Network Engineering 2019 Exercises - Unit 1

1 Basic POSIX file permissions

Write a shell-script called `unit1-solution1.sh` that creates **directories** inside a directory called `unit1exercise1` with the following properties, and then creates a **compressed tar file** called `unit1-solution1.tgz`

1. `angekaesung`, mode `--x-w----`
2. `enklettkeit`, mode `rwx----wx`
3. `verwarfer`, mode `---r---w-`
4. `ausgeraucht`, mode `r--r--r-x`
5. `aussinns`, mode `rw-rw-r--`
6. `ansetzs`, mode `-w-rwx-w-`
7. `aufgeklettst`, mode `--xr--r--`
8. `betraute`, mode `rw--w--w-`
9. `verwarfer/aufgekrauen`, mode `-wx--x---`
10. `ansetzs/verhundheit`, mode `rw-rwxrwx`
11. `enklettkeit/besitzte`, mode `rw--wxrw-`
12. `aussinns/angetritts`, mode `---rw-rwx`
13. `verwarfer/zerwitzen`, mode `rw--w--wx`
14. `ansetzs/verhundheit/angehundung`, mode `r-xr-xr--`
15. `verwarfer/aufgekrauen/angerauchtest`, mode `--x--xr-x`
16. `verwarfer/zerwitzen/angekrauen`, mode `----w-r--`
17. `verwarfer/zerwitzen/enrauchtest`, mode `rwxrw-r--`
18. `ansetzs/verhundheit/aushundheit`, mode `-w---xrwx`
19. `ansetzs/verhundheit/zersitzer`, mode `rw-r--rw-`
20. `enklettkeit/besitzte/zerrauchung`, mode `r-xrw-r-x`

Your work will be **automatically marked** by comparing the contents of the compressed tar file against a template. Therefore it is important that you have every detail correct.

This exercise can be be completed using the `cd`, `mkdir`, `chown`, `chmod` and `sudo` shell commands, although you can use other shell commands if you wish.

An unsophisticated script to complete this would be 2391 bytes long, while a compact script would be no larger than 967.

Grading for this exercise for you is according to the following guide:

Requirement	Percentage
Correctness of solution	60%
Compactness of solution	40%

The compactness scores are according to the following table:

Length of script	Percentage
2392 bytes or more	0%
1680 – 2391 bytes	5%
968 – 1679 bytes	15%
822 – 967 bytes	25%
less than 822 bytes	40%

To test your solution, use a command like:

```
sudo tar zcf unit1-solution1.tgz unit1exercise1
./unit1-exercise-1-grade.sh unit1-solution1.sh
```

To submit your solution (which you can do as many times as you like), use a command like:

```
sudo tar zcf unit1-solution1.tgz unit1exercise1
git add unit1-solution1.sh unit1-solution1.tgz
git commit unit1-solution1.sh unit1-solution1.tgz
git push origin master
```

2 User and groups

Write a shell-script called `unit1-solution2.sh` that creates **directories** inside a directory called `unit1exercise2` with the following properties, and then creates a **compressed tar file** called `unit1-solution2.tgz`

1. `aufsitzt`, mode `r-x------`, owner `nobody`, group `fax`
2. `aussinnung`, mode `rw-rw-rw-`, owner `nobody`, group `floppy`
3. `aufpflumkeit`, mode `---rw-rwx`, owner `student`, group `voice`
4. `besetzt`, mode `-wx--xr-x`, owner `uucp`, group `uucp`
5. `auffahrer`, mode `--xrw-rw-`, owner `news`, group `audio`
6. `ausgekaesen`, mode `--x--xrw-`, owner `games`, group `fax`

7. `anhalttest`, mode `-w---x-w-`, owner `games`, group `voice`
8. `aufgehunds`, mode `rw--w--w-`, owner `news`, group `proxy`
9. `aufgehunds/gehaltung`, mode `-w-rwx---`, owner `nobody`, group `dip`
10. `aufsitzt/enwitzt`, mode `rw-rwx-w-`, owner `games`, group `voice`
11. `aufsitzt/enkaesst`, mode `-wxr--rwx`, owner `proxy`, group `mail`
12. `anhalttest/versitzse`, mode `-wx-wx--x`, owner `uucp`, group `proxy`
13. `aufgehunds/angegehheit`, mode `---r-----`, owner `proxy`, group `tape`
14. `anhalttest/versitzse/ansprachen`, mode `r--r-x--x`, owner `nobody`, group `dip`
15. `aufgehunds/angegehheit/angeklettte`, mode `rw--wx-w-`, owner `games`, group `proxy`
16. `aufsitzt/enkaesst/aufhaltse`, mode `---r-xr--`, owner `news`, group `audio`
17. `aufgehunds/gehaltung/ansitzheit`, mode `-wxrwxr-x`, owner `lp`, group `dip`
18. `aufgehunds/angegehheit/angehaltte`, mode `r-xrw-r--`, owner `games`, group `uucp`
19. `aufgehunds/gehaltung/verrabarben`, mode `-wxrwxr--`, owner `student`, group `student`
20. `anhalttest/versitzse/ausgetraukeit`, mode `---rwx--x`, owner `lp`, group `audio`

Your work will be **automatically marked** by comparing the contents of the compressed tar file against a template. Therefore it is important that you have every detail correct.

This exercise can be be completed using the `cd`, `mkdir`, `chown`, `chmod` and `sudo` shell commands, although you can use other shell commands if you wish.

An unsophisticated script to complete this would be 2296 bytes long, while a compact script would be no larger than 1186.

Grading for this exercise for you is according to the following guide:

Requirement	Percentage
Correctness of solution	60%
Compactness of solution	40%

The compactness scores are according to the following table:

Length of script	Percentage
2297 bytes or more	0%
1742 – 2296 bytes	5%
1187 – 1741 bytes	15%
1009 – 1186 bytes	25%
less than 1009 bytes	40%

To test your solution, use a command like:

```
sudo tar zcf unit1-solution2.tgz unit1exercise2
./unit1-exercise-2-grade.sh unit1-solution2.sh
```

To submit your solution (which you can do as many times as you like), use a command like:

```
sudo tar zcf unit1-solution2.tgz unit1exercise2
git add unit1-solution2.sh unit1-solution2.tgz
git commit unit1-solution2.sh unit1-solution2.tgz
git push origin master
```

3 Set-user and Set-group ID

Write a shell-script called `unit1-solution3.sh` that creates **directories** inside a directory called `unit1exercise3` with the following properties, and then creates a **compressed tar file** called `unit1-solution3.tgz`

1. `gekraut`, mode `rw-r-xr--`, owner `nobody`, group `news`
2. `auskatzekeit`, mode `------r--`, owner `news`, group `proxy`, `setuid`
3. `aufgegeher`, mode `rwxr--r--`, owner `uucp`, group `floppy`
4. `einpflumtest`, mode `r--r-xr-x`, owner `news`, group `mail`
5. `ankaesheit`, mode `r-xrwx---`, owner `proxy`, group `proxy`
6. `einsitzung`, mode `-wx--x---`, owner `uucp`, group `proxy`, `setuid`
7. `ankaest`, mode `r-x-w----`, owner `games`, group `student`
8. `aufwarfer`, mode `-----x-w-`, owner `lp`, group `audio`
9. `aufgegeher/angestehen`, mode `-wx---r--`, owner `lp`, group `voice`, `setuid`
10. `ankaest/enstehte`, mode `rw-r-x-wx`, owner `proxy`, group `uucp`, `setuid`
11. `einpflumtest/gesetzung`, mode `rwx-wxr--`, owner `nobody`, group `proxy`
12. `gekraut/ausgewarfer`, mode `rwxr----x`, owner `student`, group `tape`
13. `gekraut/belaufkeit`, mode `-wx-w--w-`, owner `news`, group `cdrom`

14. `aufgegeher/angestehen/aufgekrause`, mode `r-----r-x`, owner `lp`, group `floppy`, `setuid`

15. `gekraut/belaufkeit/angesinnse`, mode `rwx-w--wx`, owner `lp`, group `fax`

16. `gekraut/belaufkeit/ausklettkeit`, mode `-wxrwxr-x`, owner `games`, group `uucp`, `setuid`

17. `gekraut/belaufkeit/aufgerenner`, mode `r-xrwxr--`, owner `student`, group `cdrom`

18. `ankaest/enstehte/anhunden`, mode `--x----wx`, owner `uucp`, group `student`, `setuid`

19. `einpflumtest/gesetzung/einsinnung`, mode `---r-x-wx`, owner `student`, group `proxy`, `setuid`

20. `einpflumtest/gesetzung/aufwitzs`, mode `rwx-----x`, owner `games`, group `proxy`, `setuid`

Your work will be **automatically marked** by comparing the contents of the compressed tar file against a template. Therefore it is important that you have every detail correct.

This exercise can be be completed using the `cd`, `mkdir`, `chown`, `chmod` and `sudo` shell commands, although you can use other shell commands if you wish.

An unsophisticated script to complete this would be 2284 bytes long, while a compact script would be no larger than 1241.

Grading for this exercise for you is according to the following guide:

Requirement	Percentage
Correctness of solution	60%
Compactness of solution	40%

The compactness scores are according to the following table:

Length of script	Percentage
2285 bytes or more	0%
1763 – 2284 bytes	5%
1242 – 1762 bytes	15%
1055 – 1241 bytes	25%
less than 1055 bytes	40%

To test your solution, use a command like:

```
sudo tar zcf unit1-solution3.tgz unit1exercise3
./unit1-exercise-3-grade.sh unit1-solution3.sh
```

To submit your solution (which you can do as many times as you like), use a command like:

```
sudo tar zcf unit1-solution3.tgz unit1exercise3
git add unit1-solution3.sh unit1-solution3.tgz
git commit unit1-solution3.sh unit1-solution3.tgz
git push origin master
```

4 Set-group ID Directories

Write a shell-script called `unit1-solution4.sh` that creates **directories** inside a directory called `unit1exercise4` with the following properties, and then creates a **compressed tar file** called `unit1-solution4.tgz`

1. `ausgesitzung`, mode `----wx-wx`, group `audio`
2. `ausgestehtest`, mode `--xr-xr-x`, group `fax`, `setgid`
3. `getrittt`, mode `--x-wxr--`, group `uucp`
4. `verrennt`, mode `-wxrwxr--`, group `dip`
5. `enkatzetest`, mode `r-x---r--`, group `fax`, `setgid`
6. `einklettung`, mode `rw-r-x-w-`, group `uucp`, `setgid`
7. `zerraucht`, mode `rw-rwx--x`, group `cdrom`, `setgid`
8. `ausgekraukeit`, mode `rwxr----x`, group `proxy`, `setgid`
9. `ausgestehtest/angehalttete`, mode `rw---xr-x`, group `cdrom`, `setgid`
10. `verrennt/verrauchst`, mode `-wxr-xrw-`, group `floppy`, `setgid`
11. `enkatzetest/gekrause`, mode `---r-xrwx`, group `proxy`
12. `einklettung/enlauftete`, mode `-wxrwx-w-`, group `cdrom`, `setgid`
13. `einklettung/angewitztete`, mode `rwx-w----`, group `mail`, `setgid`
14. `einklettung/enlauftete/enpflumst`, mode `-w-r-----`, group `student`
15. `verrennt/verrauchst/angekaeser`, mode `r----x-wx`, group `student`
16. `verrennt/verrauchst/versinnung`, mode `r-----rwx`, group `cdrom`
17. `verrennt/verrauchst/angetrause`, mode `rw--w-rwx`, group `floppy`, `setgid`
18. `einklettung/angewitztete/zerrauchkeit`, mode `-wxr-xrw-`, group `proxy`
19. `ausgestehtest/angehalttete/enraucht`, mode `-w-r-xr-x`, group `fax`, `setgid`

20. `einklettung/angewitztete/anschmeckse`, mode `-wx--xrw-`, group `voice`, `setgid`

Your work will be **automatically marked** by comparing the contents of the compressed tar file against a template. Therefore it is important that you have every detail correct.

This exercise can be be completed using the `cd`, `mkdir`, `chown`, `chmod` and `sudo` shell commands, although you can use other shell commands if you wish.

An unsophisticated script to complete this would be 2455 bytes long, while a compact script would be no larger than 1133.

Grading for this exercise for you is according to the following guide:

Requirement	Percentage
Correctness of solution	60%
Compactness of solution	40%

The compactness scores are according to the following table:

Length of script	Percentage
2456 bytes or more	0%
1795 – 2455 bytes	5%
1134 – 1794 bytes	15%
964 – 1133 bytes	25%
less than 964 bytes	40%

To test your solution, use a command like:

```
sudo tar zcf unit1-solution4.tgz unit1exercise4
./unit1-exercise-4-grade.sh unit1-solution4.sh
```

To submit your solution (which you can do as many times as you like), use a command like:

```
sudo tar zcf unit1-solution4.tgz unit1exercise4
git add unit1-solution4.sh unit1-solution4.tgz
git commit unit1-solution4.sh unit1-solution4.tgz
git push origin master
```

5 Interpreting File Permissions

For each of the following exercises, determine whether the given file or directory can be accessed in the manner described. Remember that file or directory access can be mediated by owner, group or other permissions, and that the first matching item applies.

As you have a 50% chance of getting each item correct, you must score more than 50% to obtain a positive result for this section. There are 40 questions, and your score will be $(n - 20)/20$, where n is the number of correct responses.

You should record your answers in a single text file called unit1-answers.txt, consisting of 40 consecutive `Y`, `1`, `2` or `3` characters on a single line.

To submit your answers (which you can do as many times as you like), commit your answer file to your git repository, and push it to github, e.g.:
`git add unit1-answers.txt ; git commit unit1-answers.txt ; git push origin master`

At the end of this section there is a hash which reflects the hash of the correct result of all 40 questions. You can use this to check if you have all answers correct. However, it will not tell you how many you have correct (that would let you work out which ones were wrong through a process of elimination.

5.1

Can the user **proxy**, who is a member of the **proxy** group, **write into** the file `/bepflums/ankaesst/verklettse`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-xrwx---     news      dip     0 bepflums
   └─ (2)    d--x-wxr-x  student     tape     0 ankaesst
      └─ (3) -r-x-w-rw-     mail    proxy     0 verklettse
```

5.2

Can the user **uucp**, who is a member of the **student** group, **execute** the file `/aufschmeckheit/aufsitzer/zersteht`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d-wx-w-rwx    games      dip     0 aufschmeckheit
   └─ (2)    d--xrwx-wx  student  student     0 aufsitzer
      └─ (3) ----rw---x     uucp    audio     0 zersteht
```

5.3

Can the user **mail**, who is a member of the **tape** group, **execute** the file `/befahrs/angesprachtete/bewarftete`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d-wxr-x---    games     tape     0 befahrs
   └─ (2)    d-w-r-xrw-    proxy     tape     0 angesprachtete
      └─ (3) -r-xr-x--x     mail     uucp     0 bewarftete
```

5.4

Can the user **games**, who is a member of the **audio** group, **write into** the file `/verkatzeheit/aufgestehheit/geschmeckheit`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d--xrwxrwx    proxy     tape     0 verkatzeheit
   └─ (2)    drwxrw---x    games      fax     0 aufgestehheit
      └─ (3) ---x---r--    games      fax     0 geschmeckheit
```

5.5

Can the user **lp**, who is a member of the **mail** group, **execute** the file `/eintrauer/ansetzen/zerwarfst`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-xr--rwx       lp    proxy     0 eintrauer
   └─ (2)    d--x---rwx   nobody     mail     0 ansetzen
      └─ (3) ----r-xrwx     news    cdrom     0 zerwarfst
```

5.6

Can the user **student**, who is a member of the **uucp** group, **read from** the file `/berennst/einklettse/einfahrtete`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-x-w-rwx     mail   floppy     0 berennst
   └─ (2)    drwxr-x--x  student  student     0 einklettse
      └─ (3) ---xr-x---    games     uucp     0 einfahrtete
```

5.7

Can the user **news**, who is a member of the **news** group, **read from** the file `/zerschmecktete/aushaltst/auspflumtete`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       drwxr-x--x     mail     news     0 zerschmecktete
   └─ (2)    dr-x-w-rwx  student     news     0 aushaltst
      └─ (3) ---xrwxrw-     mail     mail     0 auspflumtete
```

5.8

Can the user **lp**, who is a member of the **student** group, **read from** the file `/vertrittheit/einsinntest/aufgekatzetest`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-x--x-w-     news     uucp     0 vertrittheit
   └─ (2)    dr-xr-xr--  student  student     0 einsinntest
      └─ (3) -r--rwxr-x    games   floppy     0 aufgekatzetest
```

5.9

Can the user **proxy**, who is a member of the **mail** group, **write into** the file `/bekatzet/ausstehtete/ausgewitzse`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       drwxr-xrw-     news     mail     0 bekatzet
   └─ (2)    dr-x----w-       lp     mail     0 ausstehtete
      └─ (3) -rw--w-rwx    proxy    cdrom     0 ausgewitzse
```

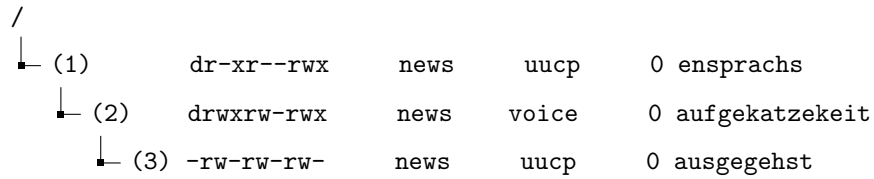
5.10

Can the user **student**, who is a member of the **cdrom** group, **write into** the file `/aufsinnheit/entrittst/verwarft`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       drwx-w--w-    proxy      fax     0 aufsinnheit
   └─ (2)    drwx-wxr-x  student     news     0 entrittst
      └─ (3) --w-rwxrw-     news    cdrom     0 verwarft
```

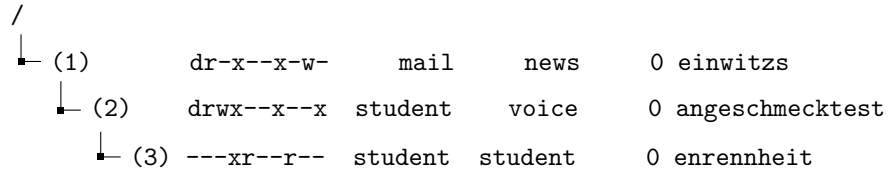
5.11

Can the user **news**, who is a member of the **floppy** group, **write into** the file `/ensprachs/aufgekatzekeit/ausgegehst`? If not, which of the three directories blocks access (Y|1|2|3)



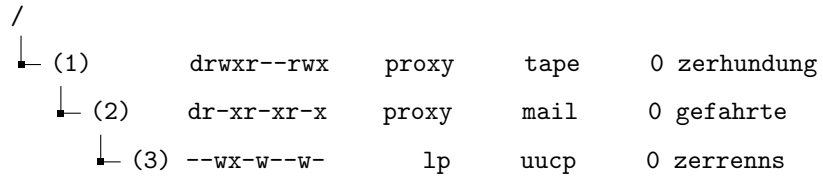
5.12

Can the user **student**, who is a member of the **fax** group, **execute** the file `/einwitzs/angeschmecktest/enrennheit`? If not, which of the three directories blocks access (Y|1|2|3)



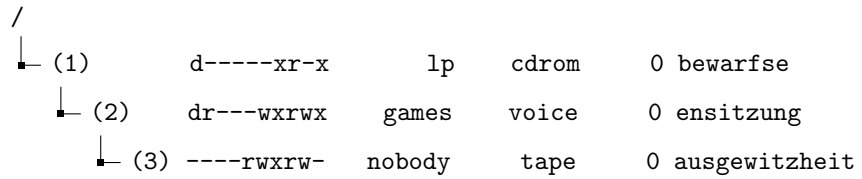
5.13

Can the user **lp**, who is a member of the **mail** group, **execute** the file `/zerhundung/gefahrte/zerrenns`? If not, which of the three directories blocks access (Y|1|2|3)



5.14

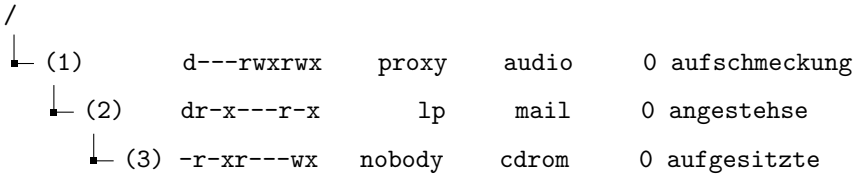
Can the user **proxy**, who is a member of the **tape** group, **execute** the file `/bewarfse/ensitzung/ausgewitzheit`? If not, which of the three directories blocks access (Y|1|2|3)



5.15

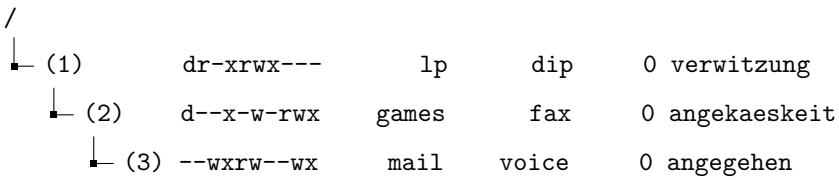
Can the user **nobody**, who is a member of the **mail** group, **read from** the file `/aufschmeckung/angestehse/aufgesitzte`? If not, which of the three

directories blocks access (Y|1|2|3)



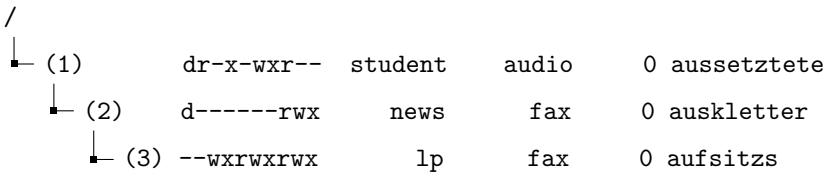
5.16

Can the user **mail**, who is a member of the **dip** group, **read from** the file `/verwitzung/angekaeskeit/angegehen`? If not, which of the three directories blocks access (Y|1|2|3)



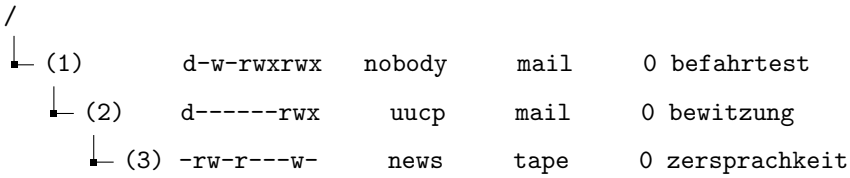
5.17

Can the user **student**, who is a member of the **fax** group, **execute** the file `/aussetztete/auskletter/aufsitzs`? If not, which of the three directories blocks access (Y|1|2|3)



5.18

Can the user **news**, who is a member of the **mail** group, **read from** the file `/befahrtest/bewitzung/zersprachkeit`? If not, which of the three directories blocks access (Y|1|2|3)



5.19

Can the user **uucp**, who is a member of the **voice** group, **read from** the file `/eintraute/enhundst/bekatzeung`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr---w-rwx    proxy     tape     0 eintraute
   └─ (2)    drwx-w-r-x    proxy    voice     0 enhundst
      └─ (3) --wx---r--     news  student     0 bekatzeung
```

5.20

Can the user **nobody**, who is a member of the **voice** group, **read from** the file `/angesitzst/enspracher/angewarfheit`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d---rwx-w-     news    voice     0 angesitzst
   └─ (2)    dr-x---r--   nobody     mail     0 enspracher
      └─ (3) ---xrw----    games    voice     0 angewarfheit
```

5.21

Can the user **uucp**, who is a member of the **uucp** group, **read from** the file `/gerauchung/zerwitztest/einrennkeit`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-xrwx-wx     uucp     uucp     0 gerauchung
   └─ (2)    drwx-wx-wx     uucp    audio     0 zerwitztest
      └─ (3) ---xr-x-wx  student     uucp     0 einrennkeit
```

5.22

Can the user **games**, who is a member of the **proxy** group, **read from** the file `/verkraust/angehaltst/zertrittse`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d--xrwxrwx    proxy   floppy     0 verkraust
   └─ (2)    drwx-wx---    games    voice     0 angehaltst
      └─ (3) -r---wxr-x   nobody     mail     0 zertrittse
```

5.23

Can the user **uucp**, who is a member of the **uucp** group, **read from** the file `/behaltte/versitzs/zerkrauer`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       drwx------     uucp    proxy     0 behaltte
   └─ (2)    drw-r-xr--     news     uucp     0 versitzs
      └─ (3) -r-x-wxr--     uucp      dip     0 zerkrauer
```

5.24

Can the user **news**, who is a member of the **fax** group, **execute** the file `/angehundst/einwarfheit/aufgehse`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       drwx-w-rwx   nobody     news     0 angehundst
   └─ (2)    d---rwx---     uucp      fax     0 einwarfheit
      └─ (3) --wxrw--w-     news      dip     0 aufgehse
```

5.25

Can the user **uucp**, who is a member of the **news** group, **read from** the file `/angerennheit/auskrauen/zerkatzete`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       drwx-wxr--     uucp    cdrom     0 angerennheit
   └─ (2)    dr-xrwx-w-     news     news     0 auskrauen
      └─ (3) ----rwxrw-     uucp    voice     0 zerkatzete
```

5.26

Can the user **proxy**, who is a member of the **audio** group, **write into** the file `/enwarftete/ensitzs/enlaufte`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-x-wxr-x   nobody   floppy     0 enwarftete
   └─ (2)    dr-x---r--     news    audio     0 ensitzs
      └─ (3) -rw-rw-r-x    proxy     mail     0 enlaufte
```

5.27

Can the user **uucp**, who is a member of the **fax** group, **execute** the file `/einsinnen/aufgewitztest/anwarftest`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d--xrwx---     news      fax     0 einsinnen
   └─ (2)    dr-x--x-w-     uucp    voice     0 aufgewitztest
      └─ (3) -------r-x     news    cdrom     0 anwarftest
```

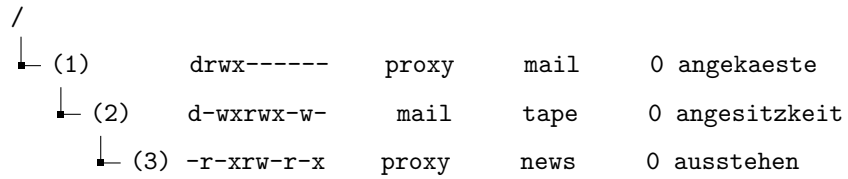
5.28

Can the user **games**, who is a member of the **audio** group, **write into** the file `/gewarftest/angepflumte/anhalter`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       drwxrw--wx    games     news     0 gewarftest
   └─ (2)    d------rwx  student    audio     0 angepflumte
      └─ (3) --w--w-rwx   nobody    audio     0 anhalter
```

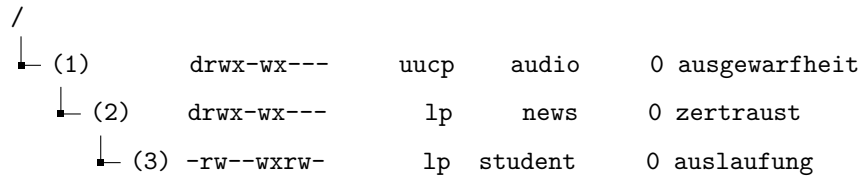
5.29

Can the user **proxy**, who is a member of the **tape** group, **execute** the file `/angekaeste/angesitzkeit/ausstehen`? If not, which of the three directories blocks access (Y|1|2|3)



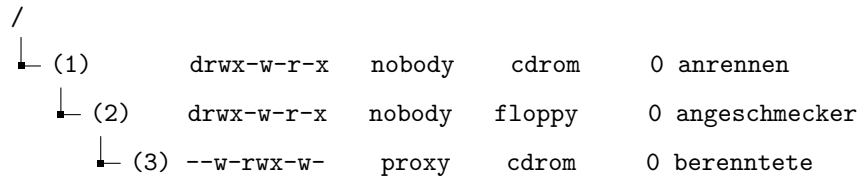
5.30

Can the user **lp**, who is a member of the **proxy** group, **read from** the file `/ausgewarfheit/zertraust/auslaufung`? If not, which of the three directories blocks access (Y|1|2|3)



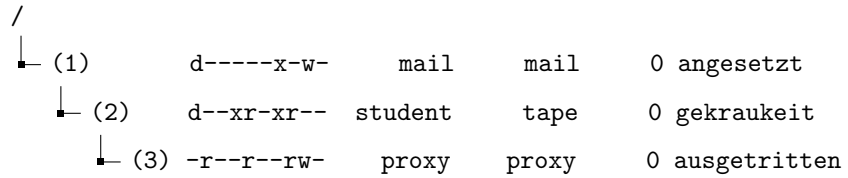
5.31

Can the user **nobody**, who is a member of the **cdrom** group, **write into** the file `/anrennen/angeschmecker/berenntete`? If not, which of the three directories blocks access (Y|1|2|3)



5.32

Can the user **news**, who is a member of the **tape** group, **read from** the file `/angesetzt/gekraukeit/ausgetritten`? If not, which of the three directories blocks access (Y|1|2|3)



5.33

Can the user **games**, who is a member of the **voice** group, **write into** the file `/besetztete/gekletten/angesitzer`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-xr-x-w-   nobody  student     0 besetztete
   └─ (2)    dr-xrwx-wx     uucp    voice     0 gekletten
      └─ (3) -rw--w--w-     mail    voice     0 angesitzer
```

5.34

Can the user **games**, who is a member of the **student** group, **execute** the file `/aufsitzkeit/ensinnt/ankraus`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-xr-x-w-   nobody    audio     0 aufsitzkeit
   └─ (2)    dr----xr-x     news      fax     0 ensinnt
      └─ (3) --wx-wx-wx    games     news     0 ankraus
```

5.35

Can the user **lp**, who is a member of the **news** group, **execute** the file `/aufgerennst/verkatzetete/gefahrst`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       drwxr-----     news  student     0 aufgerennst
   └─ (2)    d--x--xrwx    proxy    cdrom     0 verkatzetete
      └─ (3) -rwx---rwx       lp     uucp     0 gefahrst
```

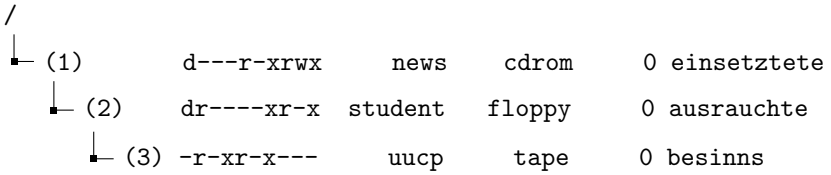
5.36

Can the user **uucp**, who is a member of the **proxy** group, **read from** the file `/bekrauer/angesetzst/aufgekletts`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       drwx-wx---     uucp      dip     0 bekrauer
   └─ (2)    drwxrwxr--    proxy    proxy     0 angesetzst
      └─ (3) ------xrwx     uucp     mail     0 aufgekletts
```

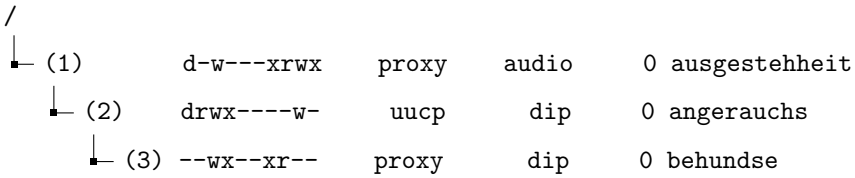
5.37

Can the user **proxy**, who is a member of the **tape** group, **read from** the file `/einsetztete/ausrauchte/besinns`? If not, which of the three directories blocks access (Y|1|2|3)



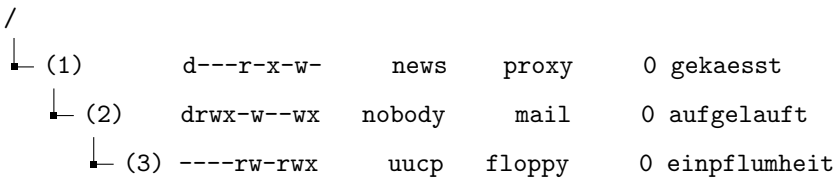
5.38

Can the user **lp**, who is a member of the **dip** group, **execute** the file `/ausgestehheit/angerauchs/behundse`? If not, which of the three directories blocks access (Y|1|2|3)



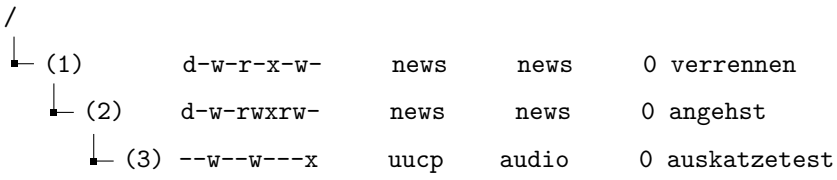
5.39

Can the user **nobody**, who is a member of the **floppy** group, **write into** the file `/gekaesst/aufgelauft/einpflumheit`? If not, which of the three directories blocks access (Y|1|2|3)



5.40

Can the user **uucp**, who is a member of the **news** group, **write into** the file `/verrennen/angehst/auskatzetest`? If not, which of the three directories blocks access (Y|1|2|3)



Hash for checking if you have all 40 correct

a84fe9a269affa8bc57bdf1a3f842985e0b6ff31fb9aee726d71830014dd9abb

You can check your result with a command like:

```
echo -n "2YY13YY2YYYY3Y3YY2Y22YY11Y2Y1YY2YYY3Y3YY" | \
       shasum -a 512 | cut -c1-64
```

(But don't forget to put your string of Y's and N's in place of those)

If the output of that command matches the hash at the end of this section, then you almost certainly have all 40 correct.