_hall
[mission 10] $ cp standard_1 standard_2 standard_3 standard_4 /home/kali/gameshell/World/Forest/Hut/Chest

~/Castle/Great_hall
[mission 10] $ gsh check

Congratulations, mission 10 has been successfully completed!
```

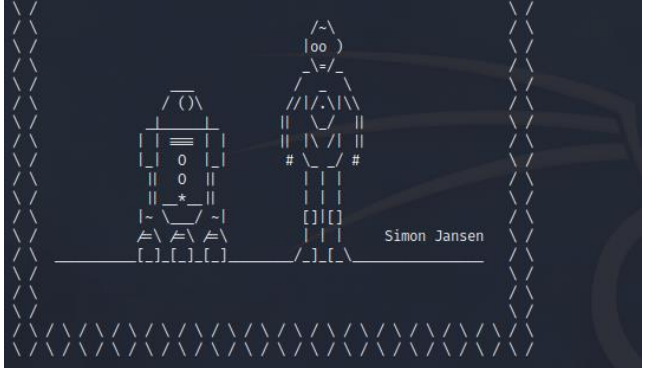
```
~/Castle/Great_hall
[mission 11] $ gsh goal

  _^_                                                                                                                  _^_
( ___ )------------------------------------------------------------------------------------------------------------( ___ )
 |   |                                                                                                                |   |
 | / |  Mission goal                                                                                                  | \ |
 | / |  ===========                                                                                                   | \ |
 | / |                                                                                                                | \ |
 | / |  The tapestries in the castle's great hall are also particularly beautiful. Put a copy of each in your chest.  | \ |
 | / |                                                                                                                | \ |
```

```
~/Castle/Great_hall
[mission 11] $ ls -a
./              16357_tapestry_07     23214_tapestry_04        34520_tapestry_05  64186_tapestry_09  standard_1  standard_4
../             19789_suit_of_armour  30287_decorative_shield  36897_tapestry_02  64284_tapestry_06  standard_2
16208_stag_head 20470_tapestry_08     30977_tapestry_03        55025_tapestry_10  65030_tapestry_01  standard_3

~/Castle/Great_hall
[mission 11] $ cp *tapestry* /home/kali/gameshell/World/Forest/Hut/Chest

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

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

```
~/Castle/Great_hall
[mission 12] $ gsh goal

  _^_
( ___ )------------------------------------------------------------------------------------------------------------
 |   |
 | / |  Mission goal
 | / |  ===========
 | / |
 | / |  While wandering around the first floor of the main tower, some magnificent paintings catch your eye. Add a copy of the oldest one to your
 | / |  chest.
```

```
~/Castle/Great_hall
[mission 12] $ cd ..

~/Castle
[mission 12] $ ls
Cellar/  Great_hall/  Main_building/  Main_tower/  Observatory/

~/Castle
[mission 12] $ cd Main_tower/

~/Castle/Main_tower
[mission 12] $ ls
First_floor/

~/Castle/Main_tower
[mission 12] $ cd First_floor/

~/Castle/Main_tower/First_floor
[mission 12] $ ls
painting_kFQZloxX  painting_LWZKAqyM  painting_VMyQwJDN  Second_floor/

~/Castle/Main_tower/First_floor
[mission 12] $ ls -la
total 24
drwxr-xr-x 3 kali kali 4096 Jul 16 13:30 ./
drwxr-xr-x 3 kali kali 4096 Jul 16 12:27 ../
-rw-r--r-- 1 kali kali 1055 Apr 22  2012 painting_kFQZloxX
-rw-r--r-- 1 kali kali 1502 Nov  4  1987 painting_LWZKAqyM
-rw-r--r-- 1 kali kali 1454 Jul  5  2001 painting_VMyQwJDN
drwxr-xr-x 3 kali kali 4096 Jul 16 12:27 Second_floor/

~/Castle/Main_tower/First_floor
[mission 12] $ cp painting_LWZKAqyM /home/kali/gameshell/World/Forest/Hut/Chest
```

```
~/Castle/Main_tower/First_floor
[mission 12] $ cat painting_VMyQwJDN
dcc05ca5a85c4c39a305d97408882db2e7a5901d@4144
```




```
~/Castle/Main_tower/First_floor
[mission 12] $ gsh check

Congratulations, mission 12 has been successfully completed!
```

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

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

Nostradamus predicted a spectacular star conjunction on the 02-25-1922.
But what will the day of the week be on that date?

When you have it, run the command ``gsh check``.
```

```
~/Castle/Main_tower/First_floor
[mission 13] $ cal 2 1922
   February 1922
Su Mo Tu We Th Fr Sa
          1  2  3  4
 5  6  7  8  9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28


~/Castle/Main_tower/First_floor
[mission 13] $ gsh check
What was the day of the week for the 02-25-1922?
  1 : Monday
  2 : Tuesday
  3 : Wednesday
  4 : Thursday
  5 : Friday
  6 : Saturday
  7 : Sunday
Your answer: 6

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

```
~/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.
      |
```

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

~/Castle/Main_tower/First_floor
[mission 14] $ la
.nice_rock  painting_kFQZloxX  painting_LWZKAqyM  painting_VMyQwJDN  Second_floor/

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

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

```
~/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.
   |
```

```
~/Castle/Main_tower/First_floor
[mission 15] $ cd /home/kali/gameshell/World/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!
```

```
~/Forest/Hut/Chest
[mission 16] $ alias journal='nano /home/kali/gameshell/World/Forest/Hut/Chest/journal.txt'

~/Forest/Hut/Chest
[mission 16] $ gsh check

Congratulations, mission 16 has been successfully completed!



                 _.--.          Congratulations!
              _.-'_:-'||
          _.-'_.-::::'||         From now on you can use the file
     _.-:'_.-::::::'  ||         "~/.gshrc"
   .'`-.-:::::::'     ||         to record aliases. More information can be found in the file (it has been created for you).
  /.'`;|:::::::'      ||_
```

```
~/Forest/Hut/Chest
[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 can use the command ``gsh reset`` to reset the timer.
|      |
|      |  Another thing: shell patterns have been deactivated. You cannot use the wildcards ``*`` or ``?``.
|      |
```

```
~/Castle/Cellar
[mission 17] $ cd .Lair_of_the_spider_queen\ mGJjCIZmicgCTqkJ LdkSkWvWMYUmkfsr/

~/Castle/Cellar/.Lair_of_the_spider_queen mGJjCIZmicgCTqkJ LdkSkWvWMYUmkfsr
[mission 17] $ la
aURmSplVjAqPmmPq_baby_bat_apJaRbsJJjdjJSDm  ksJJtVvGIDbWxcgb_spider_queen_TkFAKYEDQQdJQXVq

~/Castle/Cellar/.Lair_of_the_spider_queen mGJjCIZmicgCTqkJ LdkSkWvWMYUmkfsr
[mission 17] $ rm ksJJtVvGIDbWxcgb_spider_queen_TkFAKYEDQQdJQXVq

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

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

```
~/Castle/Cellar/.Lair_of_the_spider_queen mGJjCIZmicgCTqkJ LdkSkWvWMYUmkfsr
[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.
    |
```

```
~/Castle
[mission 18] $ xeyes
^C

~/Castle
[mission 18] $ xeyes &
[1] 105923

~/Castle
[mission 18] $ gsh check

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

```
~/Castle
[mission 19] $ 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/World/Garden/Maze
|       |
```

```
~/Castle
[mission 19] $ cd /home/kali/gameshell/World/Garden/Maze/

~/Garden/Maze
[mission 19] $ tree
.
├── 566d7d7102d05443dbaf35155f2
│   ├── 9f7825bd1f
│   │   ├── 34b970023b2675b9707a5
│   │   └── a6825ff4197d0
│   └── f9ef5fa6bbe2d
│       ├── 283f7de913715
│       └── 8e688c0da562713a
└── d702d64a48c172ba6afaee28256c9ff
    ├── 0a7380792496a
    │   ├── 2adf2b0764009defdbda8d4d7
    │   └── 9a73ba2282108d0ff
    └── db8a552d1846a885eaf12bfbc0
        ├── 5452b42f2d67e39784
        │   └── 00000_copper_coin_00000
        └── d5ded489728c72d224c02cf

15 directories, 1 file

~/Garden/Maze
[mission 19] $ mv d702d64a48c172ba6afaee28256c9ff/db8a552d1846a885eaf12bfbc0/5452b42f2d67e39784/00000_copper_coin_00000 /home/kali/gameshell/World/Forest/Hut/Chest/

~/Garden/Maze
[mission 19] $ gsh check

Congratulations, mission 19 has been successfully completed!
```

```
~/Garden/Maze
[mission 20] $ gsh goal

   __^__
( ___ )-------------------------------------------------------------------------
  |   |
  | / |  Mission goal
  | / |  ============
  | / |
  | / |  Find the silver coin in the maze in the garden and move it to your chest using the shell.
  | / |
```

```
~/Garden/Maze
[mission 20] $ tree
.
├── 161ae6063d0a4a9
│   ├── 050fd6786
│   │   ├── 643108829
│   │   ├── 7b968c337b204d8f6
│   │   │   └── OOOOO_silver_coin_OOOOO
│   │   └── ecfd97956599
│   ├── 486f18719f
│   │   ├── a26d51fb06e4281766084ac380
│   │   ├── dd5e3ec5a7d6c260163e13c0582c4
```

```
~/Garden/Maze
[mission 20] $ mv 161ae6063d0a4a9/050fd6786/7b968c337b204d8f6/OOOOO_silver_coin_OOOOO /home/kali/gameshell/World/Forest/Hut/Chest/

~/Garden/Maze
[mission 20] $ gsh check

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

```
~/Garden/Maze
[mission 21] $ gsh goal

    _____________________________________________________________________________________________________________________________
    ^
(0)≡≡≡)>◇◇◇
```

```
~/Garden/Maze
[mission 22] $ cd ../..

~
[mission 22] $ ls
Castle/  Forest/  Garden/  Mountain/  Stall/

~
[mission 22] $ cd Mountain/

~/Mountain
[mission 22] $ ls
Cave/

~/Mountain
[mission 22] $ cd Cave

~/Mountain/Cave
[mission 22] $ ls
Book_of_potions/  servillus
```

```
~/Mountain/Cave/Book_of_potions
[mission 22] $ head -n 1 page_??
==> page_01 <==
Transformation potion

==> page_02 <==
10) Add 3 measures of boomslang skin to the cauldron.

==> page_03 <==
Elixir of youth

==> page_04 <==
8) Let the preparation rest for a day.

==> page_05 <==
Ph/

==> page_06 <==
Bot/

==> page_07 <==
Herbal tea

==> page_08 <==


==> page_09 <==
4) Empty the cauldron in the sewer.

==> page_10 <==
Homeopathic healing potion (part 2)

==> page_11 <==
Homeopathic healing potion (part 3)

==> page_12 <==
Toadstool stew

==> page_13 <==
Distilled water
```

```
~/Mountain/Cave
[mission 22] $ head -n 6 Book_of_potions/page_07
Herbal tea
----------

1) Boil water.
2) Add herbs from the forest.
3) Let it sit for five minutes and drink while hot.

~/Mountain/Cave
[mission 22] $ gsh check

Congratulations, mission 22 has been successfully completed!
```

```
~/Mountain/Cave
[mission 23] $ 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.
 | / |
```

```
~/Mountain/Cave
[mission 23] $ cat Book_of_potions/page_12
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 23] $ 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 23] $ gsh check

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

```
~/Mountain/Cave
[mission 24] $ 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.
    |
```

```
~/Mountain/Cave
[mission 24] $ cat Book_of_potions/page_01 Book_of_potions/page_02
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 24] $ gsh check

Congratulations, mission 24 has been successfully completed!
```

```
~/Mountain/Cave
[mission 25] $ 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.                                   |
     |                                                                                                 |
```

```
~/Mountain/Cave
[mission 25] $ tail -n 7 Book_of_potions/page_03 && head -n 9 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 25] $ gsh check

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

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



  ._____________________________________________________________________________________________
 /  .-.
|  /   \
| |\_.  |   Mission goal
|\|  | /|   ===========
| `___' |
|       |   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.
|       |
```

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

Congratulations, mission 26 has been successfully completed!
```

```
~/Mountain/Cave
[mission 27] $
    *#@*
   &_**/~
    !$-#


        *#@*
       &_**/~
        !$-#

ps
                          *#@*
                         &_**/~
                          !$-#


    PID TTY          TIME CMD
  65912 pts/0    00:00:03 zsh
  88465 pts/0    00:00:00 bash
  88492 pts/0    00:00:01 bash
 105923 pts/0    00:00:04 xeyes
 130753 pts/0    00:00:00 spell
 131042 pts/0    00:00:00 ps
```

```
~/Mountain/Cave
[mission 27] $
                          *#@*
                         &_**/~
                          !$-#

kill 13
        *#@*
       &_**/~
        !$-#

0753

~/Mountain/Cave
[mission 27] $ gsh chek
Error: unknown gsh command 'chek'.
Use one of the following commands:  check, goal, help, reset

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

Congratulations, mission 27 has been successfully completed!
```

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

     ____________________________________________________________________________________
    / \
   |   | 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.
       |
```

```
~/Mountain/Cave
[mission 28] $ kill -s TERM 13
                  *#@*
                 &_**/~
                  !$-#

1925
You'll need to do better than that to kill my spell!

                *#@*
               &_**/~
                !$-#


    *#@*
   &_**/~
    !$-#
```

```
ps
    PID TTY          TIME CMD
  65912 pts/0    00:00:03 zsh
  88465 pts/0    00:00:00 bash
  88492 pts/0    00:00:01 bash
 105923 pts/0    00:00:04 xeyes
 131925 pts/0    00:00:00 spell
 132193 pts/0    00:00:00 spell
 132209 pts/0    00:00:00 spell
 132237 pts/0    00:00:00 ps
```

```
ki
                  *#@*
                 &_**/~
                  !$-#


    *#@*
   &_**/~
    !$-#

ll
                  *#@*
                 &_**/~
                  !$-#

 -9 131925
                            *#@*
                           &_**/~
                            !$-#


~/Mountain/Cave
[mission 28] $ ps
    PID TTY          TIME CMD
  65912 pts/0    00:00:03 zsh
  88465 pts/0    00:00:00 bash
  88492 pts/0    00:00:01 bash
 105923 pts/0    00:00:04 xeyes
 132193 pts/0    00:00:00 spell
 132209 pts/0    00:00:00 spell
 132270 pts/0    00:00:00 ps
```

```
~/Mountain/Cave
[mission 28] $
           *#@*
          &_**/~
           !$-#


                              *#@*
                             &_**/~
                              !$-#

kill -9 132
                 *#@*
                &_**/~
                 !$-#

19
                              *#@*
                             &_**/~
                              !$-#


3

~/Mountain/Cave
[mission 28] $ ps
    PID TTY          TIME CMD
  65912 pts/0    00:00:03 zsh
  88465 pts/0    00:00:00 bash
  88492 pts/0    00:00:01 bash
 105923 pts/0    00:00:04 xeyes
 132209 pts/0    00:00:00 spell
 132303 pts/0    00:00:00 ps
```

```
~/Mountain/Cave
[mission 28] $
        *#@*
       &_**/~
        !$-#

kill -9 1322
                       *#@*
                      &_**/~
                       !$-#

09

~/Mountain/Cave
[mission 28] $ ps
    PID TTY          TIME CMD
  65912 pts/0    00:00:03 zsh
  88465 pts/0    00:00:00 bash
  88492 pts/0    00:00:01 bash
 105923 pts/0    00:00:04 xeyes
 132336 pts/0    00:00:00 ps
```

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

Congratulations, mission 28 has been successfully completed!
```

```
~/Mountain/Cave
[mission 29] $ 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!
|      |
```

```
~/Castle/Cellar
[mission 29] $ pstree 132654 -p
mischievous_imp(132654)─┬─spell(132679)───sleep(171820)
                        ├─spell(132682)───sleep(171668)
                        ├─spell(132683)───sleep(171766)
                        └─tail(132684)

~/Castle/Cellar
[mission 29] $ kill -9 132679 132682 132683

~/Castle/Cellar
[mission 29] $ ps
    PID TTY          TIME CMD
  65912 pts/0    00:00:03 zsh
  88465 pts/0    00:00:00 bash
  88492 pts/0    00:00:01 bash
 105923 pts/0    00:00:05 xeyes
 132653 pts/0    00:00:00 nice_fairy
 132654 pts/0    00:00:00 mischievous_imp
 132661 pts/0    00:00:00 spell
 132662 pts/0    00:00:00 spell
 132663 pts/0    00:00:00 spell
 132664 pts/0    00:00:00 tail
 132684 pts/0    00:00:00 tail
 182778 pts/0    00:00:00 sleep
 182811 pts/0    00:00:00 sleep
 182905 pts/0    00:00:00 sleep
 182927 pts/0    00:00:00 sleep
 182942 pts/0    00:00:00 sleep
 182943 pts/0    00:00:00 sleep
 182960 pts/0    00:00:00 ps
```

```
~/Castle/Cellar
[mission 29] $ gsh check

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

```
16317_coal       23822_snowflake  31443_snowflake  38982_snowflake  46634_coal       5451_snowflake   61915_coal       9556_snowflake
16422_coal       23913_coal       31447_coal       3900_coal        46650_coal       54522_coal       61915_snowflake  9630_coal
16430_coal       2392_snowflake   31473_coal       3901_coal        46862_snowflake  54548_coal       61951_coal       9653_coal
16587_coal       2393_coal        31487_snowflake  39098_snowflake  46865_snowflake  54554_coal       61960_snowflake  9694_coal
16594_snowflake  23941_snowflake  31497_coal       39139_coal       47065_coal       54556_coal       61966_coal       9704_snowflake
1659_coal        23950_snowflake  31497_snowflake  39212_coal       47071_coal       54583_coal       6198_coal        9768_coal
16639_coal       23997_coal       3154_coal        39279_snowflake  47077_coal       54624_snowflake  61997_snowflake  9812_snowflake
16679_snowflake  24027_coal       31565_coal       39280_coal       47118_coal       5469_snowflake   62007_snowflake  9830_snowflake
16680_snowflake  24027_snowflake  31619_coal       39299_coal       47123_coal       5472_snowflake   62090_coal       9889_snowflake
16705_snowflake  24051_coal       31690_coal       39475_coal       47145_snowflake  54738_snowflake  62100_coal       9920_snowflake
16708_snowflake  24057_coal       31734_snowflake  39485_coal       47146_coal       54742_coal       62108_coal       9946_snowflake
16728_snowflake  24069_coal       31774_coal       39506_snowflake  47233_coal       5481_coal        62123_snowflake  9959_coal
1676_snowflake   24140_coal       31787_coal       39577_coal       47246_coal       548_snowflake    62125_coal       barrel_of_apples

~/Castle/Cellar
[mission 29] $ rm *coal*

~/Castle/Cellar
[mission 29] $ ls
10007_snowflake  16705_snowflake  23656_snowflake  31990_snowflake  39884_snowflake  47644_snowflake  5548_snowflake   63100_snowflake
10311_snowflake  16708_snowflake  23758_snowflake  32049_snowflake  39939_snowflake  47715_snowflake  55526_snowflake  63104_snowflake
10318_snowflake  16728_snowflake  23822_snowflake  32064_snowflake  39961_snowflake  47735_snowflake  55547_snowflake  63174_snowflake
10353_snowflake  1676_snowflake   2384_snowflake   32138_snowflake  40008_snowflake  47860_snowflake  55730_snowflake  63181_snowflake
10424_snowflake  16776_snowflake  2392_snowflake   32199_snowflake  40039_snowflake  47907_snowflake  55743_snowflake  6326_snowflake
10427_snowflake  16822_snowflake  23941_snowflake  32369_snowflake  40052_snowflake  47918_snowflake  55788_snowflake  63270_snowflake
10441_snowflake  16823_snowflake  23950_snowflake  32419_snowflake  40143_snowflake  48010_snowflake  55905_snowflake  63320_snowflake
10443_snowflake  16886_snowflake  24027_snowflake  3252_snowflake   40273_snowflake  48096_snowflake  56115_snowflake  63322_snowflake
10481_snowflake  16917_snowflake  24223_snowflake  32587_snowflake  40326_snowflake  48132_snowflake  5613_snowflake   63363_snowflake
```

```
~/Castle/Cellar
[mission 29] $ gsh check

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

```
~/Castle/Cellar
[mission 30] $ 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 30] $ gsh check
44 + 7 = ?? 51
88 + 58 = ?? 146
22 + 40 = ?? 62
61 + 13 = ?? 74
76 + 74 = ?? 150

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

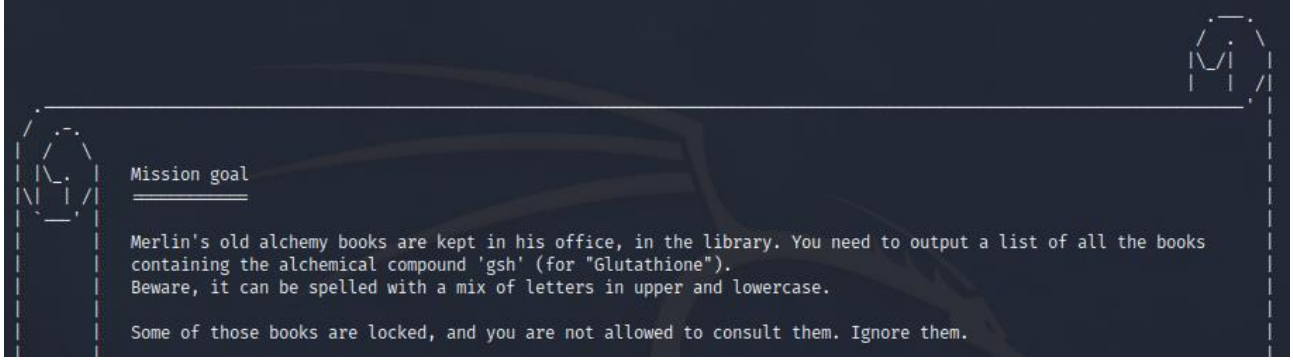
```
~/Castle/Main_building/Library
[mission 31] $ gsh goal

  ,-------------------------------------------------------------------------------------------
 (_\
    |  Mission goal
    |  ============
    |
    |  To get better in the magical art, one needs to know mental math.
    |
    |  Get ready, because Merlin is about to test you speed with products.
    |
    |  Run the command ``gsh check`` to start.
    |
```

```
~/Castle/Main_building/Library
[mission 31] $ gsh check < Mathematics_101
70 * 7 = ?? 52 * 78 = ?? 55 * 59 = ?? 2 * 3 = ?? 92 * 31 = ?? 51 * 74 = ?? 31 * 31 = ?? 97 * 69 = ?? 83 * 54 = ?? 99 * 13 = ?? 47 * 100 = ?? 89
 * 51 = ?? 6 * 30 = ?? 35 * 28 = ?? 94 * 44 = ?? 56 * 19 = ?? 44 * 25 = ?? 60 * 76 = ?? 80 * 14 = ?? 35 * 19 = ?? 61 * 48 = ?? 64 * 92 = ?? 97
* 66 = ?? 44 * 88 = ?? 39 * 4 = ?? 47 * 84 = ?? 36 * 68 = ?? 31 * 41 = ?? 82 * 25 = ?? 3 * 50 = ?? 90 * 83 = ?? 93 * 70 = ?? 11 * 98 = ?? 16 *
8 = ?? 95 * 72 = ?? 62 * 54 = ?? 38 * 3 = ?? 2 * 35 = ?? 81 * 79 = ?? 89 * 99 = ?? 96 * 13 = ?? 6 * 71 = ?? 60 * 97 = ?? 15 * 3 = ?? 39 * 63 =
?? 10 * 32 = ?? 81 * 82 = ?? 97 * 73 = ?? 30 * 66 = ?? 86 * 42 = ?? 32 * 86 = ?? 19 * 67 = ?? 12 * 63 = ?? 89 * 24 = ?? 94 * 23 = ?? 15 * 21 =
?? 93 * 44 = ?? 96 * 23 = ?? 57 * 45 = ?? 69 * 90 = ?? 59 * 63 = ?? 17 * 80 = ?? 91 * 59 = ?? 66 * 69 = ?? 28 * 47 = ?? 27 * 56 = ?? 54 * 41 =
?? 11 * 27 = ?? 66 * 97 = ?? 6 * 81 = ?? 89 * 33 = ?? 2 * 49 = ?? 72 * 65 = ?? 13 * 37 = ?? 35 * 38 = ?? 24 * 68 = ?? 86 * 14 = ?? 14 * 29 = ??
 17 * 25 = ?? 60 * 44 = ?? 12 * 72 = ?? 73 * 79 = ?? 39 * 5 = ?? 75 * 56 = ?? 24 * 19 = ?? 91 * 83 = ?? 1 * 20 = ?? 12 * 92 = ?? 17 * 40 = ?? 3
3 * 20 = ?? 53 * 74 = ?? 87 * 55 = ?? 85 * 33 = ?? 35 * 38 = ?? 87 * 69 = ?? 12 * 4 = ?? 21 * 52 = ?? 70 * 69 = ?? 27 * 64 = ?? 15 * 65 = ??
Congratulations, mission 31 has been successfully completed!

While you are waiting, a snail goes by...
```

```
~/Castle/Main_building/Library/Merlin_s_office
[mission 32] $ 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...                                                    |
      |                                                                                                                           |
      |                                                                                                                           |
```

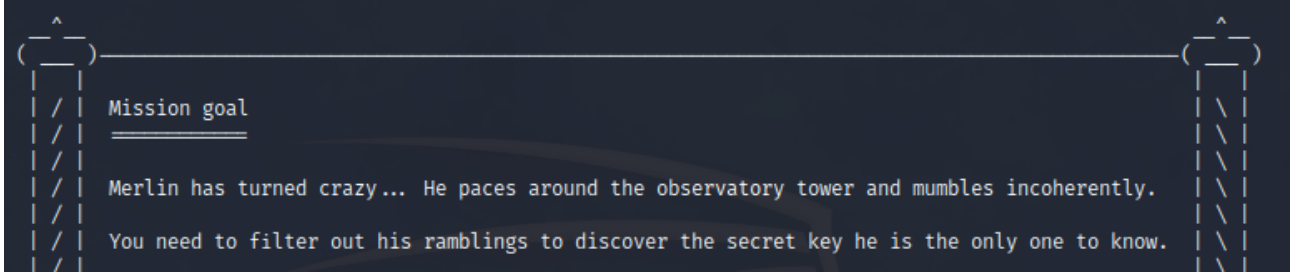
```
~/Castle/Main_building/Library/Merlin_s_office
[mission 32] $ ls
candle          grimoire_14983  grimoire_18568  grimoire_21488  grimoire_25264  grimoire_28395  grimoire_30614  grimoire_5178  grimoire_8036
Drawer/         grimoire_15523  grimoire_18619  grimoire_22174  grimoire_25597  grimoire_28732  grimoire_30822  grimoire_5668  grimoire_8565
grimoire_10490  grimoire_1594   grimoire_18719  grimoire_22213  grimoire_25601  grimoire_28913  grimoire_30975  grimoire_6236  grimoire_8975
grimoire_11816  grimoire_16060  grimoire_19419  grimoire_22416  grimoire_2573   grimoire_28933  grimoire_31097  grimoire_6614  grimoire_9276
grimoire_11856  grimoire_16087  grimoire_2054   grimoire_22606  grimoire_26771  grimoire_28953  grimoire_31580  grimoire_6923  grimoire_956
grimoire_12475  grimoire_17212  grimoire_20748  grimoire_22650  grimoire_27061  grimoire_29036  grimoire_31924  grimoire_7110
grimoire_13076  grimoire_17436  grimoire_20755  grimoire_23010  grimoire_27441  grimoire_29366  grimoire_32000  grimoire_7141
grimoire_13084  grimoire_17446  grimoire_20988  grimoire_23200  grimoire_27470  grimoire_2952   grimoire_3210   grimoire_7370
grimoire_13920  grimoire_17481  grimoire_20998  grimoire_23486  grimoire_27968  grimoire_29679  grimoire_32236  grimoire_7417
grimoire_14396  grimoire_17523  grimoire_21252  grimoire_24224  grimoire_28075  grimoire_29751  grimoire_32286  grimoire_771
grimoire_14453  grimoire_17528  grimoire_21333  grimoire_24659  grimoire_28132  grimoire_29896  grimoire_3659   grimoire_7819
grimoire_14734  grimoire_18160  grimoire_21445  grimoire_24939  grimoire_28302  grimoire_30310  grimoire_4613   grimoire_7959

~/Castle/Main_building/Library/Merlin_s_office
[mission 32] $ ls grimoire* > Drawer/inventory.txt

~/Castle/Main_building/Library/Merlin_s_office
[mission 32] $ gsh check

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

```
~/Castle/Main_building/Library/Merlin_s_office
[mission 33] $ gsh goal
```




```
~/Castle/Main_building/Library/Merlin_s_office
[mission 33] $ grep gsh grimoire* -li 2>error
grimoire_EkwDSsDELZwDiLP
grimoire_FPpvLEVcEqCatin
grimoire_gmqRdppKyNLg
grimoire_HKSKRNdyJ
grimoire_hOpfISbeaiYvnb
grimoire_JBPSzEXMN
grimoire_JFnkHbHGVgIrpj
grimoire_KpynWEjgyDkZQNNsbEHGlrzTafmx
grimoire_kYqHTdWYdsCv
grimoire_NMHcsGNLW
grimoire_nTfNmbFORJQHgKmzpue
grimoire_OMlzQYgJTYLiOjyqvXKHVXmyhwY
grimoire_OPALsNKgoebEIRVubmKtvR
grimoire_osYjfVQdblZEcnuFBKRdrOki
grimoire_plQpXFCLuJ
grimoire_pUhfPdvjTH
grimoire_qKkkrKLblk
grimoire_QlVuYSAyTRccJjdvYjcjqdeu
grimoire_RFQnoVVSsRecltKOSxjiCeD
grimoire_RuxlBzRaTz
grimoire_UoNGyJPOTTzdCtKVdypw
grimoire_vglxdTsDRpdEOGdCkwK
grimoire_WjEqIMNzpsrqIbkRHXEWzBReqMhXJS
grimoire_XdJnYZpCNtNfxkuSoBTjXs
grimoire_zpUpWYzfKZdTwaxyWp

~/Castle/Main_building/Library/Merlin_s_office
[mission 33] $ gsh check

Congratulations, mission 33 has been successfully completed!
```

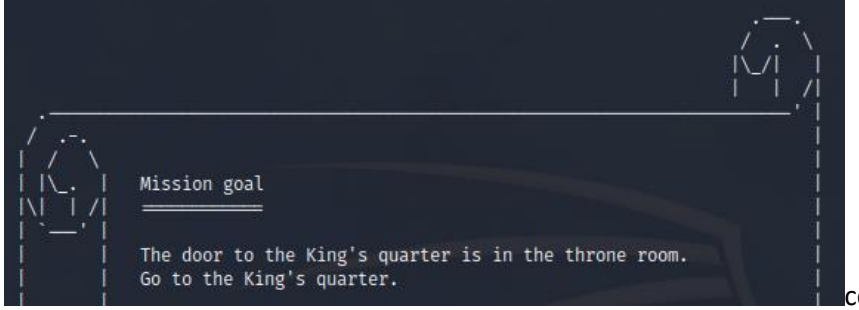
```
~/Castle/Main_building/Library/Merlin_s_office
[mission 34] $ gsh goal
```



```
~/Castle/Observatory
[mission 34] $ ./merlin 2>error >key

~/Castle/Observatory
[mission 34] $ ls
error  key  merlin  star_chart

~/Castle/Observatory
[mission 34] $ cat kay
cat: kay: No such file or directory

~/Castle/Observatory
[mission 34] $ cat key
THESECRETKEYISONSTDERR

~/Castle/Observatory
[mission 34] $ cat error
mmLQdUpIBLggptkmVOaUxiSuBCdHDyNiBFntGeAnREpJVSSYYKqoNMSewDaXjXkxeYdaJcXvDgQeqaGZeSubYAcdaCyEwHVOIeUqlSOeWInGDbAcGQFmaYvTidcLezGeJAmoJdRzeLpmMiH
CRrUmkFnprwrwgMVyTiJtlLSxKUgSoKxIYtCwHfVZpnlKyJzhLHvuyLWk
```

```
~/Castle/Observatory
[mission 34] $ gsh check < error
What is the secret key?
Congratulations, mission 34 has been successfully completed!
```

```
~/Castle/Observatory
[mission 35] $ gsh goal
```

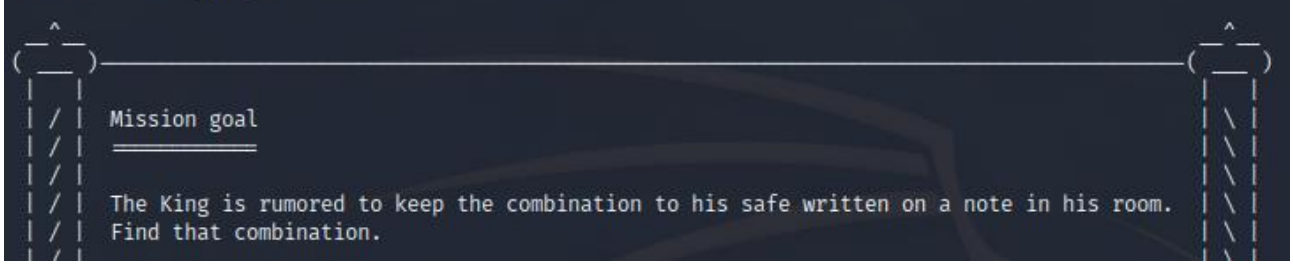


cd

```
~/Castle/Main_building/Throne_room
[mission 35] $ cd Kings_quarter/
bash: cd: Kings_quarter/: Permission denied
```

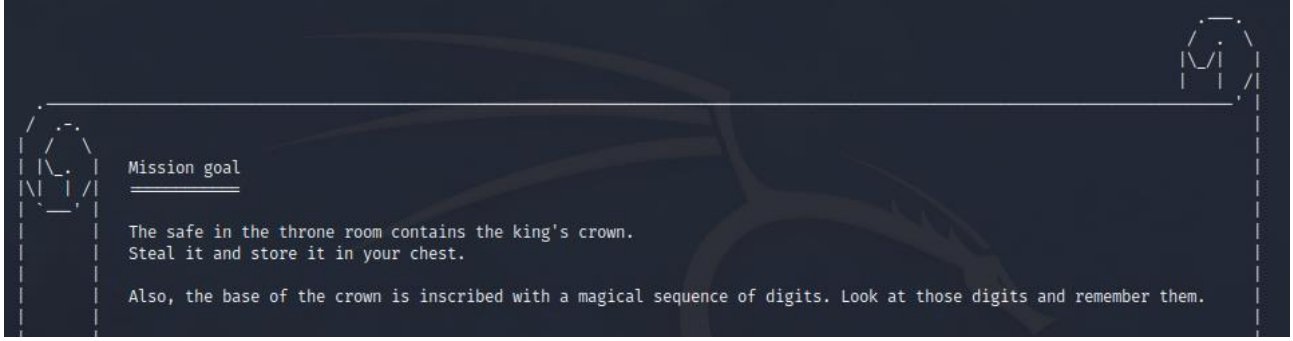
```
~/Castle/Main_building/Throne_room
[mission 35] $ chmod u+x Kings_quarter/

~/Castle/Main_building/Throne_room
[mission 35] $ cd Kings_quarter/

~/Castle/Main_building/Throne_room/Kings_quarter
[mission 35] $ gsh check

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

```
~/Castle/Main_building/Throne_room/Kings_quarter
[mission 36] $ gsh goal
```



```
~/Castle/Main_building/Throne_room/Kings_quarter
[mission 36] $ ls -la
total 16
drwxr-xr-x 2 kali kali 4096 Jul 16 18:56 ./
drwxr-xr-x 3 kali kali 4096 Jul 16 12:27 ../
-rw-r--r-- 1 kali kali   11 Jul 16 18:55 note
--w------- 1 kali kali   11 Jul 16 18:55 .secret_note

~/Castle/Main_building/Throne_room/Kings_quarter
[mission 36] $ cat .secret_note
cat: .secret_note: Permission denied

~/Castle/Main_building/Throne_room/Kings_quarter
[mission 36] $ ls -la
total 16
drwxr-xr-x 2 kali kali 4096 Jul 16 18:56 ./
drwxr-xr-x 3 kali kali 4096 Jul 16 12:27 ../
-rw-r--r-- 1 kali kali   11 Jul 16 18:55 note
--w------- 1 kali kali   11 Jul 16 18:55 .secret_note

~/Castle/Main_building/Throne_room/Kings_quarter
[mission 36] $ chmod u+r .secret_note

~/Castle/Main_building/Throne_room/Kings_quarter
[mission 36] $ cat .secret_note
5958435907

~/Castle/Main_building/Throne_room/Kings_quarter
[mission 36] $ gsh check
What's the combination to open the King's safe? 5958435907

Congratulations, mission 36 has been successfully completed!
```

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



```
~/Castle/Main_building/Throne_room
[mission 37] $ ls -la
total 16
drwxr-xr-x 4 kali kali 4096 Jul 16 18:58 ./
drwxr-xr-x 4 kali kali 4096 Jul 16 12:27 ../
drwxr-xr-x 2 kali kali 4096 Jul 16 18:56 Kings_quarter/
d--------- 2 kali kali 4096 Jul 16 18:58 Safe/

~/Castle/Main_building/Throne_room
[mission 37] $ chmod u+rwx Safe/

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

~/Castle/Main_building/Throne_room/Safe
[mission 37] $ ls -la
total 12
drwx------ 2 kali kali 4096 Jul 16 18:58 ./
drwxr-xr-x 4 kali kali 4096 Jul 16 18:58 ../
---------- 1 kali kali   48 Jul 16 18:58 crown

~/Castle/Main_building/Throne_room/Safe
[mission 37] $ cat crown
cat: crown: Permission denied

~/Castle/Main_building/Throne_room/Safe
[mission 37] $ chmod u+rwx crown

~/Castle/Main_building/Throne_room/Safe
[mission 37] $ cat crown
  _.+._         jgs
(^\/^\/^)
 \@*@*@/
 {_064_}

~/Castle/Main_building/Throne_room/Safe
[mission 37] $ mv crown /home/kali/gameshell/World/Forest/Hut/Chest/

~/Castle/Main_building/Throne_room/Safe
[mission 37] $ gsh check
What are the 3 digits inscribed on the base of the crown? 064

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

```
~/Castle/Main_building/Throne_room/Safe
[mission 38] $ gsh goal
```

```
~/Castle/Main_building/Throne_room/Safe
[mission 38] $ cd ../../..

~/Castle
[mission 38] $ ls
Cellar/  Great_hall/  Main_building/  Main_tower/  Observatory/

~/Castle
[mission 38] $ cd ..

~
[mission 38] $ ls
Castle/  Forest/  Garden/  Mountain/  Stall/

~
[mission 38] $ cd Garden/Maze/

~/Garden/Maze
[mission 38] $ ls
0181f43f/    47e1cf1c3c5db28f6a293a2021931/  71bd232da42fa20d/              9d219673f86966d1/   e39103e3c/
0593cfad8b/  4da0cda6c2e6f2b19e69546f47c3/   72421448165ae5082dfed59a4f05c/  a1c1dc3e12ac965b6/  effb92a952ee2808206a192/
```

```
~/Garden/Maze
[mission 38] $ grep -R "ruby" -li 2>error
0181f43f/fe47dcdb898408c4a4e277ab/8f40c2cbf11aeae062fc54a1a8535/6917
```

```
~/Garden/Maze
[mission 38] $ cd 0181f43f/fe47dcdb898408c4a4e277ab/8f40c2cbf11aeae062fc54a1a8535/

~/Garden/Maze/0181f43f/fe47dcdb898408c4a4e277ab/8f40c2cbf11aeae062fc54a1a8535
[mission 38] $ ls
6917

~/Garden/Maze/0181f43f/fe47dcdb898408c4a4e277ab/8f40c2cbf11aeae062fc54a1a8535
[mission 38] $ cat 6917
6917 ruby 5f7a70f5d67dabe11a7645fa425b950901942c59

~/Garden/Maze/0181f43f/fe47dcdb898408c4a4e277ab/8f40c2cbf11aeae062fc54a1a8535
[mission 38] $ mv 6917 /home/kali/gameshell/World/Forest/Hut/Chest/

~/Garden/Maze/0181f43f/fe47dcdb898408c4a4e277ab/8f40c2cbf11aeae062fc54a1a8535
[mission 38] $ gsh check

Congratulations, mission 38 has been successfully completed!

You are back at the entrance of the maze...
```

```
~/Garden/Maze
[mission 39] $ gsh goal

  __^__
( ___ )------------------------------------------------------------------------------------------
  |   |
  | / |  Mission goal
  | / |  ============
  | / |
  | / |  Combine several commands with "|" in order to find the diamond in the maze, and move it to your chest.
  | / |
```

```
~/Garden/Maze
[mission 39] $ grep -R "diamond" -li 2>error
4cf0e4492e/2a62da804717dcf2f2f557123dab96d/7c1ccea89a0998230655b

~/Garden/Maze
[mission 39] $ cd 4cf0e4492e/2a62da804717dcf2f2f557123dab96d/7c1ccea89a0998230655b
bash: cd: 4cf0e4492e/2a62da804717dcf2f2f557123dab96d/7c1ccea89a0998230655b: Not a directory

~/Garden/Maze
[mission 39] $ cd 4cf0e4492e/2a62da804717dcf2f2f557123dab96d/

~/Garden/Maze/4cf0e4492e/2a62da804717dcf2f2f557123dab96d
[mission 39] $ cat 7c1ccea89a0998230655b
7c1ccea89a0998230655b diamond 5df8e92d24105ef5a292e1fdefe035520d940051

~/Garden/Maze/4cf0e4492e/2a62da804717dcf2f2f557123dab96d
[mission 39] $ mv 7c1ccea89a0998230655b /home/kali/gameshell/World/Forest/Hut/Chest/

~/Garden/Maze/4cf0e4492e/2a62da804717dcf2f2f557123dab96d
[mission 39] $ gsh check

Congratulations, mission 39 has been successfully completed!

You are back at the entrance of the maze ...
```

```
~/Garden/Maze
[mission 40] $ gsh goal

Mission goal
============

Next to the castle, there is a merchant stall. People often buy on credit and reimburse their debt when they can.
The shopkeeper keeps books on everyone's debt on a scroll. Whenever someone pays his debt, he inscribes "PAID" next to the corresponding
transaction.

Combine several commands with ``|`` in order to find the King's debt.
```

```
(0)
~/Garden/Maze
[mission 40] $ cd ../..
(1)
~
[mission 40] $ ls
Castle/  Forest/  Garden/  Mountain/  Stall/
(2)
~
[mission 40] $ cd Stall
(3)
~/Stall
[mission 40] $ ls
0022f74e9d75_boring_object_0022f74e9d756f9a     526fdcfcb_boring_object_526fdcfcbc09a0ef       a9bd97f8e43b_boring_object_a9bd97f8e43bc9c9
002516a3_boring_object_002516a3693e00ca         527697e63aa0_boring_object_527697e63aa002b8   a9e20da383af5e_boring_object_a9e20da383af5ebd
002b6158_boring_object_002b615850f0d3cc         528964d69258f1_boring_object_528964d69258f115 a9f6972284424f3_boring_object_a9f6972284424f3e
00339a9de44fbe_boring_object_00339a9de44fbe6d   528bf080a05478_boring_object_528bf080a054789d aa0e4c9cb73d2c_boring_object_aa0e4c9cb73d2cde
0034cc67818de9_boring_object_0034cc67818de997   52905ac990d7_boring_object_52905ac990d761ab   aa16c451d_boring_object_aa16c451da77a4d0
0035d185bb9_boring_object_0035d185bb927c37      52b8cf59f45210_boring_object_52b8cf59f45210f6 aa2608b15_boring_object_aa2608b15a6dbdf3
0053a65932_boring_object_0053a65932ab5e20       52bad5ade_boring_object_52bad5adeaba0e38      aa40c200_boring_object_aa40c20047ec3277
0056c4bbf815_boring_object_0056c4bbf815d548     52c214bf_boring_object_52c214bf277d7022       aa5b7873810f490_boring_object_aa5b7873810f490c
006dbb4adcdec1_boring_object_006dbb4adcdec194   52d0a91b82a4c2_boring_object_52d0a91b82a4c215 aa69f8808d_boring_object_aa69f8808dccaaf3
00787a625abc6a_boring_object_00787a625abc6ae4   52d10f2c3aee99_boring_object_52d10f2c3aee991d aa6d015e2_boring_object_aa6d015e27c147bd
00880ae1861f9_boring_object_00880ae1861f9c3c    52f4716ef359062_boring_object_52f4716ef3590624 aa7f2e9a652d3c_boring_object_aa7f2e9a652d3c6c
```

```
(0)
~/Stall
[mission 40] $ grep -R "king" -li 2>error
a3f2d7145b7a_s_c_r_o_l_l_a3f2d7145b7a9a50
(1)
~/Stall
[mission 40] $ grep PAID -v a3f2d7145b7a_s_c_r_o_l_l_a3f2d7145b7a9a50 | grep King
the King bought a chicken for 2 coppers.
the King bought a leather bag for 4 coppers.
the King bought a chicken for 4 coppers.
the King bought a pin for 2 coppers.
the King bought a shiny rock for 2 coppers.
(2)
~/Stall
[mission 40] $ gsh check
How much does the king owe? 14

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

```
(0)
~/Stall
[mission 41] $ gsh goal

    ____________________________________________________________________________________
    ^                                                                                   \
(0)==))<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<(>==(0)
    \/''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''''/
    (                                                                                   (
     )  Mission goal                                                                    )
    (   ==========                                                                      (
     )                                                                                  )
    (   Combine several commands with ``|`` in order to find the number of unpaid items.(
     )                                                                                  )
```

```
(0)
~/Stall
[mission 41] $ grep "PAID" -R -v | wc -l
44
(1)
~/Stall
[mission 41] $ gsh check
How many unpaid items are there? 44

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

```
~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 42] $ gsh goal

 /0\/\_.. ____________________________________________________________________________________________________________.-/\/0\
(     _||                                                                                                           ||_     )
 \_/\/ ||   Mission goal                                                                                            || \/\_/
       ||   ==========                                                                                             ||
       ||                                                                                                          ||
       ||   A secret message has been found, it is kept in the drawer in Merlin's office. It was probably enciphered using a Caesar shift cipher.   ||
       ||                                                                                                          ||
       ||   Decrypt it by making an exhaustive search from the command line.                                       ||
       ||                                                                                                          ||
```

```
~/Castle
[mission 42] $ cd Main_building/Library/Merlin_s_office/Drawer/

~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 42] $ ls -la
total 20
drwxr-xr-x 2 kali kali 4096 Jul 16 19:36 ./
drwxr-xr-x 3 kali kali 4096 Jul 16 18:27 ../
-rw-r--r-- 1 kali kali  195 Jul 16 19:36 ink_and_scroll
-rw-r--r-- 1 kali kali 1459 Jul 16 18:13 inventory.txt
-rw-r--r-- 1 kali kali  161 Jul 16 19:36 secret_message
```

```
~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 42] $ tr 'k-za-jK-ZA-J' 'a-zA-Z' < secret_message > message

~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 42] $ cat message
jgtg ku oa yknn:
aqw yknn igv oa ejguv, cpf gxgtavjkpi kv eqpvckpu.
vjku ejguv ku kp vjg egnnct, cpf vjg yqtf vq ocmg
kv tg-crrgct ku: zkap
ogtnkp vjg gpejcpvgt

~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 42] $ tr 'l-za-kL-ZA-K' 'a-zA-Z' < secret_message > message

~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 42] $ cat message
ifsf jt nz xjmm:
zpv xjmm hfu nz diftu, boe fwfszuijoh ju dpoubjot.
uijt diftu jt jo uif dfmmbs, boe uif xpse up nblf
ju sf-bqqfbs jt: yjzo
nfsmjo uif fodiboufs

~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 42] $ tr 'm-za-lM-ZA-L' 'a-zA-Z' < secret_message > message

~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 42] $ cat 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: xiyn
merlin the enchanter
```

```
~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 42] $ gsh check
What's the key that will make Merlin's chest to appear?
xiyn

Congratulations, mission 42 has been successfully completed!


   \  :  /       \  :  /       \  :  /       \  :  /       \  :  /
 `. __/ \__ .' `. __/ \__ .' `. __/ \__ .' `. __/ \__ .' `. __/ \__ .'
 _ _\     /_ _ _ _\     /_ _ _ _\     /_ _ _ _\     /_ _ _ _\     /_ _
    /_   _\       /_   _\       /_   _\       /_   _\       /_   _\
  .' \ /  `.   .' \ /  `.   .' \ /  `.   .' \ /  `.   .' \ /  `.
    /  |  \       /  :  \       /  :  \       /  :  \       /  |  \
       |                                                       |
    \  |  /                                                 \  |  /
 `. __/ \__ .'                                           `. __/ \__ .'
 _ _\     /_ _                                           _ _\     /_ _
    /_   _\                                                 /_   _\
  .' \ /  `.     CONGRATULATIONS!                         .' \ /  `.
    /  |  \                                                 /  |  \
       |                                                       |
    \  |  /       You have finished all the missions.       \  |  /
 `. __/ \__ .'                                           `. __/ \__ .'
 _ _\     /_ _                                           _ _\     /_ _
    /_   _\                                                 /_   _\
  .' \ /  `.                                              .' \ /  `.
    /  |  \                                                 /  |  \
       |                                                       |
    \  |  /       \  :  /       \  :  /       \  :  /       \  |  /
 `. __/ \__ .' `. __/ \__ .' `. __/ \__ .' `. __/ \__ .' `. __/ \__ .'
 _ _\     /_ _ _ _\     /_ _ _ _\     /_ _ _ _\     /_ _ _ _\     /_ _
    /_   _\       /_   _\       /_   _\       /_   _\       /_   _\
  .' \ /  `.   .' \ /  `.   .' \ /  `.   .' \ /  `.   .' \ /  `.
    /  :  \       /  :  \       /  :  \       /  :  \       /  :  \
```

```
~/Castle/Main_building/Library/Merlin_s_office/Drawer
[mission 43] $ 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'.              |      |
|      |                                                                      |      |
|      |                                                                      |      |
 \     |______________________________________________________________________|     /
  \___/                                                                         \___/
```