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. `verkaesung`, mode `-w---x---`
2. `zerfahrte`, mode `r-xrwxr-x`
3. `angeklettheit`, mode `------r-x`
4. `enrauchheit`, mode `rw-r-----`
5. `ausgepflumen`, mode `--xrwx--x`
6. `auswitzst`, mode `---rwxrw-`
7. `angeschmecken`, mode `--xr-x--x`
8. `aufsprachkeit`, mode `-w-rw--wx`
9. `ausgepflumen/aushundkeit`, mode `-wxr-xr--`
10. `angeschmecken/auftrittheit`, mode `r-xrw-rw-`
11. `angeklettheit/gewarfs`, mode `-----x-w-`
12. `angeschmecken/zerstehheit`, mode `-wxrwx-w-`
13. `zerfahrte/ausgegehheit`, mode `-w-rwxrwx`
14. `ausgepflumen/aushundkeit/aufsteher`, mode `rw-rw-rwx`
15. `angeschmecken/zerstehheit/gesitzer`, mode `r-xr-x-w-`
16. `ausgepflumen/aushundkeit/anhaltheit`, mode `--x-w--wx`
17. `zerfahrte/ausgegehheit/angekraust`, mode `---rw-r-x`
18. `angeklettheit/gewarfs/ankaesen`, mode `r-----rwx`
19. `zerfahrte/ausgegehheit/angetritten`, mode `rwx-w-rw-`
20. `angeschmecken/auftrittheit/ausgeschmeckte`, mode `rw--wxr-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 2554 bytes long, while a compact script would be no larger than 970.

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
2555 bytes or more	0%
1763 – 2554 bytes	5%
971 – 1762 bytes	15%
825 – 970 bytes	25%
less than 825 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. `zersetzkeit`, mode `r-----rw-`, owner `proxy`, group `dip`
2. `begehen`, mode `--xr--r--`, owner `nobody`, group `floppy`
3. `einhaltt`, mode `rw---xr--`, owner `proxy`, group `proxy`
4. `angegehkeit`, mode `-----xr--`, owner `mail`, group `fax`
5. `bewitzs`, mode `-w---xrwx`, owner `lp`, group `voice`
6. `aufgewitzheit`, mode `-w---x-w-`, owner `student`, group `floppy`

7. `ausgehtest`, mode `r-xr--r-x`, owner `student`, group `student`
8. `angekaess`, mode `r-----rw-`, owner `lp`, group `floppy`
9. `begehen/berabarbkeit`, mode `---r--rwx`, owner `mail`, group `tape`
10. `zersetzkeit/enkletts`, mode `rwx----wx`, owner `mail`, group `audio`
11. `angekaess/zersprachen`, mode `---r-xr--`, owner `lp`, group `fax`
12. `bewitzs/auffahrse`, mode `rwx-wx--x`, owner `news`, group `mail`
13. `angekaess/angesinnheit`, mode `--xrw--wx`, owner `proxy`, group `voice`
14. `angekaess/angesinnheit/aufgelaufkeit`, mode `---r-x-w-`, owner `lp`, group `cdrom`
15. `angekaess/angesinnheit/ausgekletttete`, mode `---r-xrwx`, owner `mail`, group `news`
16. `zersetzkeit/enkletts/gerabarbse`, mode `--x----w-`, owner `mail`, group `audio`
17. `angekaess/angesinnheit/einrabarber`, mode `r-xrw-r-x`, owner `lp`, group `voice`
18. `bewitzs/auffahrse/ausgewarfkeit`, mode `---r-xr--`, owner `proxy`, group `tape`
19. `begehen/berabarbkeit/ausgerabarbung`, mode `rw-----wx`, owner `nobody`, group `fax`
20. `angekaess/zersprachen/engehtete`, mode `r---w-r-x`, owner `lp`, group `dip`

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 2332 bytes long, while a compact script would be no larger than 1196.

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
2333 bytes or more	0%
1765 – 2332 bytes	5%
1197 – 1764 bytes	15%
1017 – 1196 bytes	25%
less than 1017 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. `ausfahrs`, mode `---r--rw-`, owner `games`, group `tape`, `setuid`
2. `besitzkeit`, mode `-wx------`, owner `mail`, group `news`, `setuid`
3. `angegehs`, mode `-w--w--w-`, owner `lp`, group `floppy`, `setuid`
4. `verkatzes`, mode `--xrwx--x`, owner `nobody`, group `dip`, `setuid`
5. `zerklettse`, mode `-wxr-x-w-`, owner `uucp`, group `voice`
6. `aufgehaltse`, mode `rw---xr-x`, owner `mail`, group `news`
7. `aufgehundse`, mode `r-x-wxr-x`, owner `uucp`, group `audio`
8. `aufgetrittst`, mode `rw-rwxrw-`, owner `mail`, group `uucp`
9. `aufgetrittst/aufgesetzst`, mode `rwx-----x`, owner `student`, group `floppy`
10. `aufgetrittst/anpflumung`, mode `----wx-wx`, owner `mail`, group `audio`, `setuid`
11. `zerklettse/ausstehtete`, mode `rw--w--wx`, owner `mail`, group `fax`, `setuid`

12. `aufgehaltse/ausgesinnst`, mode `---r-x-wx`, owner `mail`, group `dip`
13. `aufgehundse/aufsinnt`, mode `--xr-x--x`, owner `games`, group `mail`, `setuid`
14. `aufgehaltse/ausgesinnst/eingehse`, mode `rwx-wx---`, owner `news`, group `floppy`, `setuid`
15. `aufgetrittst/aufgesetzst/gewarftest`, mode `r---wx---`, owner `mail`, group `student`
16. `aufgetrittst/anpflumung/besitzer`, mode `rw--wx-w-`, owner `uucp`, group `dip`, `setuid`
17. `aufgehaltse/ausgesinnst/bewitzt`, mode `---rw----`, owner `proxy`, group `mail`
18. `aufgetrittst/aufgesetzst/einrabarbkeit`, mode `rwx-w-r-x`, owner `games`, group `tape`, `setuid`
19. `zerklettse/ausstehtete/bespracher`, mode `r-x----wx`, owner `student`, group `proxy`, `setuid`
20. `aufgetrittst/aufgesetzst/anhalter`, mode `-wx-w--w-`, owner `lp`, group `tape`

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 2393 bytes long, while a compact script would be no larger than 1202.

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
2394 bytes or more	0%
1798 – 2393 bytes	5%
1203 – 1797 bytes	15%
1022 – 1202 bytes	25%
less than 1022 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. `aufgetrittheit`, mode `-wxrw-r-x`, group `proxy`
2. `ankletter`, mode `r-x-wx-w-`, group `mail`
3. `zerrennkeit`, mode `-w-r-----`, group `floppy`
4. `berennt`, mode `rwxrwx---`, group `uucp`, `setgid`
5. `angegehtete`, mode `---r--r-x`, group `audio`
6. `aufsinnst`, mode `-wxr----x`, group `dip`
7. `ensitztete`, mode `-w-r-xrwx`, group `floppy`
8. `gesetzkeit`, mode `-w--w--w-`, group `dip`
9. `aufgetrittheit/geraucht`, mode `-wxrwxr--`, group `voice`
10. `ankletter/gewarfen`, mode `rwx-w---x`, group `proxy`, `setgid`
11. `aufgetrittheit/anschmeckheit`, mode `--xr--r-x`, group `tape`, `setgid`
12. `aufsinnst/aufgelaufung`, mode `----wxrwx`, group `mail`
13. `aufgetrittheit/verkaestest`, mode `rwxr----x`, group `uucp`
14. `aufgetrittheit/verkaestest/gelaufte`, mode `r--rw-r-x`, group `student`, `setgid`
15. `aufgetrittheit/verkaestest/ankaeskeit`, mode `--xr--rw-`, group `cdrom`
16. `ankletter/gewarfen/einkrautest`, mode `---r-x--x`, group `mail`, `setgid`
17. `ankletter/gewarfen/verhalts`, mode `r--r-xr--`, group `dip`, `setgid`

18. `aufsinnst/aufgelaufung/zerkrauung`, mode `--x-w----`, group `voice`, `setgid`

19. `aufgetrittheit/verkaestest/einrennse`, mode `r--rwx---`, group `news`

20. `aufgetrittheit/verkaestest/zerhunds`, mode `rw-r--rwx`, group `audio`, `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 2462 bytes long, while a compact script would be no larger than 1145.

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
2463 bytes or more	0%
1804 – 2462 bytes	5%
1146 – 1803 bytes	15%
974 – 1145 bytes	25%
less than 974 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 **nobody**, who is a member of the **dip** group, **read from** the file `/verschmeckst/aufgesitzen/besetzte`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-x-w-rwx   nobody     news      0 verschmeckst
   └─ (2)    drw----rwx    proxy    cdrom      0 aufgesitzen
      └─ (3) -rw---xrwx   nobody     tape      0 besetzte
```

5.2

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

```
/
└─ (1)       dr-xrw-r--  student    proxy      0 auskatzeung
   └─ (2)    drwxr-x--x  student   floppy      0 aufgestehheit
      └─ (3) -r--r--rwx  student     mail      0 anpflumen
```

5.3

Can the user **games**, who is a member of the **mail** group, **execute** the file `/angesinnen/bekrause/enstehkeit`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d----w-rwx     mail    audio     0 angesinnen
   └─ (2)    dr-----rwx   nobody     news     0 bekrause
      └─ (3) --wxr--rwx     news    proxy     0 enstehkeit
```

5.4

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

```
/
└─ (1)       drwxr-xrwx     mail    audio     0 zersitzkeit
   └─ (2)    drwx-w--wx     mail     mail     0 bespracht
      └─ (3) --w-r--r-x    games     uucp     0 zerkatzese
```

5.5

Can the user **student**, who is a member of the **audio** group, **execute** the file `/angetrittst/zertrittheit/anrauchte`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d-w-rwx---    games    voice     0 angetrittst
   └─ (2)    dr--rwxrw-     uucp    audio     0 zertrittheit
      └─ (3) --wxr--r-x     mail    cdrom     0 anrauchte
```

5.6

Can the user **news**, who is a member of the **voice** group, **execute** the file `/zerwitzer/aufsetztest/zerrabarbte`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d----wxr-x     mail     tape     0 zerwitzer
   └─ (2)    d-wxrwxr-x       lp    voice     0 aufsetztest
      └─ (3) ----rwxr-x    games      fax     0 zerrabarbte
```

5.7

Can the user **lp**, who is a member of the **cdrom** group, **write to** the file `/aussprachte/betrittse/ensetztete`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       drwxrwxr--     mail    cdrom     0 aussprachte
   └─ (2)    drwx----w-       lp      dip     0 betrittse
      └─ (3) -r-xr--rwx       lp   floppy     0 ensetztete
```

5.8

Can the user **uucp**, who is a member of the **cdrom** group, **write to** the file `/einkrause/angekrauen/ausrennt`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-xr-x--x    proxy    cdrom     0 einkrause
   └─ (2)    drwx-----x     mail    cdrom     0 angekrauen
      └─ (3) --wxr-xrwx     mail    voice     0 ausrennt
```

5.9

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

```
/
└─ (1)       drwx-wxr-x     news    cdrom     0 gekletter
   └─ (2)    dr-x-wxr--    proxy  student     0 anpflumtete
      └─ (3) -r--rw--wx     mail     news     0 ausgewarfheit
```

5.10

Can the user **uucp**, who is a member of the **fax** group, **write to** the file `/angekatzete/aufgetraust/einwitzheit`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-x--xrw-     uucp    cdrom     0 angekatzete
   └─ (2)    drwxrw-r-x     mail      dip     0 aufgetraust
      └─ (3) -r-x----wx    proxy     news     0 einwitzheit
```

5.11

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

```
/
└─ (1)       drwx--x-wx   nobody     uucp     0 ausgestehs
   └─ (2)    drw---xrwx     uucp  student     0 ensetzheit
      └─ (3) -r-xrwx-wx   nobody    voice     0 besinntete
```

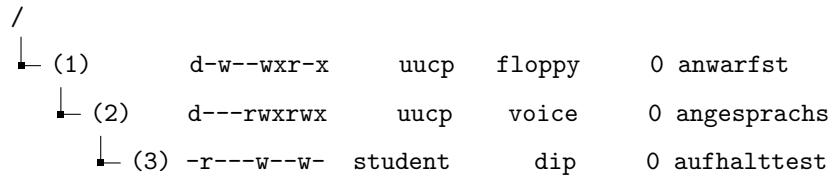
5.12

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

```
/
└─ (1)       dr--rw-rwx     mail    audio     0 angesitztete
   └─ (2)    d--xrwxrwx     mail      dip     0 angerauchheit
      └─ (3) -r----xrw-     news     mail     0 zerspracher
```

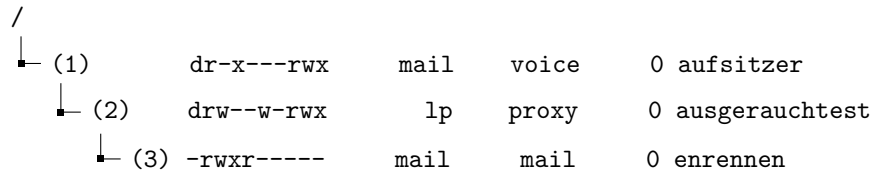
5.13

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



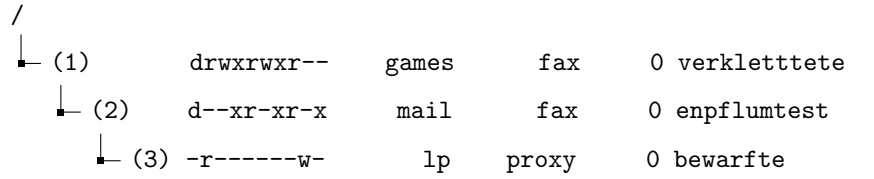
5.14

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



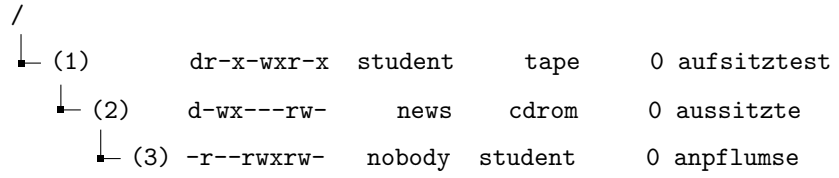
5.15

Can the user **student**, who is a member of the **fax** group, **write to** the file `/verkletttete/enpflumtest/bewarfte`? If not, which of the three directories blocks access (Y|1|2|3)



5.16

Can the user **uucp**, who is a member of the **cdrom** group, **write to** the file `/aufsitztest/aussitzte/anpflumse`? If not, which of the three directories blocks access (Y|1|2|3)



5.17

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

```
/
└─ (1)       drw-r-x-w-     uucp     news     0 angewitzst
   └─ (2)    dr-xr----x       lp  student     0 ausgerauchte
      └─ (3) --wxr--rw-  student    cdrom     0 zerkatzetest
```

5.18

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

```
/
└─ (1)       drwx---rwx       lp     news     0 angehaltung
   └─ (2)    drwxr-x--x    games     tape     0 einwarfs
      └─ (3) ---xr-xr-x     news     tape     0 angesitzse
```

5.19

Can the user **lp**, who is a member of the **news** group, **write to** the file `/ensprachte/ausgefahrt/zerkletter`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d-w---xr-x    games    voice     0 ensprachte
   └─ (2)    dr-xr-x-wx  student     news     0 ausgefahrt
      └─ (3) --w----rwx     uucp      dip     0 zerkletter
```

5.20

Can the user **uucp**, who is a member of the **uucp** group, **write to** the file `/gehundkeit/ausgetrittung/angerauchtest`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d---r-xr-x     mail     uucp     0 gehundkeit
   └─ (2)    drwx-wx-wx     uucp    voice     0 ausgetrittung
      └─ (3) -----w-rwx     mail     uucp     0 angerauchtest
```

5.21

Can the user **mail**, who is a member of the **news** group, **write to** the file `/angekletttete/zerhundse/angesitzung`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d---rw----    games    voice     0 angekletttete
   └─ (2)    d------rwx    proxy  student     0 zerhundse
      └─ (3) -rwxr-x-w-     uucp    proxy     0 angesitzung
```

5.22

Can the user **mail**, who is a member of the **uucp** group, **write to** the file `/ausgekraust/aufhaltung/angestehs`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-xr-x---     mail  student     0 ausgekraust
   └─ (2)    d---r-xrw-  student     uucp     0 aufhaltung
      └─ (3) -r--r--rw-     mail    voice     0 angestehs
```

5.23

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

```
/
└─ (1)       drwxr-x-wx       lp    audio     0 angegeher
   └─ (2)    d-wx-w-rwx    games     news     0 bestehse
      └─ (3) -r--rwxr--       lp      fax     0 aufrenns
```

5.24

Can the user **news**, who is a member of the **audio** group, **execute** the file `/ausschmecktest/ausgeraucher/enwitztete`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       drwx-wx---   nobody    cdrom     0 ausschmecktest
   └─ (2)    d-w--w-rwx    proxy    cdrom     0 ausgeraucher
      └─ (3) --w-r-x--x     uucp     uucp     0 enwitztete
```

5.25

Can the user **games**, who is a member of the **student** group, **write to** the file `/einsinntest/besinnse/gekaesen`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-xrwx---       lp    proxy     0 einsinntest
   └─ (2)    drw----r-x   nobody    voice     0 besinnse
      └─ (3) --wx-wx-wx    games     mail     0 gekaesen
```

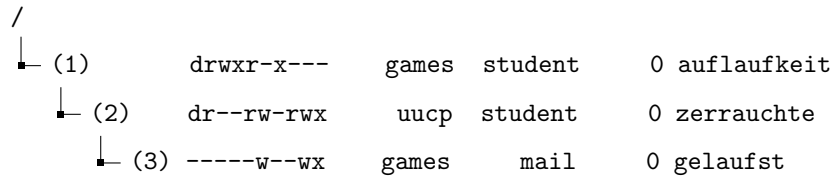
5.26

Can the user **games**, who is a member of the **dip** group, **execute** the file `/ensprachtest/einsetzer/aufgestehs`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr--rwx-wx  student      dip     0 ensprachtest
   └─ (2)    dr-xrwx-wx  student      dip     0 einsetzer
      └─ (3) --w--wxrw-    games   floppy     0 aufgestehs
```

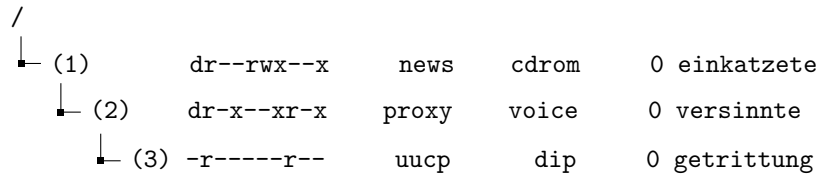
5.27

Can the user **games**, who is a member of the **dip** group, **execute** the file `/auflaufkeit/zerrauchte/gelaufst`? If not, which of the three directories blocks access (Y|1|2|3)



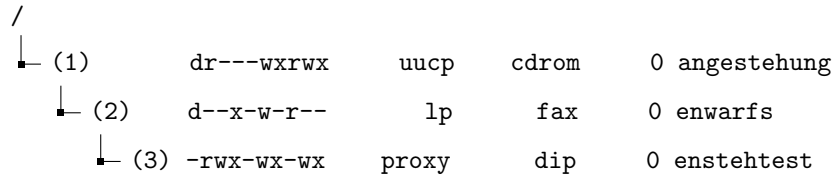
5.28

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



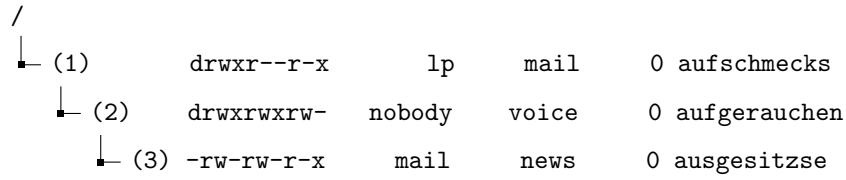
5.29

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



5.30

Can the user **news**, who is a member of the **voice** group, **execute** the file `/aufschmecks/aufgerauchen/ausgesitzse`? If not, which of the three directories blocks access (Y|1|2|3)



5.31

Can the user **student**, who is a member of the **floppy** group, **execute** the file `/versinner/aussinnt/aufkrautest`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       drw-r-xrwx     news   floppy     0 versinner
   └─ (2)    d-wxr-xrwx     mail    audio     0 aussinnt
      └─ (3) -r-xr-x---       lp   floppy     0 aufkrautest
```

5.32

Can the user **news**, who is a member of the **tape** group, **write to** the file `/zersetzer/angekatzekeit/bewitzkeit`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d-wxr-xrwx   nobody     uucp     0 zersetzer
   └─ (2)    dr-x--xr--     news     uucp     0 angekatzekeit
      └─ (3) ---xrw--wx     news     news     0 bewitzkeit
```

5.33

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

```
/
└─ (1)       dr-x----wx     uucp      fax     0 angetraut
   └─ (2)    dr--rwxrw-   nobody      fax     0 verfahrtest
      └─ (3) --wxrw-r-x     uucp     uucp     0 ausgeklettkeit
```

5.34

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

```
/
└─ (1)       drwx--xr-x   nobody      fax     0 aufgehung
   └─ (2)    d--xr-xrwx     mail      fax     0 angefahrkeit
      └─ (3) --w-rwxr-x     uucp    voice     0 aussetzen
```

5.35

Can the user **student**, who is a member of the **student** group, **write to** the file `/anhalttete/beschmecks/zertraute`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d----wxrwx    games     mail     0 anhalttete
   └─ (2)    dr--rwx--x     uucp  student     0 beschmecks
      └─ (3) --w--w-r--  student     mail     0 zertraute
```

5.36

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

```
/
└─ (1)       d---r-xrwx     uucp     tape     0 aufspracher
   └─ (2)    d-w--wxrwx  student     mail     0 gegeht
      └─ (3) ---x---r--     news     tape     0 ausgehalttete
```

5.37

Can the user **nobody**, who is a member of the **cdrom** group, **execute** the file `/angekatzet/verrabarbheit/aussteher`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       dr-xrw-rw-   nobody   floppy     0 angekatzet
   └─ (2)    dr-x-w----    games    cdrom     0 verrabarbheit
      └─ (3) ----rwx---  student    cdrom     0 aussteher
```

5.38

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

```
/
└─ (1)       dr--r-x-w-     news  student     0 zerrauchtete
   └─ (2)    d-w-r-x---   nobody  student     0 aufgewitzte
      └─ (3) --wx----wx     news     news     0 enhaltst
```

5.39

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

```
/
└─ (1)       dr-xr-xr-x  student   floppy     0 aufklettung
   └─ (2)    dr-x-wxr-x     uucp    cdrom     0 einwarft
      └─ (3) -r---wxrwx     mail    audio     0 angepflumen
```

5.40

Can the user **student**, who is a member of the **cdrom** group, **execute** the file `/ansprachs/angekatzetest/zerwarfen`? If not, which of the three directories blocks access (Y|1|2|3)

```
/
└─ (1)       d--xr-x-w-   nobody     news     0 ansprachs
   └─ (2)    drwxrwx-wx  student     news     0 angekatzetest
      └─ (3) --wxrw--wx  student     news     0 zerwarfen
```

Hash for checking if you have all 40 correct

390af7058d5f9c1188fd74982d9466bda3f48c04e90dd285dec023ab84056e27

You can check your result with a command like:

```
echo "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.