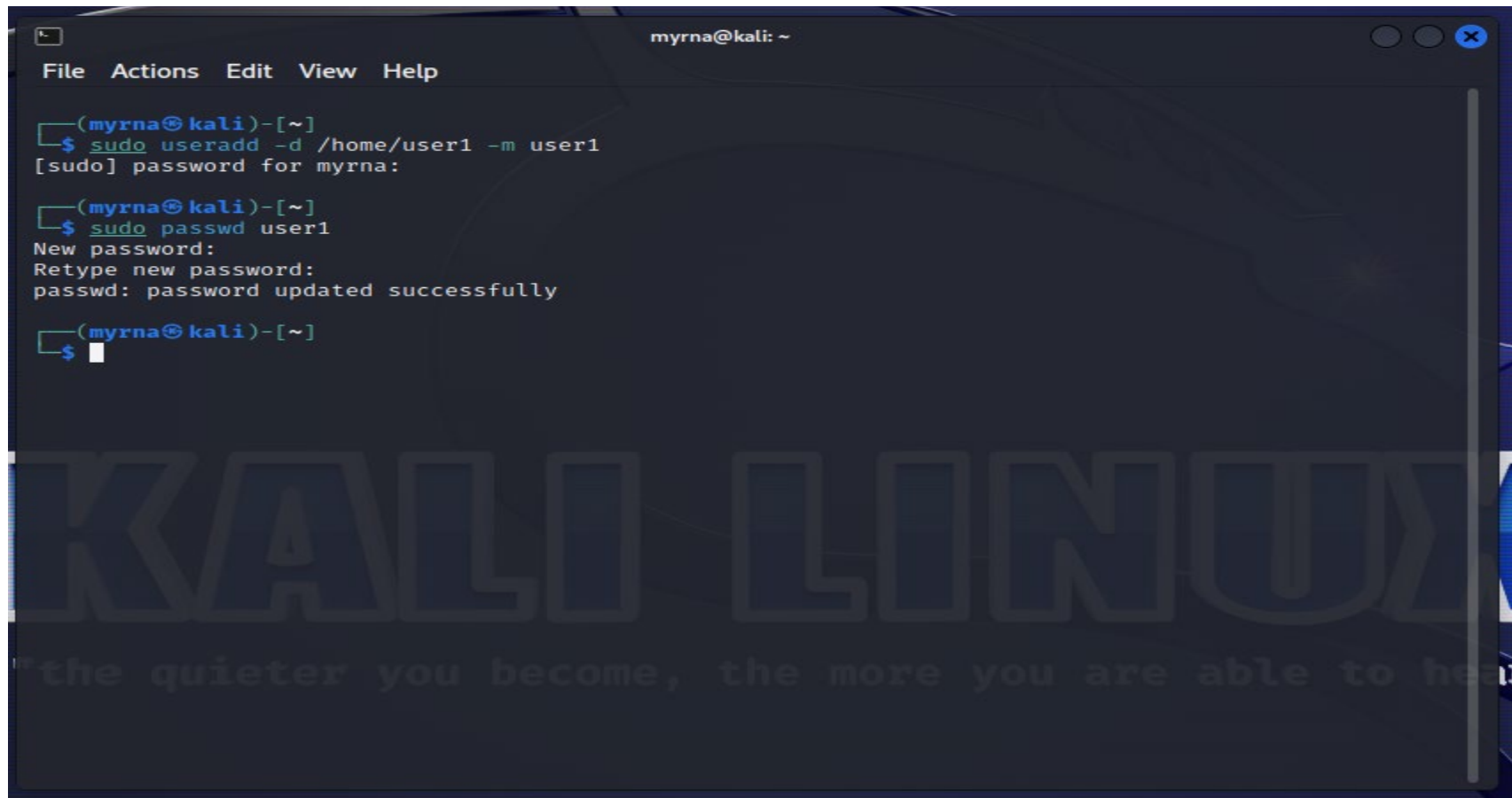


Myrna E. Santiago

10/02/2023

CYSE 270 _ 20306

Step 1.1 Using **sudo useradd -d /home/user1 -m user1**, user 1 was created. Using **sudo passwd user1**, password was set to **umbrella**.

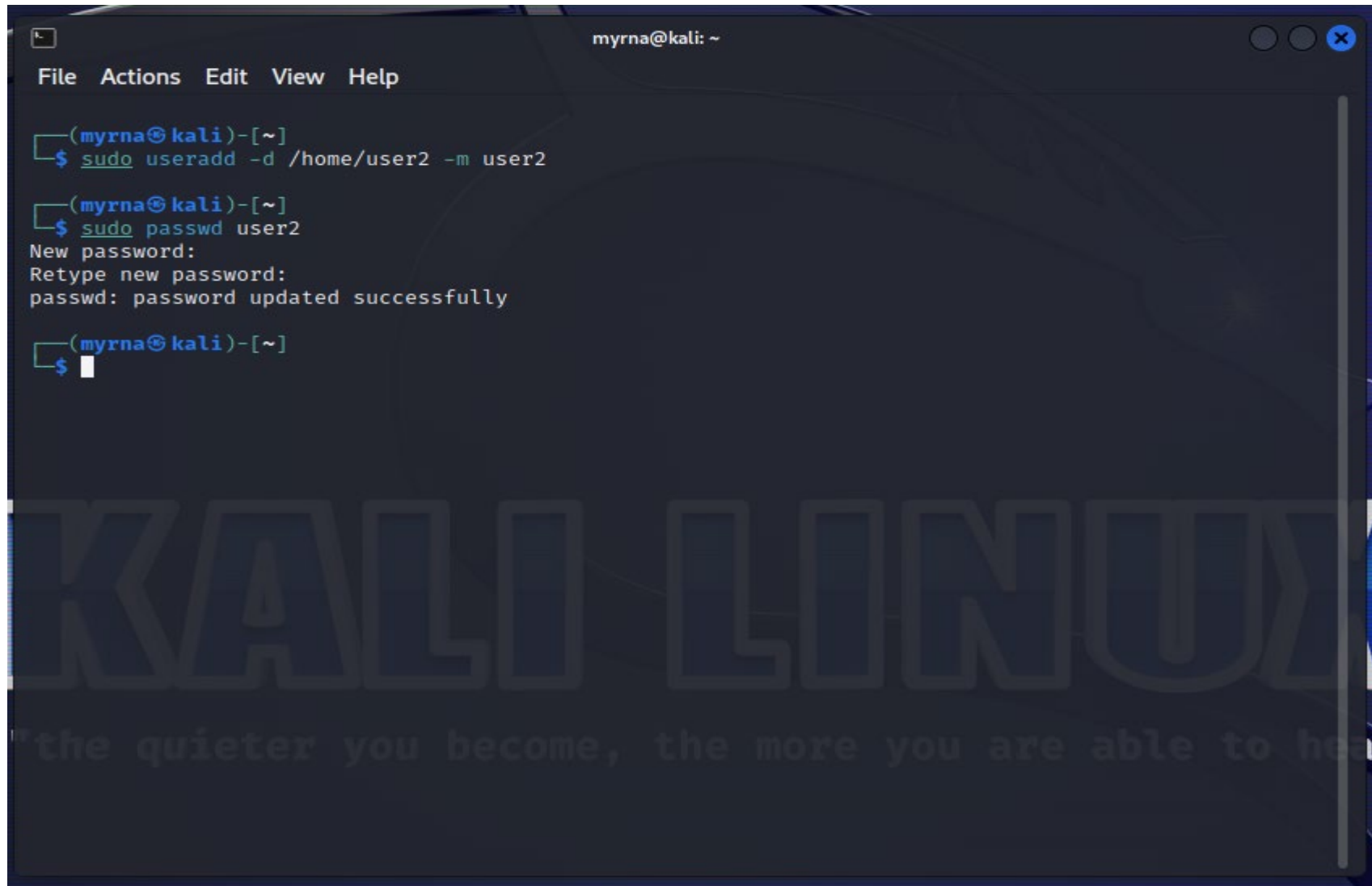


```
myrna@kali: ~  
File Actions Edit View Help  
  
[myrna@kali]~  
$ sudo useradd -d /home/user1 -m user1  
[sudo] password for myrna:  
  
[myrna@kali]~  
$ sudo passwd user1  
New password:  
Retype new password:  
passwd: password updated successfully  
  
[myrna@kali]~  
$
```

KALI LINUX

"the quieter you become, the more you are able to hear"

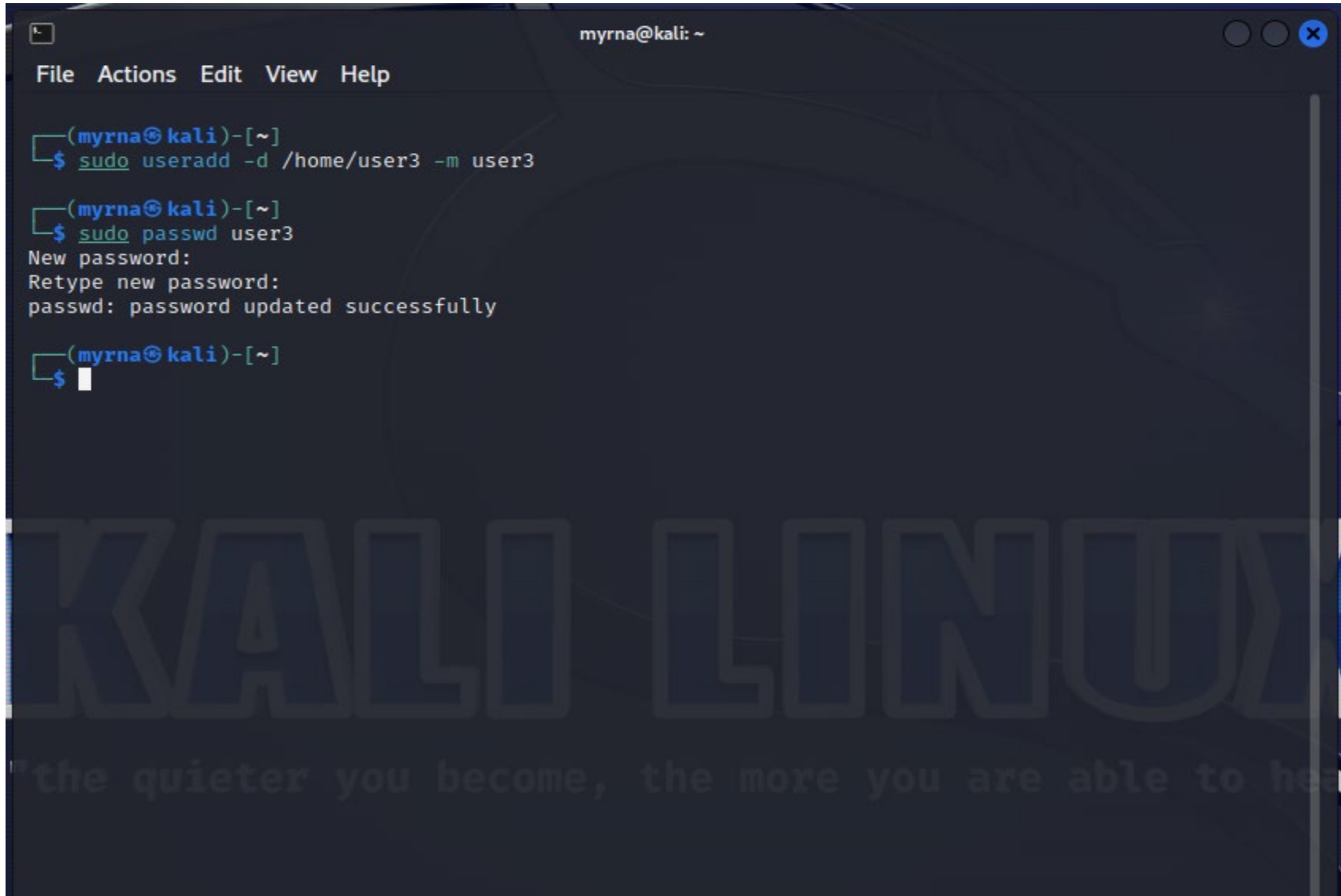
Step 1.2 Using **sudo useradd -d /home/user2 -m user2**, user 2 was created. Using **sudo passwd user2**, password was set to **4536**.



```
myrna@kali: ~  
File Actions Edit View Help  
(myrna@kali)-[~]  
$ sudo useradd -d /home/user2 -m user2  
(myrna@kali)-[~]  
$ sudo passwd user2  
New password:  
Retype new password:  
passwd: password updated successfully  
(myrna@kali)-[~]  
$
```

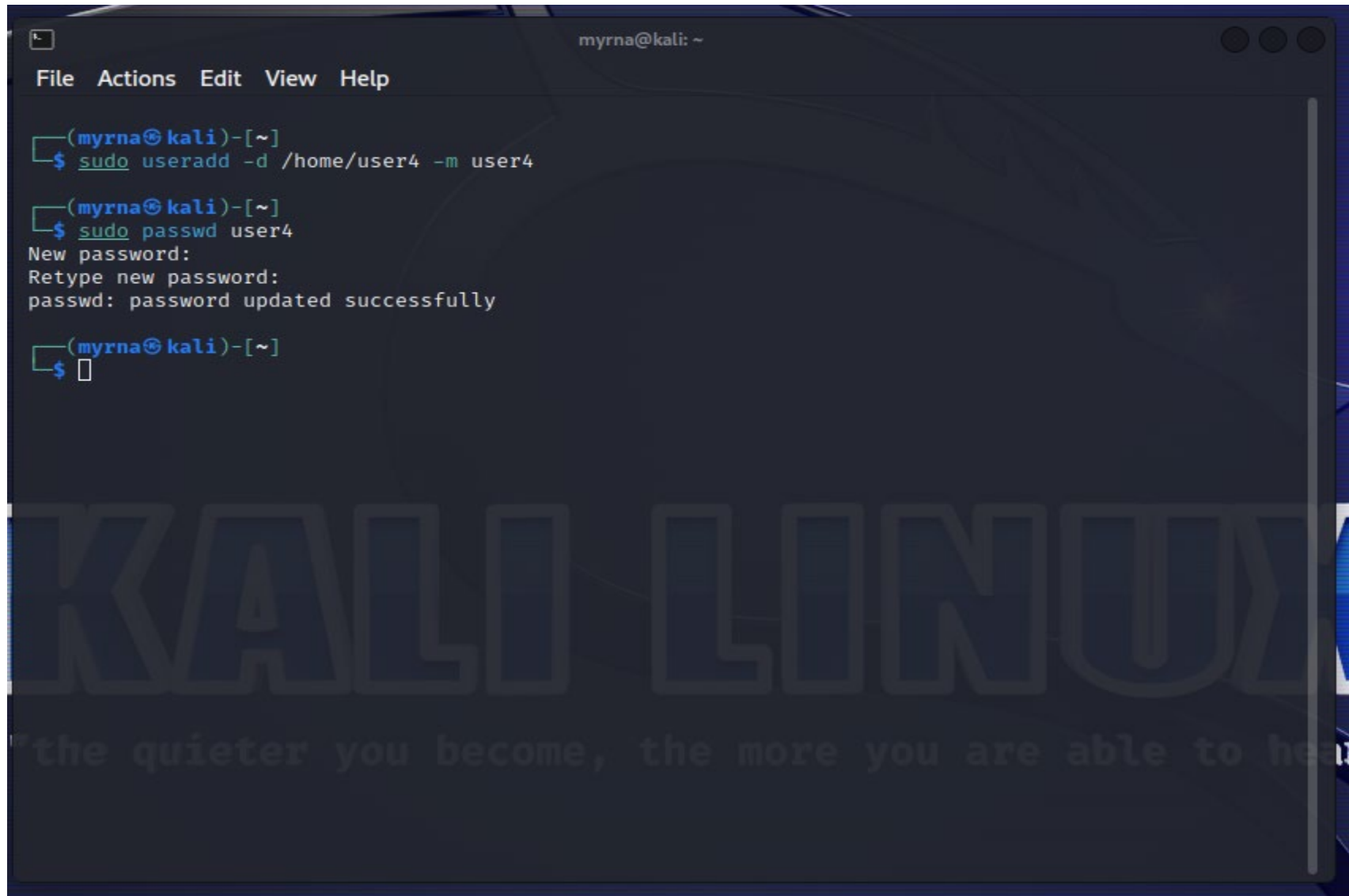
A terminal window titled "myrna@kali: ~" with a menu bar (File, Actions, Edit, View, Help). The terminal shows the execution of two commands: `sudo useradd -d /home/user2 -m user2` and `sudo passwd user2`. The password setting process prompts for a new password and its retype, followed by a success message: "passwd: password updated successfully". The prompt returns to the shell, and a cursor is visible on the next line.

Step 1.3 Using **sudo useradd -d /home/user3 -m user3**, user 3 was created. Using **sudo passwd user3**, password was set to **rainyday213**.

A terminal window titled 'myrna@kali: ~' with a menu bar (File, Actions, Edit, View, Help). The terminal shows the execution of two commands: 'sudo useradd -d /home/user3 -m user3' and 'sudo passwd user3'. The password prompt is shown twice, and the message 'passwd: password updated successfully' is displayed. The prompt '\$' is visible at the end of the third line.

```
myrna@kali: ~  
File Actions Edit View Help  
  
(myrna@kali)-[~]  
$ sudo useradd -d /home/user3 -m user3  
  
(myrna@kali)-[~]  
$ sudo passwd user3  
New password:  
Retype new password:  
passwd: password updated successfully  
  
(myrna@kali)-[~]  
$
```

Step 1.4 Using **sudo useradd -d /home/user4 -m user4**, user 4 was created. Using **sudo passwd user4**, password was set to **lightning#978!**



```
myrna@kali: ~  
File Actions Edit View Help  
(myrna@kali)-[~]  
$ sudo useradd -d /home/user4 -m user4  
(myrna@kali)-[~]  
$ sudo passwd user4  
New password:  
Retype new password:  
passwd: password updated successfully  
(myrna@kali)-[~]  
$
```

KALI LINUX

"the quieter you become, the more you are able to hear"

Step 1.5 Using **sudo useradd -d /home/user5 -m user5**, user 5 was created. Using **sudo passwd user5**, password was set to **hurricane159753**.

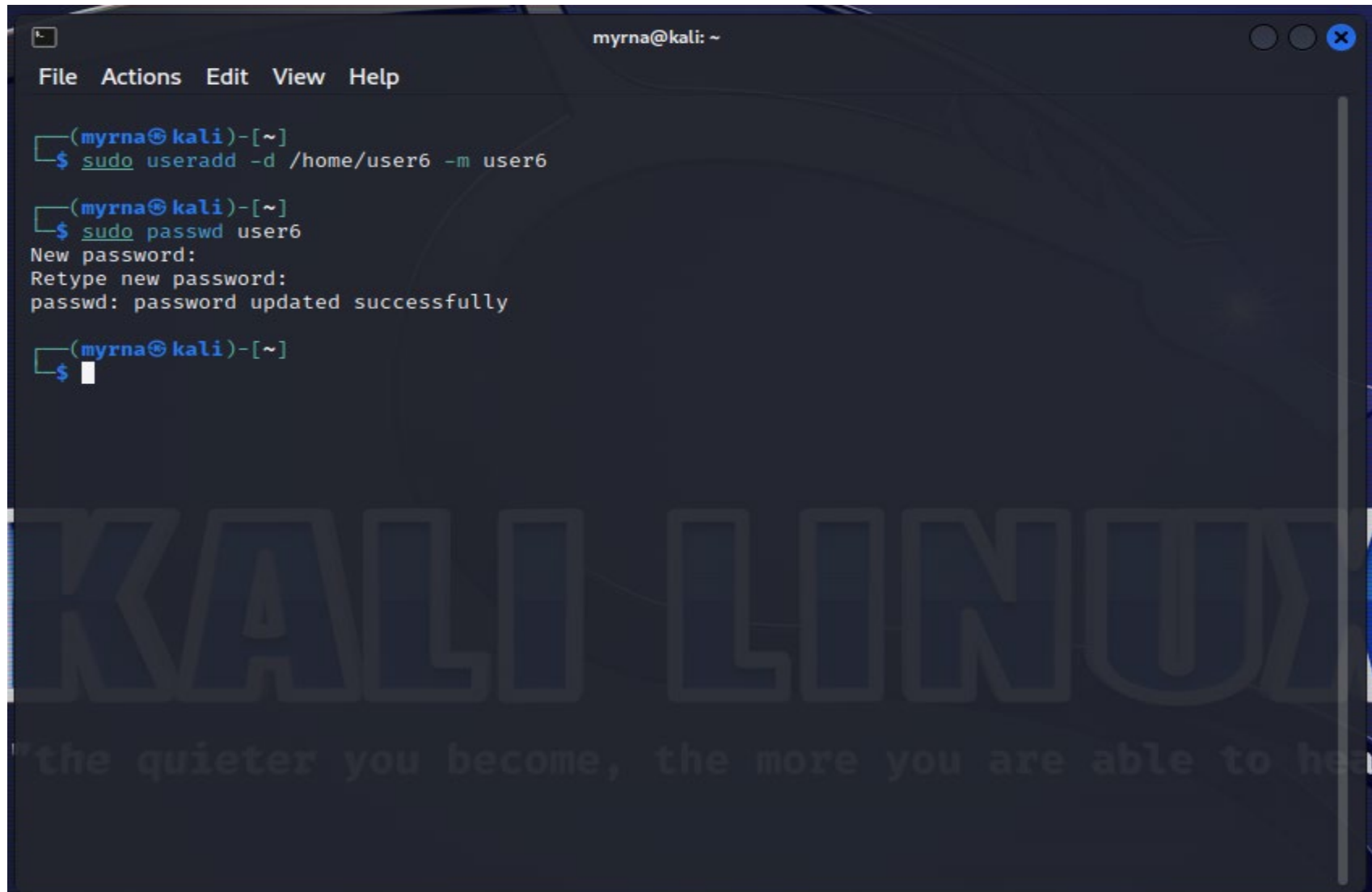


```
myrna@kali: ~  
File Actions Edit View Help  
(myrna@kali)-[~]  
$ sudo useradd -d /home/user5 -m user5  
(myrna@kali)-[~]  
$ sudo passwd user5  
New password:  
Retype new password:  
passwd: password updated successfully  
(myrna@kali)-[~]  
$
```

KALI LINUX

the quieter you become, the more you are able to hear

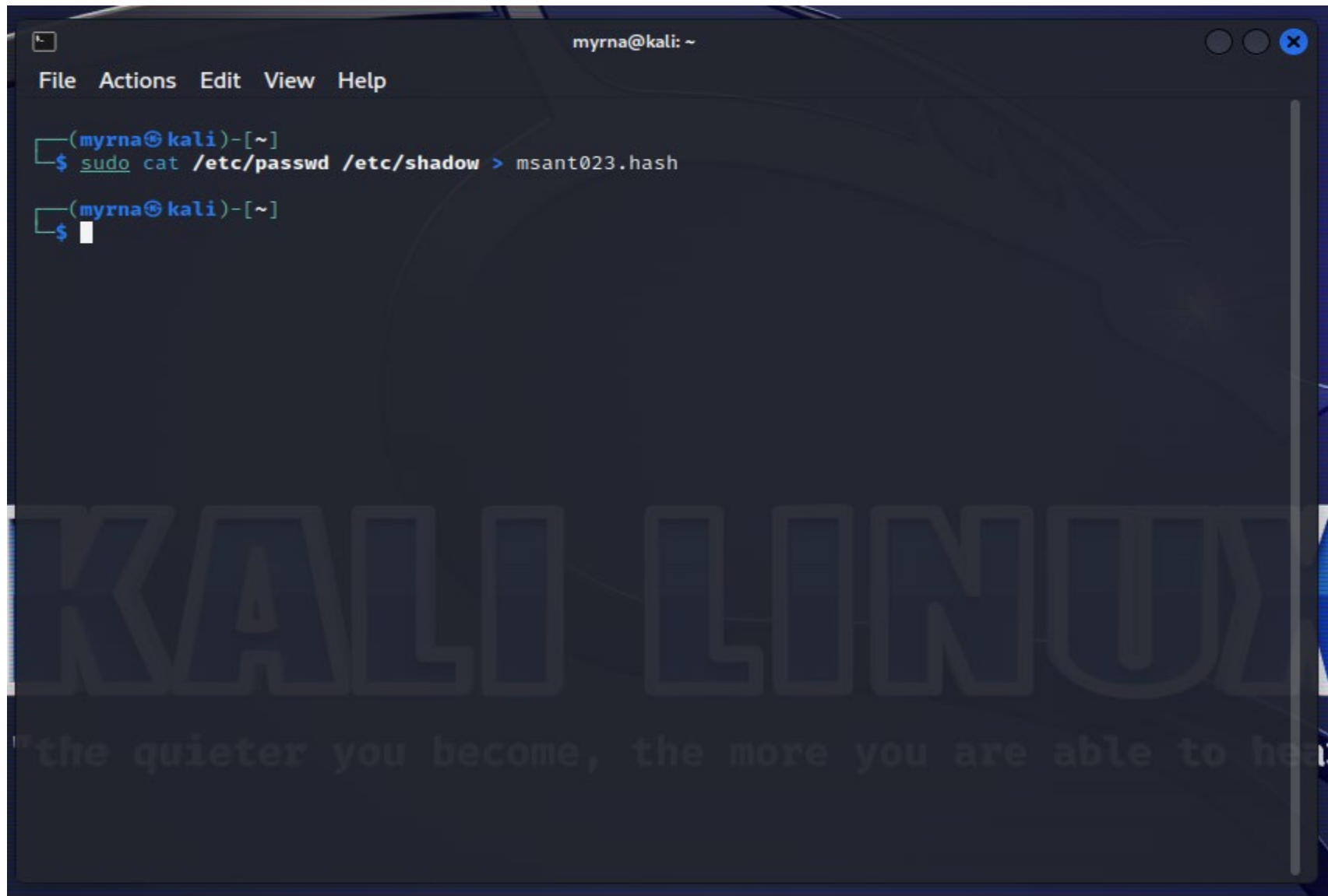
Step 1.6 Using **sudo useradd -d /home/user6 -m user6**, user 6 was created. Using **sudo passwd user6**, password was set to **Thund3r#4678!**



```
myrna@kali: ~  
File Actions Edit View Help  
  
(myrna@kali)-[~]  
$ sudo useradd -d /home/user6 -m user6  
  
(myrna@kali)-[~]  
$ sudo passwd user6  
New password:  
Retype new password:  
passwd: password updated successfully  
  
(myrna@kali)-[~]  
$
```

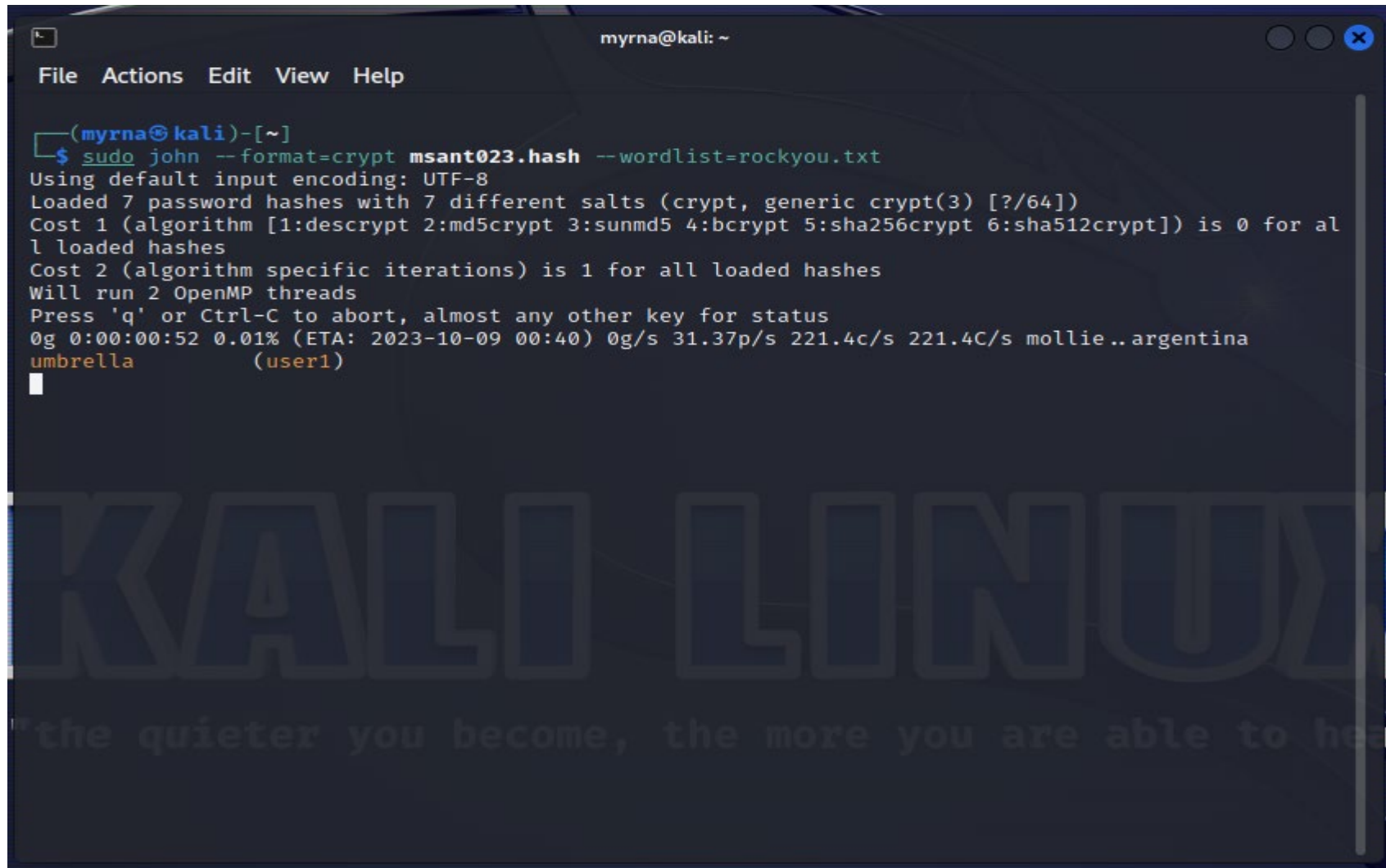
A terminal window titled "myrna@kali: ~" with a menu bar (File, Actions, Edit, View, Help). The terminal shows the execution of two commands: `sudo useradd -d /home/user6 -m user6` and `sudo passwd user6`. The password prompt shows "New password:" and "Retype new password:" followed by "passwd: password updated successfully". The prompt returns to the shell. A large "KALI LINUX" watermark is visible across the bottom half of the terminal window.

Step 2.1 Used **sudo cat /etc/passwd /etc/shadow > msant023.hash** to export hashes into msant023.hash file.

A terminal window titled 'myrna@kali: ~' with a menu bar containing 'File', 'Actions', 'Edit', 'View', and 'Help'. The terminal shows two lines of input: the first line is '(myrna@kali)-[~]' followed by '\$ sudo cat /etc/passwd /etc/shadow > msant023.hash', and the second line is '(myrna@kali)-[~]' followed by '\$' and a cursor. A large, semi-transparent 'KALI LINUX' watermark is visible across the bottom half of the terminal window.

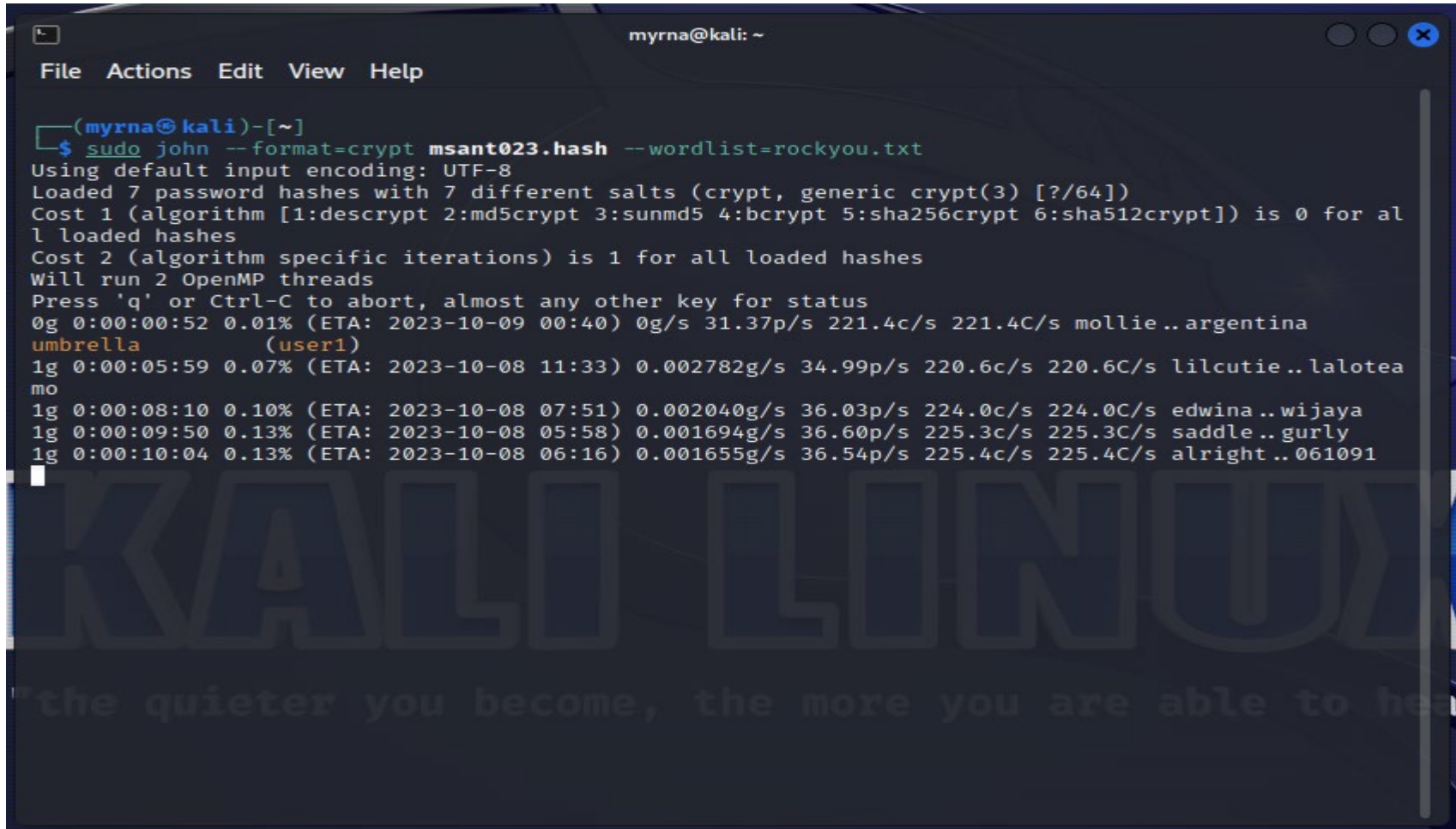
```
myrna@kali: ~  
File Actions Edit View Help  
(myrna@kali)-[~]  
$ sudo cat /etc/passwd /etc/shadow > msant023.hash  
(myrna@kali)-[~]  
$
```

Step 2.2 Used John the Ripper, `sudo john --format=crypt msant023.hash --wordlist=rockyou.txt`, to crack the passwords created in step one. After 52 seconds the first password for user 1 was displayed.

A screenshot of a Kali Linux terminal window. The window title is 'myrna@kali: ~'. The menu bar shows 'File', 'Actions', 'Edit', 'View', and 'Help'. The terminal prompt is '(myrna@kali)-[~]'. The user has entered the command '\$ sudo john --format=crypt msant023.hash --wordlist=rockyou.txt'. The output shows the program loading 7 password hashes with 7 different salts, using UTF-8 encoding. It lists the cost for various algorithms (1:descrypt, 2:md5crypt, 3:sunmd5, 4:bcrypt, 5:sha256crypt, 6:sha512crypt) as 0 for all. It also shows the cost for algorithm-specific iterations as 1. The program will run 2 OpenMP threads. The user is prompted to press 'q' or Ctrl-C to abort, or any other key for status. The progress bar shows '0g 0:00:00:52 0.01% (ETA: 2023-10-09 00:40) 0g/s 31.37p/s 221.4c/s 221.4C/s mollie..argentina'. The first password 'umbrella' is displayed for user 'user1'. A large 'KALI LINUX' watermark is visible across the bottom half of the terminal window.

```
myrna@kali: ~  
File Actions Edit View Help  
  
(myrna@kali)-[~]  
$ sudo john --format=crypt msant023.hash --wordlist=rockyou.txt  
Using default input encoding: UTF-8  
Loaded 7 password hashes with 7 different salts (crypt, generic crypt(3) [?/64])  
Cost 1 (algorithm [1:descrypt 2:md5crypt 3:sunmd5 4:bcrypt 5:sha256crypt 6:sha512crypt]) is 0 for all loaded hashes  
Cost 2 (algorithm specific iterations) is 1 for all loaded hashes  
Will run 2 OpenMP threads  
Press 'q' or Ctrl-C to abort, almost any other key for status  
0g 0:00:00:52 0.01% (ETA: 2023-10-09 00:40) 0g/s 31.37p/s 221.4c/s 221.4C/s mollie..argentina  
umbrella (user1)  
█
```


Step 3.1 After running for ten minutes, only 0.13% of the rock file was compare to the password and only password for user one was displayed.



```
myrna@kali: ~  
File Actions Edit View Help  
  
(myrna@kali)-[~]  
$ sudo john --format=crypt msant023.hash --wordlist=rockyou.txt  
Using default input encoding: UTF-8  
Loaded 7 password hashes with 7 different salts (crypt, generic crypt(3) [?/64])  
Cost 1 (algorithm [1:descrypt 2:md5crypt 3:sunmd5 4:bcrypt 5:sha256crypt 6:sha512crypt]) is 0 for all loaded hashes  
Cost 2 (algorithm specific iterations) is 1 for all loaded hashes  
Will run 2 OpenMP threads  
Press 'q' or Ctrl-C to abort, almost any other key for status  
0g 0:00:00:52 0.01% (ETA: 2023-10-09 00:40) 0g/s 31.37p/s 221.4c/s 221.4C/s mollie..argentina  
umbrella (user1)  
1g 0:00:05:59 0.07% (ETA: 2023-10-08 11:33) 0.002782g/s 34.99p/s 220.6c/s 220.6C/s lilcutie..lalotea  
mo  
1g 0:00:08:10 0.10% (ETA: 2023-10-08 07:51) 0.002040g/s 36.03p/s 224.0c/s 224.0C/s edwina..wijaya  
1g 0:00:09:50 0.13% (ETA: 2023-10-08 05:58) 0.001694g/s 36.60p/s 225.3c/s 225.3C/s saddle..gurly  
1g 0:00:10:04 0.13% (ETA: 2023-10-08 06:16) 0.001655g/s 36.54p/s 225.4c/s 225.4C/s alright..061091
```

Step 3.2 I let the program run for an hour and only one password was displayed with less than 1% of the rockyou.txt file used for comparison. Considering this if pattern continue John the Ripper will need roughly 100 hours to compare each password to the entirety of the file.

```
myrna@kali: ~  
File Actions Edit View Help  
└─$ sudo john --format=crypt msant023.hash --wordlist=rockyou.txt  
Using default input encoding: UTF-8  
Loaded 7 password hashes with 7 different salts (crypt, generic crypt(3) [?/64])  
Cost 1 (algorithm [1:descript 2:md5crypt 3:sunmd5 4:bcrypt 5:sha256crypt 6:sha512crypt]) is 0 for all loaded hashes  
Cost 2 (algorithm specific iterations) is 1 for all loaded hashes  
Will run 2 OpenMP threads  
Press 'q' or Ctrl-C to abort, almost any other key for status  
0g 0:00:00:52 0.01% (ETA: 2023-10-09 00:40) 0g/s 31.37p/s 221.4c/s 221.4C/s mollie..argentina  
umbrella (user1)  
1g 0:00:05:59 0.07% (ETA: 2023-10-08 11:33) 0.002782g/s 34.99p/s 220.6c/s 220.6C/s lilcutie..lalotemo  
1g 0:00:08:10 0.10% (ETA: 2023-10-08 07:51) 0.002040g/s 36.03p/s 224.0c/s 224.0C/s edwina..wijaya  
1g 0:00:09:50 0.13% (ETA: 2023-10-08 05:58) 0.001694g/s 36.60p/s 225.3c/s 225.3C/s saddle..gurly  
1g 0:00:10:04 0.13% (ETA: 2023-10-08 06:16) 0.001655g/s 36.54p/s 225.4c/s 225.4C/s alright..061091  
1g 0:00:10:54 0.13% (ETA: 2023-10-08 10:07) 0.001528g/s 35.51p/s 218.9c/s 218.9C/s sadsad..jamest  
1g 0:00:10:55 0.14% (ETA: 2023-10-08 09:44) 0.001526g/s 35.60p/s 218.7c/s 218.7C/s jake1..babe13  
1g 0:00:12:50 0.16% (ETA: 2023-10-08 10:12) 0.001298g/s 35.53p/s 218.1c/s 218.1C/s iloveme4..buddy11  
1g 0:00:19:33 0.25% (ETA: 2023-10-08 07:34) 0.000851g/s 36.30p/s 220.8c/s 220.8C/s torque..robert10  
1g 0:00:25:13 0.32% (ETA: 2023-10-08 07:20) 0.000660g/s 36.35p/s 220.5c/s 220.5C/s midge..likatu  
1g 0:00:28:53 0.37% (ETA: 2023-10-08 06:12) 0.000576g/s 36.61p/s 221.7c/s 221.7C/s seroparecer..popp  
y7  
1g 0:00:31:05 0.40% (ETA: 2023-10-08 05:33) 0.000536g/s 36.74p/s 222.3c/s 222.3C/s ferdi..daredevil1  
1g 0:00:37:24 0.48% (ETA: 2023-10-08 05:21) 0.000445g/s 36.70p/s 221.7c/s 221.7C/s dekdek..compas  
1g 0:00:39:36 0.51% (ETA: 2023-10-08 04:58) 0.000420g/s 36.80p/s 222.2c/s 222.2C/s twenty6..tendai  
1g 0:00:43:14 0.56% (ETA: 2023-10-08 05:09) 0.000385g/s 36.70p/s 221.5c/s 221.5C/s theused!..sumita  
1g 0:00:50:03 0.65% (ETA: 2023-10-08 04:09) 0.000332g/s 36.92p/s 222.6c/s 222.6C/s mamiku..luanna  
1g 0:00:53:09 0.69% (ETA: 2023-10-08 03:50) 0.000313g/s 36.96p/s 222.8c/s 222.8C/s freeport1..fareas  
t  
1g 0:01:02:09 0.81% (ETA: 2023-10-08 03:28) 0.000268g/s 36.98p/s 222.9c/s 222.9C/s norilyn..nellnell  
1g 0:01:02:17 0.81% (ETA: 2023-10-08 03:33) 0.000267g/s 36.96p/s 222.7c/s 222.7C/s mulyadi..molly19  
Use the "--show" option to display all of the cracked passwords reliably  
Session aborted
```

Extra credit:

Step 1.1 Using **sudo vi md5hash.txt**, a new file was created.



```
myrna@kali: ~  
File Actions Edit View Help  
(myrna@kali)-[~]  
$ sudo vi md5hash.txt  
(myrna@kali)-[~]  
$
```

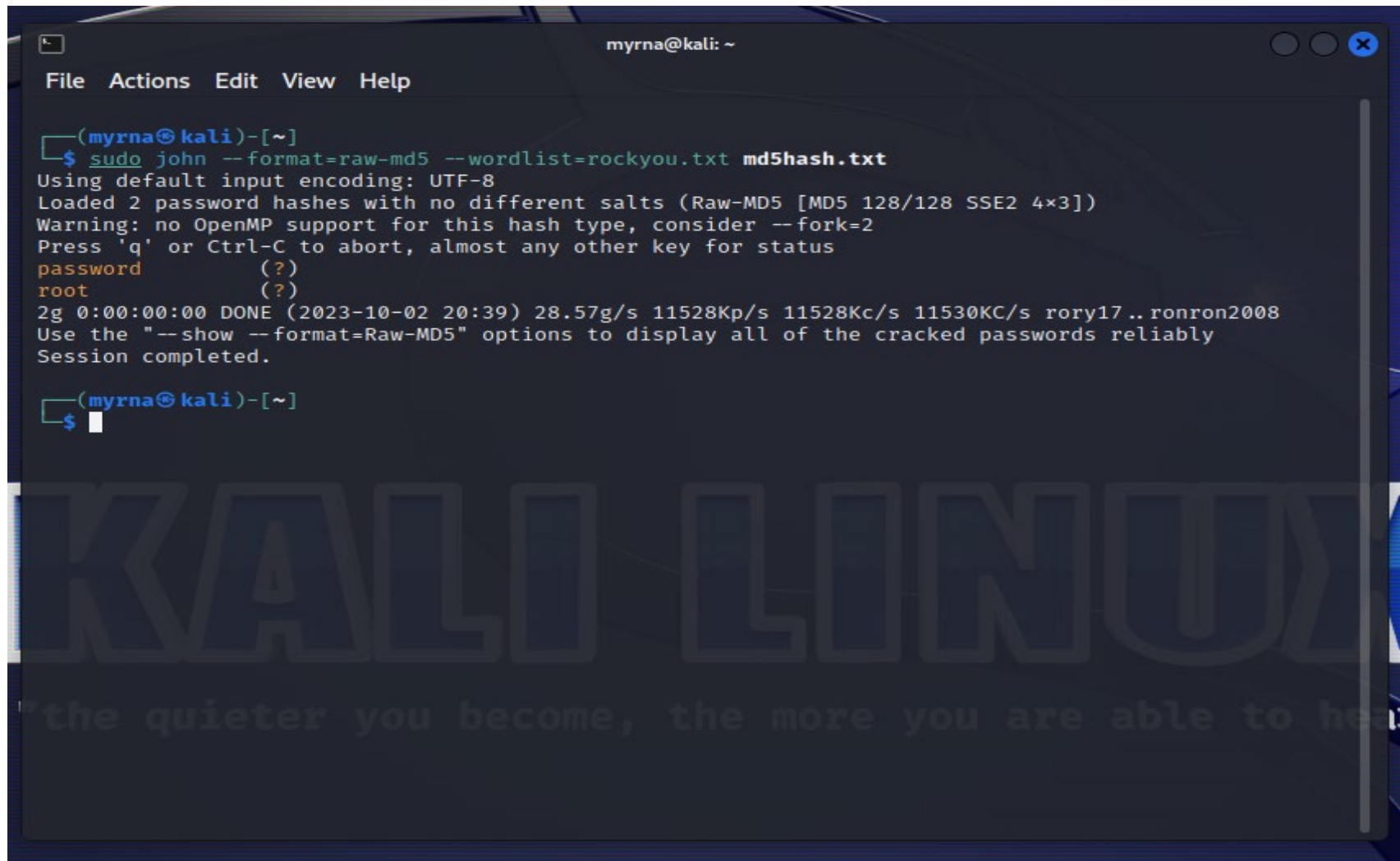
The image shows a terminal window with a dark background. At the top, the window title is "myrna@kali: ~". Below the title bar is a menu bar with "File", "Actions", "Edit", "View", and "Help". The terminal output shows the user "myrna" at the "kali" prompt in the home directory "[~]". The user enters the command "sudo vi md5hash.txt". The prompt changes to "(myrna@kali)-[~]" and a new prompt "\$" appears, indicating the command has been executed. A large, semi-transparent "KALI LINUX" watermark is visible across the bottom half of the terminal window.

Step 1.2 Using pressing i on vi command I wrote the two hash values given and press :w and :q to save and exit file.



```
myrna@kali: ~  
File Actions Edit View Help  
5f4dcc3b5aa765d61d8327deb882cf99  
63a9f0ea7bb98050796b649e85481845  
KALI LINUX  
the quieter you become, the more you are able to hear  
"md5hash.txt" 3L, 67B 3,0-1 All
```

Step 1.3 Using **sudo john --format=raw-md5 --wordlist=rockyou.txt md5hash.txt**, the 2 hash values produced **password** and **root** as the results



```
myrna@kali: ~  
File Actions Edit View Help  
  
(myrna@kali)-[~]  
$ sudo john --format=raw-md5 --wordlist=rockyou.txt md5hash.txt  
Using default input encoding: UTF-8  
Loaded 2 password hashes with no different salts (Raw-MD5 [MD5 128/128 SSE2 4x3])  
Warning: no OpenMP support for this hash type, consider --fork=2  
Press 'q' or Ctrl-C to abort, almost any other key for status  
password      (?)  
root           (?)  
2g 0:00:00:00 DONE (2023-10-02 20:39) 28.57g/s 11528Kp/s 11528Kc/s 11530KC/s rory17..ronron2008  
Use the "--show --format=Raw-MD5" options to display all of the cracked passwords reliably  
Session completed.  
  
(myrna@kali)-[~]  
$
```

KALI LINUX

the quieter you become, the more you are able to hear