



2023

Pod_1-Lollipop Maker:

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Task: The North Pole 🍭 Lollipop Maker:

All the lollipops on this system have been stolen by munchkins. Capture munchkins by following instructions here and 🍭's will appear in the green bar below. Run the command "hintme" to receive a hint.

Prompt 1: Perform a directory listing of your home directory to find a munchkin and retrieve a lollipop!

Command: ls

Explanation: The "ls" command lists all of the folders and files that are inside the folder you are currently in

```
li.f8d6cb143e43aa:~$ ls
HELP munchkin_19315479765589239 workshop
li.f8d6cb143e43aa:~$
```

[munchkin wrangler] > lollipops [🍭🍭🍭]

Prompt 2: Find the munchkin inside the munchkin

Command: cat munchkin_19315479765589239

Explanation: the cat program opens a file and shows what is written inside of it.

```
ai f@d6cb143e43aa:~$ ls
HELP  munchkin_19315479765589239  workshop
ai f@d6cb143e43aa:~$ cat munchkin_19315479765589239
munchkin_24187022596776786
ai f@d6cb143e43aa:~$
```

Prompt 3: remove the munchkins

Command: `rm -rf munchkin_19315479765589239`

Explanation: the `rm` function deletes the file `munchkin_19315479765589239` and the `-f` command forces it to delete the `-r` removes using recursion.

```
ai f@d6cb143e43aa:~$ ls
HELP  munchkin_19315479765589239  workshop
ai f@d6cb143e43aa:~$ cat munchkin_19315479765589239
munchkin_24187022596776786
ai f@d6cb143e43aa:~$ rm -rf munchkin_19315479765589239
ai f@d6cb143e43aa:~$ ls
HELP  workshop
ai f@d6cb143e43aa:~$
```

Prompt 4: Print the present working directory using a command.

Command: `pwd`

Explanation: Show current directory file path using the `pwd` command.

```
[Munchkin Wrangler]> Lollipops [🍭🍭🍭🍭🍭🍭🍭🍭🍭🍭🍭🍭]
```

Explanation: like in prompt 1 the ls command shows the folders and files in your current directory. When you add -a it allows you to see hidden files which are usually those that start with a .

```

elf@d6cb143e43aa:~$ ls
HELP  munchkin 19315479765589239  workshop
elf@d6cb143e43aa:~$ cat munchkin_19315479765589239
munchkin_24187022556776786
elf@d6cb143e43aa:~$ rm -rf munchkin_19315479765589239
elf@d6cb143e43aa:~$ ls
HELP  workshop
elf@d6cb143e43aa:~$ pwd
/home/elf
elf@d6cb143e43aa:~$ ls -a
.  .bash_history  .bash_logout  .bashrc  .munchkin_5074624024543078  .profile  HELP  workshop
elf@d6cb143e43aa:~$

```

Explanation: show recent command history. This history command lets you review commands used in the past on the computer.

```
elf@d6cb143e43aa:~$ ls
HELP  munchkin_19315479765589239  workshop
elf@d6cb143e43aa:~$ cat munchkin_19315479765589239
munchkin_24187822596776786
elf@d6cb143e43aa:~$ rm -rf munchkin_19315479765589239
elf@d6cb143e43aa:~$ ls
HELP  workshop
elf@d6cb143e43aa:~$ pwd
/home/elf
elf@d6cb143e43aa:~$ ls -a
.  .. .bash_history .bash_logout .bashrc .munchkin_5074624024543078 .profile HELP  workshop
elf@munchkin_9394554126440791
1  ls
2  ls
3  cat munchkin_19315479765589239
4  rm -rf munchkin_19315479765589239
5  ls
6  pwd
7  ls -a
8  history
elf@d6cb143e43aa:~$
```


Prompt 7: Find the munchkin in your environment variables.

Command: env

Explanation: when the env command is ran it lists all of the settings and information used for tasks. The command gives you access to all of the the data in these settings and information. Looking for references to munchkins hidden within.

```
35:*.*nuv=01;35:*.*wmv=01;35:*.*asf=01;35:*.*rm=01;35:*.*rmvb=01;35:*.*flc=01;35:*.*avi=01;35:*.*fli=01;35:*.*flv=01;35:*.*gl=01;35:*.*dl=01;35:*.*xcf=01;35:*.*xwd=01;35:*.*yuv=01;35:*.*cgm=01;35:*.*e
mf=01;35:*.*ogv=01;35:*.*ogx=01;35:*.*aac=00;36:*.*au=00;36:*.*flac=00;36:*.*m4a=00;36:*.*mid=00;36:*.*midi=00;36:*.*mka=00;36:*.*mp3=00;36:*.*mpc=00;36:*.*ogg=00;36:*.*ra=00;36:*.*wav=00;36:*.*oga=0
0;36:*.*opus=00;36:*.*spx=00;36:*.*xspf=00;36:
TOKENS=
LESSCLOSE=/usr/bin/lesspipe %s %s
LANG=C.UTF-8
HOSTNAME=d6cb143e43aa
GREENSTATUSPREFIX=Lolliops
USER=elf
HHCUSERNAME=bsr0015
PWD=/home/elf
AREA=courtyard
HOME=/home/elf
TMUX=/tmp/tmux-1050/default,17,0
BPUSER=elf
z_MUNCHKIN=munchkin_20249649541603754
LOCATION=15,12
RESOURCE_ID=efd90ebf-9855-40cb-99b2-5b40c79fb670
MAIL=/var/mail/elf
SHELL=/bin/bash
TERM=screen
TMOUT=3600
TMUX_PANE=%2
SHLV=4
BPUSERHOME=/home/elf
SESSIONNAME=Munchkin Wrangler
LOGNAME=elf
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/env
elf@d6cb143e43aa:~$
[munchkin wrangler] Lolliops [
```

Prompt 8:Next, head into the workshop.

Command: cd workshop

Explanation: change direcectory into the workshop directory

```
mf=01;35:*.*ogv=01;35:*.*ogx=01;35:*.*aac=00;36:*.*au=00;36:*.*flac=00;36:*.*m4a=00;36:*.*mid=00;36:*.*midi=00;36:*.*mka=00;36:*.*mp3=00;36:*.*mpc=00;36:*.*ogg=00;36:*.*ra=00;36:*.*wav=00;36:*.*oga=0
0;36:*.*opus=00;36:*.*spx=00;36:*.*xspf=00;36:
TOKENS=
LESSCLOSE=/usr/bin/lesspipe %s %s
LANG=C.UTF-8
HOSTNAME=d6cb143e43aa
GREENSTATUSPREFIX=Lolliops
USER=elf
HHCUSERNAME=bsr0015
PWD=/home/elf
AREA=courtyard
HOME=/home/elf
TMUX=/tmp/tmux-1050/default,17,0
BPUSER=elf
z_MUNCHKIN=munchkin_20249649541603754
LOCATION=15,12
RESOURCE_ID=efd90ebf-9855-40cb-99b2-5b40c79fb670
MAIL=/var/mail/elf
SHELL=/bin/bash
TERM=screen
TMOUT=3600
TMUX_PANE=%2
SHLV=4
BPUSERHOME=/home/elf
SESSIONNAME=Munchkin Wrangler
LOGNAME=elf
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/env
elf@d6cb143e43aa:~$ cd workshop
elf@d6cb143e43aa:~/workshop$
[munchkin wrangler] Lolliops [
```

Prompt 9: A munchkin is hiding in one of the workshop toolboxes. Use "grep" while ignoring case to find which toolbox the munchkin is in.

Command: `grep -ri munchkin`

Explanation: the grep command is a powerful search tool that hunts for words or phrases inside a file. The -r stands for recursive which means not just the current directory but it can also look through sub directories. -i stand for ignore case

```
TOKENS=
LESSCLOSE=/usr/bin/lesspipe %s %s
LANG=C.UTF-8
HOSTNAME=d6cb143e43aa
GREENSTATUSPREFIX=Lollipop
USER=elf
HHUSER=bbsr0015
PWD=/home/elf
AREA=courtyard
HOME=/home/elf
TMUX=/tmp/tmux-1050/default,17,0
BPUSER=elf
Z_MUNCHKIN=munchkin_20249649541603754
LOCATION=15,12
RESOURCE_ID=efd90ebf-9055-40cb-99b2-5b40c79fb670
MAIL=/var/mail/elf
SHELL=/bin/bash
TERM=screen
TMOUT=3600
TMUX_PANE=%2
SHLV=4
BPUSERHOME=/home/elf
SESSIONNAME=Munchkin Wrangler
LOGNAME=elf
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/env
elf@d6cb143e43aa:~$ cd workshop
elf@d6cb143e43aa:~/workshop$ grep -ri munchkin
toolbox_191.txt:munChKin.4056180441832623
elf@d6cb143e43aa:~/workshop$
```

Prompt 10: A munchkin is blocking the lollipop_engine from starting. Run the lollipop_engine binary to retrieve this munchkin.

Command: `chmod +x lollipop_engine, ./lollipop_engine`

Explanation: the first command changes the permissions of lollipop engine to make it executable. The second command runs the lollipop_engine program

```
HOSTNAME=d6cb143e43aa
GREENSTATUSPREFIX=Lollipop
USER=elf
HHUSER=bbsr0015
PWD=/home/elf
AREA=courtyard
HOME=/home/elf
TMUX=/tmp/tmux-1050/default,17,0
BPUSER=elf
Z_MUNCHKIN=munchkin_20249649541603754
LOCATION=15,12
RESOURCE_ID=efd90ebf-9055-40cb-99b2-5b40c79fb670
MAIL=/var/mail/elf
SHELL=/bin/bash
TERM=screen
TMOUT=3600
TMUX_PANE=%2
SHLV=4
BPUSERHOME=/home/elf
SESSIONNAME=Munchkin Wrangler
LOGNAME=elf
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/env
elf@d6cb143e43aa:~$ cd workshop
elf@d6cb143e43aa:~/workshop$ grep -ri munchkin
toolbox_191.txt:munChKin.4056180441832623
elf@d6cb143e43aa:~/workshop$ chmod +x lollipop_engine
elf@d6cb143e43aa:~/workshop$ ./lollipop_engine
munchkin.898906189498077
elf@d6cb143e43aa:~/workshop$
```


Prompt 11: Munchkins have blown the fuses in /home/elf/workshop/electrical. cd into electrical and rename blown_fuse0 to fuse0.

Command: cd electrical, mv blown_fuse0 fuse0

Explanation: the first command enters the electrical directory. The second command uses the move command to rename the file as fuse0

```
HOME=/home/elf
TMUX=/tmp/tmux-1050/default,17,0
BPUSER=elf
Z_MUNCHKIN=munchkin_20249649541603754
LOCATION=15,12
RESOURCE_ID=6b07cfa6-6653-44e5-b161-15967e843974
MAIL=/var/mail/elf
SHELL=/bin/bash
TERM=screen
TMOU=3600
TMUX_PANE=%2
SHLVL=4
BPUSERHOME=/home/elf
SESSIONNAME=Munchkin Wrangler
LOGNAME=elf
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/env
elf@a7c77e8fd275:~$ cd workshop
elf@a7c77e8fd275:~/workshop$ grep -ir munchkin
toolbox 191.txt:munchkin.4056180441832623
elf@a7c77e8fd275:~/workshop$ chmod +x lollipop_engine
elf@a7c77e8fd275:~/workshop$ ./lollipop_engine
munchkin.898906189498077
elf@a7c77e8fd275:~/workshop$ cd electrical
elf@a7c77e8fd275:~/workshop/electrical$ ls
blown_fuse0
elf@a7c77e8fd275:~/workshop/electrical$ mv blown_fuse0 fuse0
elf@a7c77e8fd275:~/workshop/electrical$ ls
fuse0
elf@a7c77e8fd275:~/workshop/electrical$
[munchkin wrangler] lollipops [ ]
```

Prompt 12: Now, make a symbolic link (symlink) named fuse1 that points to fuse0

Command: ln -s fuse0 fuse1

Explanation: Uses the ln command with the -s or symbolic option to create a shortcut between fuse0 and fuse 1 so that when you goto fuse1 it accesses fuse0

```
Z_MUNCHKIN=munchkin_20249649541603754
LOCATION=15,12
RESOURCE_ID=6b07cfa6-6653-44e5-b161-15967e843974
MAIL=/var/mail/elf
SHELL=/bin/bash
TERM=screen
TMOU=3600
TMUX_PANE=%2
SHLVL=4
BPUSERHOME=/home/elf
SESSIONNAME=Munchkin Wrangler
LOGNAME=elf
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/env
elf@a7c77e8fd275:~$ cd workshop
elf@a7c77e8fd275:~/workshop$ grep -ir munchkin
toolbox 191.txt:munchkin.4056180441832623
elf@a7c77e8fd275:~/workshop$ chmod +x lollipop_engine
elf@a7c77e8fd275:~/workshop$ ./lollipop_engine
munchkin.898906189498077
elf@a7c77e8fd275:~/workshop$ cd electrical
elf@a7c77e8fd275:~/workshop/electrical$ ls
blown_fuse0
elf@a7c77e8fd275:~/workshop/electrical$ mv blown_fuse0 fuse0
elf@a7c77e8fd275:~/workshop/electrical$ ls
fuse0
elf@a7c77e8fd275:~/workshop/electrical$ ln -s fuse0 fuse1
elf@a7c77e8fd275:~/workshop/electrical$ ls
fuse0 fuse1
elf@a7c77e8fd275:~/workshop/electrical$
[munchkin wrangler] lollipops [ ]
```

Prompt 13: Make a copy of fuse1 named fuse2.

Command: cp fuse1 fuse2

Explanation: creates a copy of fuse1 called fuse2

```
MAIL=/var/mail/elf
SHELL=/bin/bash
TERM=screen
TIOCOUT=3600
TIOUX_PANE=X2
SHLVL=4
BPUSERHOME=/home/elf
SESSIONNAME=Munchkin Wrangler
LOGNAME=elf
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/env
elf@a7c77e8fd275:~$ cd workshop
elf@a7c77e8fd275:~/workshop$ grep -ir munchkin
toolbox_191.txt:munchkin.4056180441832623
elf@a7c77e8fd275:~/workshop$ chmod +x lollipop_engine
elf@a7c77e8fd275:~/workshop$ ./lollipop_engine
munchkin.898906189498077
elf@a7c77e8fd275:~/workshop$ cd electrical
elf@a7c77e8fd275:~/workshop/electrical$ ls
blown_fuse0
elf@a7c77e8fd275:~/workshop/electrical$ mv blown_fuse0 fuse0
elf@a7c77e8fd275:~/workshop/electrical$ ls
fuse0
elf@a7c77e8fd275:~/workshop/electrical$ ln -s fuse0 fuse1
elf@a7c77e8fd275:~/workshop/electrical$ ls
fuse0  fuse1
elf@a7c77e8fd275:~/workshop/electrical$ cp fuse1 fuse2
elf@a7c77e8fd275:~/workshop/electrical$ ls
fuse0  fuse1  fuse2
elf@a7c77e8fd275:~/workshop/electrical$
[munchkin Wrangler] lollipops
```

Prompt 14: We need to make sure munchkins don't come back. Add the characters "MUNCHKIN_REPELLENT" into the file fuse2.

Command: echo MUNCHKIN_REPELLENT > fuse2

Explanation: the echo command is used to print text to a terminal or a file. This way using the pointer is overwrites the text in fuse2 to be MUNCHKIN_REPELLENT

```
LOGNAME=elf
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/env
elf@a298fd59ffd:~$ cd workshop
elf@a298fd59ffd:~/workshop$ grep -ri munchkin
toolbox_191.txt:munchkin.4056180441832623
elf@a298fd59ffd:~/workshop$ chmod +x lollipop_engine
elf@a298fd59ffd:~/workshop$ ./lollipop_engine
munchkin.898906189498077
elf@a298fd59ffd:~/workshop$ cd electrical
elf@a298fd59ffd:~/workshop/electrical$ ls
blown_fuse0
elf@a298fd59ffd:~/workshop/electrical$ mv blown_fuse0 fuse0
elf@a298fd59ffd:~/workshop/electrical$ ls
fuse0
elf@a298fd59ffd:~/workshop/electrical$ ln -s fuse0 fuse1
elf@a298fd59ffd:~/workshop/electrical$ ls
fuse0  fuse1
elf@a298fd59ffd:~/workshop/electrical$ cp fuse1 fuse2
elf@a298fd59ffd:~/workshop/electrical$ ls
fuse0  fuse1  fuse2
elf@a298fd59ffd:~/workshop/electrical$ cat fuse2
@QAV/-A$PT:H
:IRF7"q
r50HMEYI[56lay0a S5_N_!e4[S)57Kb<PNQFau@4s/dhqi=lf@a298fd59ffd:~/workshop/electrical$ echo 'MUNCHKIN_REPELLENT' >> fuse2
elf@a298fd59ffd:~/workshop/electrical$ cat fuse2
@QAV/-A$PT:H
:IRF7"q
r50HMEYI[56lay0a S5_N_!e4[S)57Kb<PNQFau@4s/dhqiMUNCHKIN_REPELLENT
elf@a298fd59ffd:~/workshop/electrical$
[munchkin Wrangler] lollipops
```

Prompt 15: Find the munchkin somewhere in /opt/munchkin_den.

Command: find /opt/munchkin_den -iname *munchkin* -type f

Explanation: the find command searches within directories. The -iname searches a non case sensitive search for names -type f searches to find files only

```
TMUX=/tmp/tmux-1050/default,18,0
BPUSER=elf
z_MUNCHKIN=munchkin_20249649541603754
LOCATION=15,12
RESOURCE_ID=5e5a9d54-a46c-428f-872e-28a9f7eec619
MAIL=/var/mail/elf
SHELL=/bin/bash
TERM=screen
TMOUT=3600
TMUX_PANE=%2
SHLVL=4
BPUSERHOME=/home/elf
SESSIONNAME=Munchkin Wrangler
LOGNAME=elf
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/env
elf@f1a044513c34:~$ cd workshop
elf@f1a044513c34:~/workshop$ grep -ri munchkin
toolbox_191.txt:mUnChKin.4056180441832623
elf@f1a044513c34:~/workshop$ chmod +x lollipop_engine
elf@f1a044513c34:~/workshop$ ./lollipop_engine
munchkin.898906189498077
elf@f1a044513c34:~/workshop$ cd electrical
elf@f1a044513c34:~/workshop/electrical$ mv blown fuse0 fuse0
elf@f1a044513c34:~/workshop/electrical$ ln -s fuse0 fuse1
elf@f1a044513c34:~/workshop/electrical$ cp fuse1 fuse2
elf@f1a044513c34:~/workshop/electrical$ echo 'MUNCHKIN REPELLENT' >> fuse2
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -iname *munchkin* -type f
/opt/munchkin_den/apps/showcase/src/main/resources/mUnChKin.6253159819943018
elf@f1a044513c34:~/workshop/electrical$
```

Prompt 16: Find the file somewhere in /opt/munchkin_den that is owned by the user munchk

Command: find /opt/munchkin_den -user munchkin

Explanation: the command used in prompt 15 but searches for any files belonging to the user munchkin using -user

```
z_MUNCHKIN=munchkin_20249649541603754
LOCATION=15,12
RESOURCE_ID=5e5a9d54-a46c-428f-872e-28a9f7eec619
MAIL=/var/mail/elf
SHELL=/bin/bash
TERM=screen
TMOUT=3600
TMUX_PANE=%2
SHLVL=4
BPUSERHOME=/home/elf
SESSIONNAME=Munchkin Wrangler
LOGNAME=elf
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/env
elf@f1a044513c34:~$ cd workshop
elf@f1a044513c34:~/workshop$ grep -ri munchkin
toolbox_191.txt:mUnChKin.4056180441832623
elf@f1a044513c34:~/workshop$ chmod +x lollipop_engine
elf@f1a044513c34:~/workshop$ ./lollipop_engine
munchkin.898906189498077
elf@f1a044513c34:~/workshop$ cd electrical
elf@f1a044513c34:~/workshop/electrical$ mv blown fuse0 fuse0
elf@f1a044513c34:~/workshop/electrical$ ln -s fuse0 fuse1
elf@f1a044513c34:~/workshop/electrical$ cp fuse1 fuse2
elf@f1a044513c34:~/workshop/electrical$ echo 'MUNCHKIN REPELLENT' >> fuse2
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -iname *munchkin* -type f
/opt/munchkin_den/apps/showcase/src/main/resources/mUnChKin.6253159819943018
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -user munchkin
/opt/munchkin_den/apps/showcase/src/main/resources/template/ajaxErrorContainers/nikhCnUm_9528909612014411
elf@f1a044513c34:~/workshop/electrical$
```

Prompt 17: Find the file created by munchkins that is greater than 108 kilobytes and less than 110 kilobytes located somewhere in /opt/munchkin_den.

Command: `find /opt/munchkin_den/ -size +108k -size -110k`

Explanation: using the find command search in /opt/munchkin_den/ directory for files larger than 108k and smaller than -110k bytes

```
RESOURCE ID=5e5a9d54-a46c-428f-872e-28a9f7ec619
MATL=/var/mail/elf
SHELL=/bin/bash
TERM=screen
TMOUT=3600
TMUX_PANE=%2
SHLVL=4
BPUSERHOME=/home/elf
SESSIONNAME=Munchkin Wrangler
LOGNAME=elf
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/env
elf@f1a044513c34:~$ cd workshop
elf@f1a044513c34:~/workshop$ grep -ri munchkin
toolbox_191.txt:munchkin.4056180441832623
elf@f1a044513c34:~/workshop$ chmod +x lolliop_engine
elf@f1a044513c34:~/workshop$ ./lolliop_engine
munchkin.898906189498077
elf@f1a044513c34:~/workshop$ cd electrical
elf@f1a044513c34:~/workshop/electrical$ mv blown fuse0 fuse0
elf@f1a044513c34:~/workshop/electrical$ ln -s fuse0 fuse1
elf@f1a044513c34:~/workshop/electrical$ cp fuse1 fuse2
elf@f1a044513c34:~/workshop/electrical$ echo 'MUNCHKIN REPELLENT' >> fuse2
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -iname "munchkin" -type f
/opt/munchkin_den/apps/showcase/src/main/resources/munchkin.6253159819943018
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -user munchkin
/opt/munchkin_den/apps/showcase/src/main/resources/template/ajaxErrorContainers/nikhCnUm_9528909612014411
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -size +108k -size -110k
/opt/munchkin_den/plugins/portlet-mocks/src/test/java/org/apache/m_u_n_c_h_k_i_n_2579728047101724
elf@f1a044513c34:~/workshop/electrical$
[munchkin wrangler@] lolliops [
```

Prompt 18: List running processes to find another munchkin.

Command: `ps -e`

Explanations: the ps command shows all the processes or task currently running on a computer. The -e shows all processes not just ones for current user

```
TMUX_PANE=%2
SHLVL=4
BPUSERHOME=/home/elf
SESSIONNAME=Munchkin Wrangler
LOGNAME=elf
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin
LESSOPEN=| /usr/bin/lesspipe %s
_=/usr/bin/env
elf@f1a044513c34:~$ cd workshop
elf@f1a044513c34:~/workshop$ grep -ri munchkin
toolbox_191.txt:munchkin.4056180441832623
elf@f1a044513c34:~/workshop$ chmod +x lolliop_engine
elf@f1a044513c34:~/workshop$ ./lolliop_engine
munchkin.898906189498077
elf@f1a044513c34:~/workshop$ cd electrical
elf@f1a044513c34:~/workshop/electrical$ mv blown fuse0 fuse0
elf@f1a044513c34:~/workshop/electrical$ ln -s fuse0 fuse1
elf@f1a044513c34:~/workshop/electrical$ cp fuse1 fuse2
elf@f1a044513c34:~/workshop/electrical$ echo 'MUNCHKIN REPELLENT' >> fuse2
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -iname "munchkin" -type f
/opt/munchkin_den/apps/showcase/src/main/resources/munchkin.6253159819943018
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -user munchkin
/opt/munchkin_den/apps/showcase/src/main/resources/template/ajaxErrorContainers/nikhCnUm_9528909612014411
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -size +108k -size -110k
/opt/munchkin_den/plugins/portlet-mocks/src/test/java/org/apache/m_u_n_c_h_k_i_n_2579728047101724
elf@f1a044513c34:~/workshop/electrical$ ps -e
  PID TTY          TIME CMD
    1 pts/0    00:00:00 tmuxp
  9890 pts/2    00:00:00 14516 munchkin
 10574 pts/3    00:00:00 ps
elf@f1a044513c34:~/workshop/electrical$
[munchkin wrangler@] lolliops [
```

Prompt 19: The 14516_munchkin process is listening on a tcp port. Use a command to have the only listening port display to the screen.

Command: netstat -l

Explanations: the netstat command is a tool that inspects network related information. The -l option specifically shows a list of listening ports

```
_=usr/bin/env
elf@f1a044513c34:~/$ cd workshop
elf@f1a044513c34:~/workshop$ grep -ri munchkin
toolbox_191.txt:munchkin.4056180441832623
elf@f1a044513c34:~/workshop$ chmod +x lolliop_engine
elf@f1a044513c34:~/workshop$ ./lolliop_engine
munchkin.898906189498077
elf@f1a044513c34:~/workshop$ cd electrical
elf@f1a044513c34:~/workshop/electrical$ mv blown fuse0 fuse0
elf@f1a044513c34:~/workshop/electrical$ ln -s fuse0 fuse1
elf@f1a044513c34:~/workshop/electrical$ cp fuse1 fuse2
elf@f1a044513c34:~/workshop/electrical$ echo 'MUNCHKIN REPELLENT' >> fuse2
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -iname "munchkin" -type f
/opt/munchkin_den/apps/showcase/src/main/resources/munchkin.6253159819943018
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -user munchkin
/opt/munchkin_den/apps/showcase/src/main/resources/template/ajaxErrorContainers/nikhCnUm_9528909612014411
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -size +108k -size -110k
/opt/munchkin_den/plugins/portlet-mocks/src/test/java/org/apache/m_u_n_c_h_k_i_n_2579728047101724
elf@f1a044513c34:~/workshop/electrical$ ps -e
PID TTY          TIME CMD
1 pts/0      00:00:00 tmuxp
9890 pts/2      00:00:00 14516_munchkin
10574 pts/3      00:00:00 ps
elf@f1a044513c34:~/workshop/electrical$ netstat -l
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 0.0.0.0:54321           0.0.0.0:*               LISTEN
Active UNIX domain sockets (only servers)
Proto RefCnt Flags       Type       State       I-Node     Path
unix 2      [ ACC ]     STREAM    LISTENING   1690025453 /tmp/tmux-1050/default
elf@f1a044513c34:~/workshop/electrical$
[munchkin @wargier] lolliopops [ ]
```

Prompt 20: The service listening on port 54321 is an HTTP server. Interact with this server to retrieve the last munchkin.

Command: curl http://localhost:54321

Explanations: the curl command used to transfer data to or from a server. This makes a request to listen to the server at localhost on port 54321

```
elf@f1a044513c34:~/$ cd workshop
elf@f1a044513c34:~/workshop$ grep -ri munchkin
toolbox_191.txt:munchkin.4056180441832623
elf@f1a044513c34:~/workshop$ chmod +x lolliop_engine
elf@f1a044513c34:~/workshop$ ./lolliop_engine
munchkin.898906189498077
elf@f1a044513c34:~/workshop$ cd electrical
elf@f1a044513c34:~/workshop/electrical$ mv blown fuse0 fuse0
elf@f1a044513c34:~/workshop/electrical$ ln -s fuse0 fuse1
elf@f1a044513c34:~/workshop/electrical$ cp fuse1 fuse2
elf@f1a044513c34:~/workshop/electrical$ echo 'MUNCHKIN REPELLENT' >> fuse2
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -iname "munchkin" -type f
/opt/munchkin_den/apps/showcase/src/main/resources/munchkin.6253159819943018
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -user munchkin
/opt/munchkin_den/apps/showcase/src/main/resources/template/ajaxErrorContainers/nikhCnUm_9528909612014411
elf@f1a044513c34:~/workshop/electrical$ find /opt/munchkin_den -size +108k -size -110k
/opt/munchkin_den/plugins/portlet-mocks/src/test/java/org/apache/m_u_n_c_h_k_i_n_2579728047101724
elf@f1a044513c34:~/workshop/electrical$ ps -e
PID TTY          TIME CMD
1 pts/0      00:00:00 tmuxp
9890 pts/2      00:00:00 14516_munchkin
10574 pts/3      00:00:00 ps
elf@f1a044513c34:~/workshop/electrical$ netstat -l
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 0.0.0.0:54321           0.0.0.0:*               LISTEN
Active UNIX domain sockets (only servers)
Proto RefCnt Flags       Type       State       I-Node     Path
unix 2      [ ACC ]     STREAM    LISTENING   1690025453 /tmp/tmux-1050/default
elf@f1a044513c34:~/workshop/electrical$ curl http://localhost:54321
munchkin.73180338045875
elf@f1a044513c34:~/workshop/electrical$
[munchkin @wargier] lolliopops [ ]
```

Explanations:the ps aux command is used to list all processes running. Then the kill command is used with the-9 command to forcefully terminate the process ID 6316 for 14516_munchkin processes

```

elf@aesaeedd13a0:~/workshop$ cd electrical
elf@aesaeedd13a0:~/workshop/electrical$ mv blown fuse0 fuse0
elf@aesaeedd13a0:~/workshop/electrical$ ln -s fuse0 fuse1
elf@aesaeedd13a0:~/workshop/electrical$ cp fuse1 fuse2
elf@aesaeedd13a0:~/workshop/electrical$ echo 'MUNCHKIN REPELLENT' >> fuse2
elf@aesaeedd13a0:~/workshop/electrical$ find /opt/munchkin_den -iname "munchkin" -type f
/opt/munchkin_den/apps/showcase/src/main/resources/munchkin.6253159819943018
elf@aesaeedd13a0:~/workshop/electrical$ find /opt/munchkin_den -user munchkin
/opt/munchkin_den/apps/showcase/src/main/resources/template/ajaxErrorContainers/nikhChNm_9528909612014411
elf@aesaeedd13a0:~/workshop/electrical$ find /opt/munchkin_den -size +108k -size -110k
/opt/munchkin_den/plugins/portlet-mocks/src/test/java/org/apache/m_u_n_c_h_k_i_n_2579728047101724
elf@aesaeedd13a0:~/workshop/electrical$ ps -e

  PID TTY          TIME CMD
    1 pts/0    00:00:00 tmuxp
  6316 pts/2    00:00:00 14516 _munchkin
  6532 pts/3    00:00:00 ps
elf@aesaeedd13a0:~/workshop/electrical$ netstat -l
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State
tcp        0      0 0.0.0.0:54321           0.0.0.0:*               LISTEN
Active UNIX domain sockets (only servers)
Proto RefCnt Flags   Type       State       I-Node   Path
unix 2    [ ACC ] STREAM LISTENING  1691359281 /tmp/tmux-1050/default
elf@aesaeedd13a0:~/workshop/electrical$ curl http://localhost:54321
munchkin.73180338045875elf@aesaeedd13a0:~/workshop/electrical$ ps aux
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
init       1  0.1  0.2  65320 20928 pts/0    Ss+  17:36   0:00 /usr/bin/python3 /usr/local/bin/tmuxp load -m/yesmine.yaml
elf       6316  0.6  0.3 160448 26280 pts/2    S+   17:40   0:00 /usr/bin/python3 /14516 munchkin
elf       7810  0.0  0.0  36180  3228 pts/3    R+   17:41   0:00 ps aux
elf@aesaeedd13a0:~/workshop/electrical$ kill -9 6316
elf@aesaeedd13a0:~/workshop/electrical$ !
munchkin >wangle> lolliops

```