

Lab 8

Question 1

P1

```
1/1  +  Tiix: eli@cis106: -
eli@cis106: ~
15804 with these requirements. We do not solicit donations in locations
15805 where we have not received written confirmation of compliance. To SEND
15806 DONATIONS or determine the status of compliance for any particular
15807 state visit www.gutenberg.org/donate.
15808
15809 While we cannot and do not solicit contributions from states where we
15810 have not met the solicitation requirements, we know of no prohibition
15811 against accepting unsolicited donations from donors in such states who
15812 approach us with offers to donate.
15813
15814 International donations are gratefully accepted, but we cannot make
15815 any statements concerning tax treatment of donations received from
15816 outside the United States. U.S. laws alone swamp our small staff.
15817
15818 Please check the Project Gutenberg web pages for current donation
15819 methods and addresses. Donations are accepted in a number of other
15820 ways including checks, online payments and credit card donations. To
15821 donate, please visit: www.gutenberg.org/donate.
15822
15823 Section 5. General Information About Project Gutenberg™ electronic works
15824
15825 Professor Michael S. Hart was the originator of the Project
15826 Gutenberg™ concept of a library of electronic works that could be
15827 freely shared with anyone. For forty years, he produced and
15828 distributed Project Gutenberg™ eBooks with only a loose network of
15829 volunteer support.
15830
15831 Project Gutenberg™ eBooks are often created from several printed
15832 editions, all of which are confirmed as not protected by copyright in
15833 the U.S. unless a copyright notice is included. Thus, we do not
15834 necessarily keep eBooks in compliance with any particular paper
15835 edition.
15836
15837 Most people start at our website which has the main PG search
15838 facility: www.gutenberg.org.
15839
15840 This website includes information about Project Gutenberg™,
15841 including how to make donations to the Project Gutenberg literary
15842 Archive Foundation, how to help produce our new eBooks, and how to
15843 subscribe to our email newsletter to hear about new eBooks.
15844
eli@cis106:~$ _
```

P2

```
3/3  +  Tiix: eli@cis106: -
eli@cis106: ~
Mueslix Crispy Blend calories = 160
Multi-Grain Cheerios calories = 100
Nut&Honey Crunch calories = 120
Nutri-Grain Almond-Raisin calories = 140
Nutri-grain Wheat calories = 90
Oatmeal Raisin Crisp calories = 130
Post Nat. Raisin Bran calories = 120
Product 19 calories = 100
Puffed Rice calories = 50
Puffed Wheat calories = 50
Quaker Oat Squares calories = 100
Quaker Oatmeal calories = 100
Raisin Bran calories = 120
Raisin Nut Bran calories = 100
Raisin Squares calories = 90
Rice Chex calories = 110
Rice Krispies calories = 110
Shredded Wheat calories = 80
Shredded Wheat 'n'Bran calories = 90
Shredded Wheat spoon size calories = 90
Smacks calories = 110
Special K calories = 110
Strawberry Fruit WHeats calories = 90
Total Corn Flakes calories = 110
Total Raisin Bran calories = 140
Total Whole Grain calories = 100
Triples calories = 110
Trix calories = 110
Wheat Chex calories = 100
Wheaties calories = 100
Wheaties Honey Gold calories = 110
eli@cis106:~$ _
```

```
Tilix: eli@cis106: ~/Documents/sample_files/Csv
t:eli@cis106: ~/Documents/sample_files/Csv ✓
Triumph TR7 Coupe;35.0;4;122.0;88.00;2500.;15.1;80;Europe
Volkswagen 1131 Deluxe Sedan;26.0;4;97.00;46.00;1835.;20.5;70;Europe
Volkswagen 411 (sw);22.0;4;121.0;76.00;2511.;18.0;72;Europe
Volkswagen Dasher;25.0;4;90.00;71.00;2223.;16.5;75;Europe
Volkswagen Dasher;26.0;4;79.00;67.00;1963.;15.5;74;Europe
Volkswagen Dasher;30.5;4;97.00;78.00;2190.;14.1;77;Europe
Volkswagen Dasher (diesel);43.4;4;90.00;48.00;2335.;23.7;80;Europe
Volkswagen Jetta;33.0;4;105.0;74.00;2190.;14.2;81;Europe
Volkswagen Model 111;27.0;4;97.00;60.00;1834.;19.0;71;Europe
Volkswagen Pickup;44.0;4;97.00;52.00;2130.;14.6;82;Europe
Volkswagen Rabbit;29.0;4;90.00;70.00;1937.;14.0;75;Europe
Volkswagen Rabbit;29.0;4;90.00;70.00;1937.;14.2;76;Europe
Volkswagen Rabbit;29.5;4;97.00;71.00;1825.;12.2;76;Europe
Volkswagen Rabbit;29.8;4;89.00;62.00;1845.;15.3;80;Europe
Volkswagen Rabbit;41.5;4;98.00;76.00;2144.;14.7;80;Europe
Volkswagen Rabbit C (Diesel);44.3;4;90.00;48.00;2085.;21.7;80;Europe
Volkswagen Rabbit Custom;29.0;4;97.00;78.00;1940.;14.5;77;Europe
Volkswagen Rabbit Custom;31.9;4;89.00;71.00;1925.;14.0;79;Europe
Volkswagen Rabbit Custom Diesel;43.1;4;90.00;48.00;1985.;21.5;78;Europe
Volkswagen Rabbit l;36.0;4;105.0;74.00;1980.;15.3;82;Europe
Volkswagen Scirocco;31.5;4;89.00;71.00;1990.;14.9;78;Europe
Volkswagen Super Beetle 117;0;4;97.00;48.00;1978.;20.0;71;Europe
Volkswagen Super Beetle;26.0;4;97.00;46.00;1950.;21.0;73;Europe
Volkswagen Type 3;23.0;4;97.00;54.00;2254.;23.5;72;Europe
Volvo 144ea;19.0;4;121.0;112.0;2868.;15.5;73;Europe
Volvo 145e (sw);18.0;4;121.0;112.0;2933.;14.5;72;Europe
Volvo 244DL;22.0;4;121.0;98.00;2945.;14.5;75;Europe
Volvo 245;20.0;4;130.0;102.0;3150.;15.7;70;Europe
Volvo 264gt;17.0;6;163.0;125.0;3140.;13.6;78;Europe
Volvo Diesel;30.7;6;145.0;76.00;3160.;19.6;81;Europe
eli@cis106:~/Documents/sample_files/Csv$ sooooooooooooooooooooooeli@cis106:~/Documents/sample_files/Csv$ wc -l sorted_cars.csv
408 sorted_cars.csv
eli@cis106:~/Documents/sample_files/Csv$ wc -m sorted_cars.csv
22663 sorted_cars.csv
eli@cis106:~/Documents/sample_files/Csv$ _
```

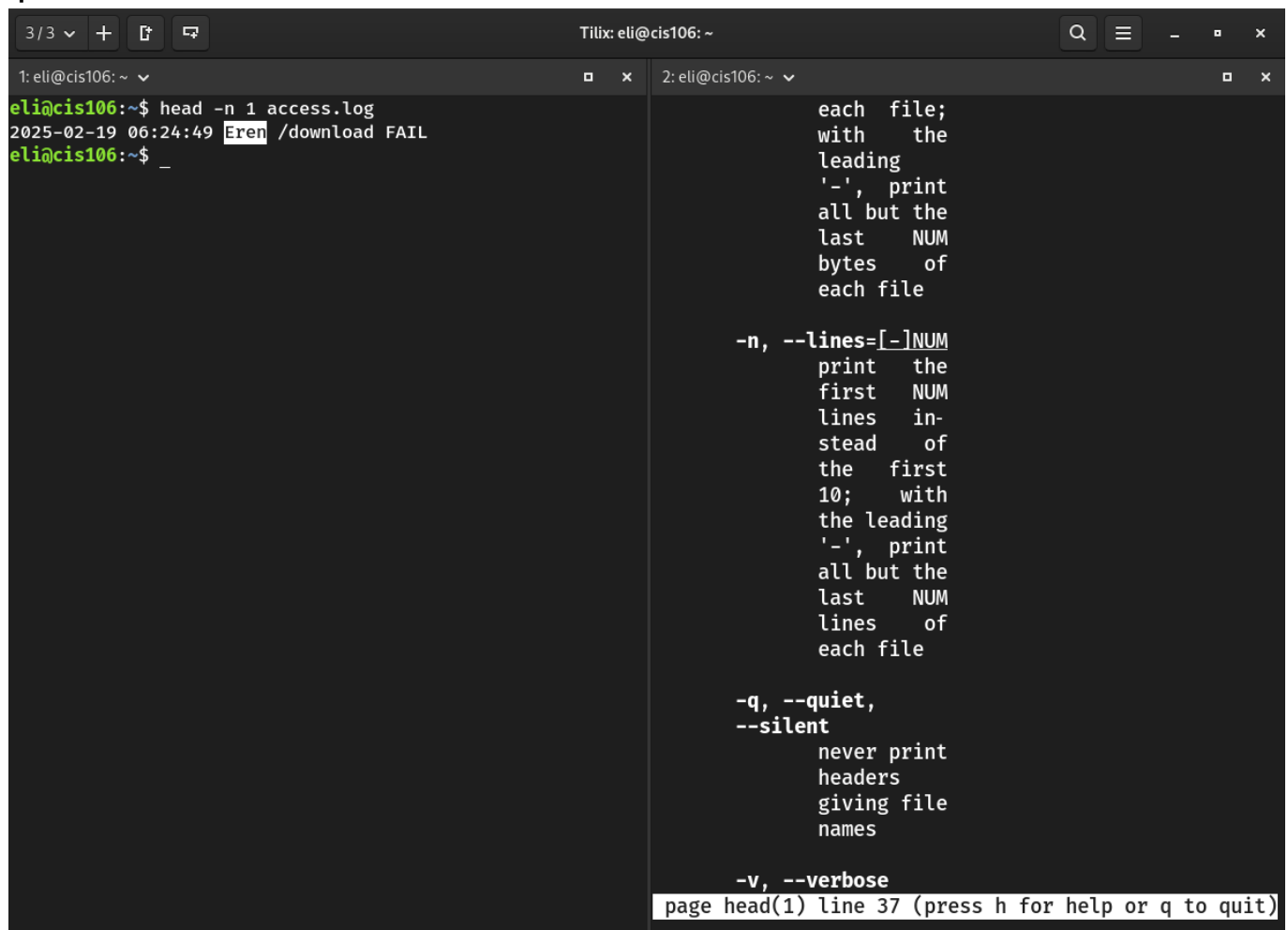
q2.1 Command Used

1. *Journal of the American Medical Association*, 1997; 277: 1001-1005.

q2.1 answer

```
Tilix: eli@cis106: ~  
1: eli@cis106: ~  
67 2025-09-22 19:57:03 Rize /upload SUCCESS  
68 2025-11-07 00:36:41 Spike /admin SUCCESS  
69 2025-12-09 15:08:18 Eren /dashboard FAIL  
70 2025-04-02 00:20:47 Honami /download DENIED  
71 2025-07-11 09:33:14 Eren /dashboard SUCCESS  
72 2025-02-02 04:11:47 Haruka /settings SUCCESS  
73 2025-12-19 16:48:39 Kei /upload DENIED  
74 2025-09-28 17:58:49 Julia /reset FAIL  
75 2025-05-26 16:17:41 Shinji /login DENIED  
76 2025-12-02 10:29:23 Rei /admin FAIL  
77 2025-04-13 00:18:10 Julia /download FAIL  
78 2025-07-21 11:37:16 Arisu /settings SUCCESS  
79 2025-10-03 15:24:47 Edward /admin SUCCESS  
80 2025-10-04 13:09:41 Faye /dashboard SUCCESS  
81 2025-07-18 16:19:10 Ken /dashboard FAIL  
82 2025-09-15 23:12:20 Annie /dashboard SUCCESS  
83 2025-02-05 16:14:24 Asimov /login DENIED  
84 2025-02-28 06:12:26 Ein /dashboard FAIL  
85 2025-07-07 14:06:23 Faye /logout SUCCESS  
86 2025-01-06 03:31:08 Kei /upload SUCCESS  
87 2025-10-22 06:20:01 Julia /reset SUCCESS  
88 2025-06-11 04:39:37 Haruka /logout FAIL  
89 2025-02-28 21:47:44 Julia /404 FAIL  
90 2025-03-14 19:39:17 Ein /404 DENIED  
91 2025-07-19 23:52:30 Ein /reset SUCCESS  
92 2025-11-21 04:13:13 Spike /dashboard SUCCESS  
93 2025-03-16 04:17:13 Eren /settings SUCCESS  
94 2025-12-14 23:42:33 Annie /admin DENIED  
95 2025-06-06 13:58:03 Haruka /admin DENIED  
96 2025-08-11 18:41:59 Touka /reset SUCCESS  
97 2025-04-16 09:22:25 Ken /dashboard DENIED  
98 2025-09-18 00:24:06 Honami /download DENIED  
99 2025-09-15 18:40:06 Honami /admin FAIL  
100 2025-04-24 14:00:30 Ken /download SUCCESS  
eli@cis106:~$
```

q2.2



The screenshot shows a Tmux terminal window with two panes. The left pane shows a shell session where the user runs `head -n 1 access.log`, resulting in the output `2025-02-19 06:24:49 Eren /download FAIL`. The right pane displays the help text for the `head` command, which explains the default behavior and lists various options like `-n`, `-q`, `--silent`, and `-v`.

```
eli@cis106:~$ head -n 1 access.log
2025-02-19 06:24:49 Eren /download FAIL
eli@cis106:~$ _
```

```
each file;
with the
leading
'-', print
all but the
last NUM
bytes of
each file

-n, --lines=[-]NUM
    print the
    first NUM
    lines in-
    stead of
    the first
    10; with
    the leading
    '-', print
    all but the
    last NUM
    lines of
    each file

-q, --quiet,
--silent
    never print
    headers
    giving file
    names

-v, --verbose
page head(1) line 37 (press h for help or q to quit)
```

q2.3

```

3/3 + [ ] [ ]
Tilix: eli@cis106: ~
1: eli@cis106: ~
eli@cis106:~$ tail -n 1 access.log
2025-04-24 14:00:30 Ken /download SUCCESS
eli@cis106:~$ _

2: eli@cis106: ~
each file;
with the
leading
'-', print
all but the
last NUM
bytes of
each file

-n, --lines=[-]NUM
    print the
    first NUM
    lines in-
    stead of
    the first
    10; with
    the leading
    '-', print
    all but the
    last NUM
    lines of
    each file

-q, --quiet,
--silent
    never print
    headers
    giving file
    names

-v, --verbose
page head(1) line 37 (press h for help or q to quit)

```

q2.4

```

3/3 + [ ] [ ]
Tilix: eli@cis106: ~
1: eli@cis106: ~
eli@cis106:~$ head -n 15 access.log access.log
==> access.log <==
2025-02-19 06:24:49 Eren /download FAIL
2025-07-11 23:48:09 Annie /dashboard SUCCESS
2025-02-05 03:10:13 Honami /logout FAIL
2025-01-07 21:03:44 Eren /dashboard FAIL
2025-07-15 09:45:09 Arisu /404 FAIL
2025-12-22 12:03:57 Arisu /logout DENIED
2025-08-20 19:00:52 Edward /login SUCCESS
2025-12-04 15:50:08 Walter /admin DENIED
2025-07-07 00:55:13 Arisu /reset SUCCESS
2025-06-15 15:44:44 Haruka /logout FAIL
2025-02-06 10:13:55 Eren /reset DENIED
2025-05-03 14:12:24 Annie /admin SUCCESS
2025-03-08 06:37:50 Annie /admin FAIL
2025-11-21 07:26:42 Rize /dashboard DENIED
2025-11-12 08:53:30 Haruka /admin SUCCESS

==> access.log <==
2025-02-19 06:24:49 Eren /download FAIL
2025-07-11 23:48:09 Annie /dashboard SUCCESS
2025-02-05 03:10:13 Honami /logout FAIL
2025-01-07 21:03:44 Eren /dashboard FAIL
2025-07-15 09:45:09 Arisu /404 FAIL
2025-12-22 12:03:57 Arisu /logout DENIED
2025-08-20 19:00:52 Edward /login SUCCESS
2025-12-04 15:50:08 Walter /admin DENIED
2025-07-07 00:55:13 Arisu /reset SUCCESS
2025-06-15 15:44:44 Haruka /logout FAIL
2025-02-06 10:13:55 Eren /reset DENIED
2025-05-03 14:12:24 Annie /admin SUCCESS
2025-03-08 06:37:50 Annie /admin FAIL
2025-11-21 07:26:42 Rize /dashboard DENIED
2025-11-12 08:53:30 Haruka /admin SUCCESS
eli@cis106:~$ _

2: eli@cis106: ~
-c, --bytes=[-]NUM
    print the first NUM bytes of each
    file; with the leading '-', print all
    but the last NUM bytes of each file

-n, --lines=[-]NUM
    print the first NUM lines instead of
    the first 10; with the leading '-',
    print all but the last NUM lines of
    each file

-q, --quiet, --silent
    never print headers giving file names

-v, --verbose
    always print headers giving file names

-z, --zero-terminated
    line delimiter is NUL, not newline

--help display this help and exit

--version
    output version information and exit

NUM may have a multiplier suffix: b 512, kB
1000, K 1024, MB 1000*1000, M 1024*1024, GB
1000*1000*1000, G 1024*1024*1024, and so on
for T, P, E, Z, Y, R, Q. Binary prefixes can
be used, too: KiB=K, MiB=M, and so on.

l page head(1) line 21/79 65% (press h for help or q to quit)

```

q2.5

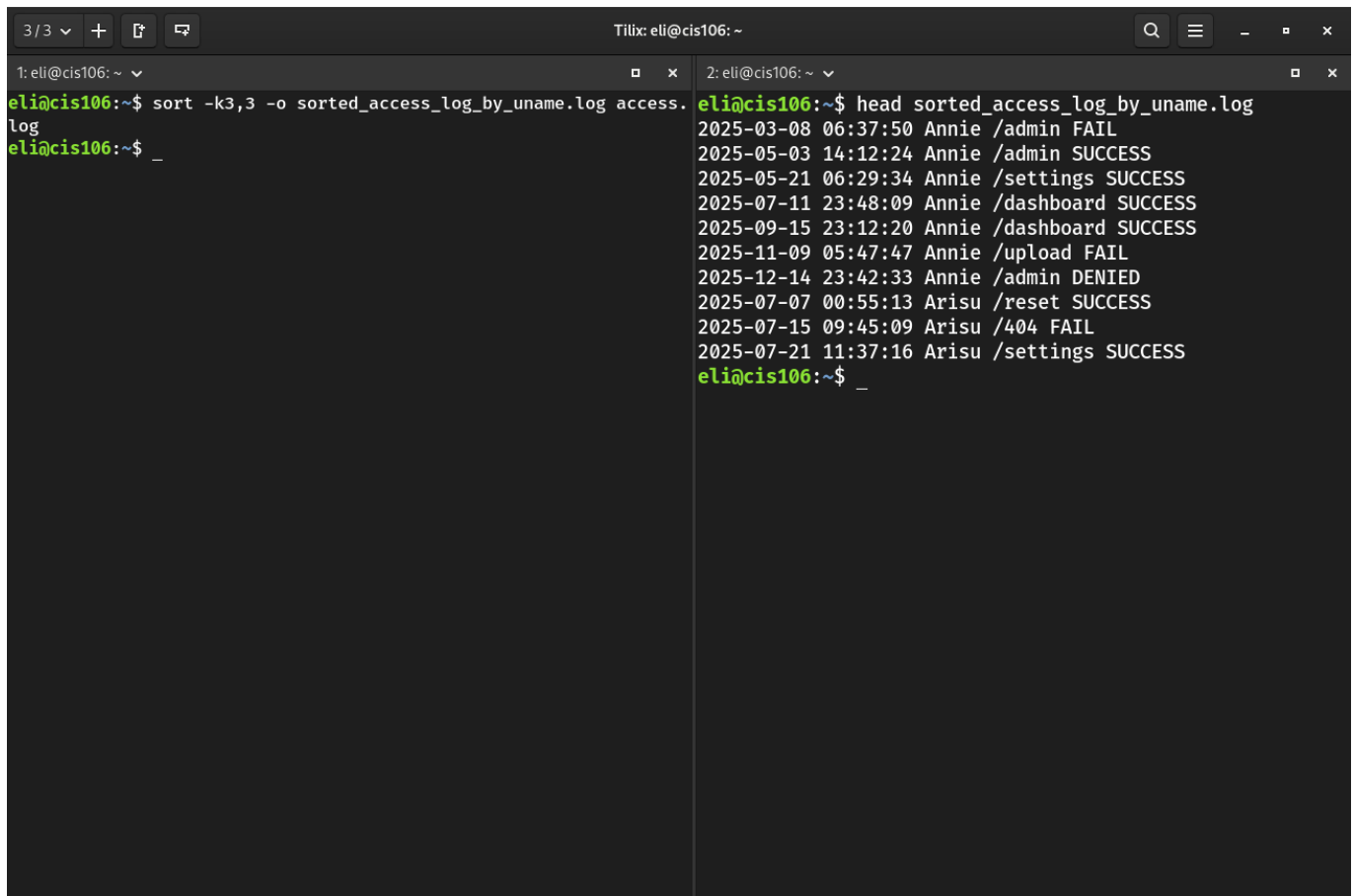
```
3/3 v + [share] [copy] Tilix: eli@cis106: ~ [search] [menu] [-] [maximize] [close]
1: eli@cis106: ~ v [terminal icons]
eli@cis106:~$ tail -n 15 access.log access.log
==> access.log <==
2025-01-06 03:31:08 Kei /upload SUCCESS
2025-10-22 06:20:01 Julia /reset SUCCESS
2025-06-11 04:39:37 Haruka /logout FAIL
2025-02-28 21:47:44 Julia /404 FAIL
2025-03-14 19:39:17 Ein /404 DENIED
2025-07-19 23:52:30 Ein /reset SUCCESS
2025-11-21 04:13:13 Spike /dashboard SUCCESS
2025-03-16 04:17:13 Eren /settings SUCCESS
2025-12-14 23:42:33 Annie /admin DENIED
2025-06-06 13:58:03 Haruka /admin DENIED
2025-08-11 18:41:59 Touka /reset SUCCESS
2025-04-16 09:22:25 Ken /dashboard DENIED
2025-09-18 00:24:06 Honami /download DENIED
2025-09-15 18:40:06 Honami /admin FAIL
2025-04-24 14:00:30 Ken /download SUCCESS

==> access.log <==
2025-01-06 03:31:08 Kei /upload SUCCESS
2025-10-22 06:20:01 Julia /reset SUCCESS
2025-06-11 04:39:37 Haruka /logout FAIL
2025-02-28 21:47:44 Julia /404 FAIL
2025-03-14 19:39:17 Ein /404 DENIED
2025-07-19 23:52:30 Ein /reset SUCCESS
2025-11-21 04:13:13 Spike /dashboard SUCCESS
2025-03-16 04:17:13 Eren /settings SUCCESS
2025-12-14 23:42:33 Annie /admin DENIED
2025-06-06 13:58:03 Haruka /admin DENIED
2025-08-11 18:41:59 Touka /reset SUCCESS
2025-04-16 09:22:25 Ken /dashboard DENIED
2025-09-18 00:24:06 Honami /download DENIED
2025-09-15 18:40:06 Honami /admin FAIL
2025-04-24 14:00:30 Ken /download SUCCESS
eli@cis106:~$ _
```

q2.6

```
3/3 + [ ] [ ]
Tilix: eli@cis106: ~
1: eli@cis106: ~
eli@cis106:~$ cut -f3 access.log
2025-02-19 06:24:49 Eren /download FAIL
2025-07-11 23:48:09 Annie /dashboard SUCCESS
2025-02-05 03:10:13 Honami /logout FAIL
2025-01-07 21:03:44 Eren /dashboard FAIL
2025-07-15 09:45:09 Arisu /404 FAIL
2025-12-22 12:03:57 Arisu /logout DENIED
2025-08-20 19:00:52 Edward /login SUCCESS
2025-12-04 15:50:08 Walter /admin DENIED
2025-07-07 00:55:13 Arisu /reset SUCCESS
2025-06-15 15:44:44 Haruka /logout FAIL
2025-02-06 10:13:55 Eren /reset DENIED
2025-05-03 14:12:24 Annie /admin SUCCESS
2025-03-08 06:37:50 Annie /admin FAIL
2025-11-21 07:26:42 Rize /dashboard DENIED
2025-11-12 08:53:30 Haruka /admin SUCCESS
2025-08-06 01:06:25 Seras /settings FAIL
2025-01-09 10:16:50 Kei /reset SUCCESS
2025-06-20 00:27:02 Kei /upload DENIED
2025-03-18 09:02:57 Honami /settings FAIL
2025-03-18 01:08:49 Shinji /404 SUCCESS
2025-01-04 09:11:39 Honami /upload DENIED
2025-10-11 20:41:44 Walter /upload DENIED
2025-04-14 17:40:12 Honami /admin SUCCESS
2025-03-03 05:40:35 Rei /404 FAIL
2025-10-01 04:33:11 Walter /dashboard SUCCESS
2025-03-12 03:06:47 Julia /settings SUCCESS
2025-11-13 22:55:31 Touka /404 FAIL
2025-03-06 22:54:46 Ken /download DENIED
2025-10-09 23:01:09 Spike /settings SUCCESS
2025-11-09 05:47:47 Annie /upload FAIL
2025-11-15 10:04:30 Haruka /settings DENIED
2025-12-20 01:09:59 Rize /settings DENIED
2025-03-12 02:22:04 Rei /dashboard FAIL
2025-03-24 15:49:34 Ein /download FAIL
2025-09-05 07:04:45 Rize /download DENIED
```

q2.7

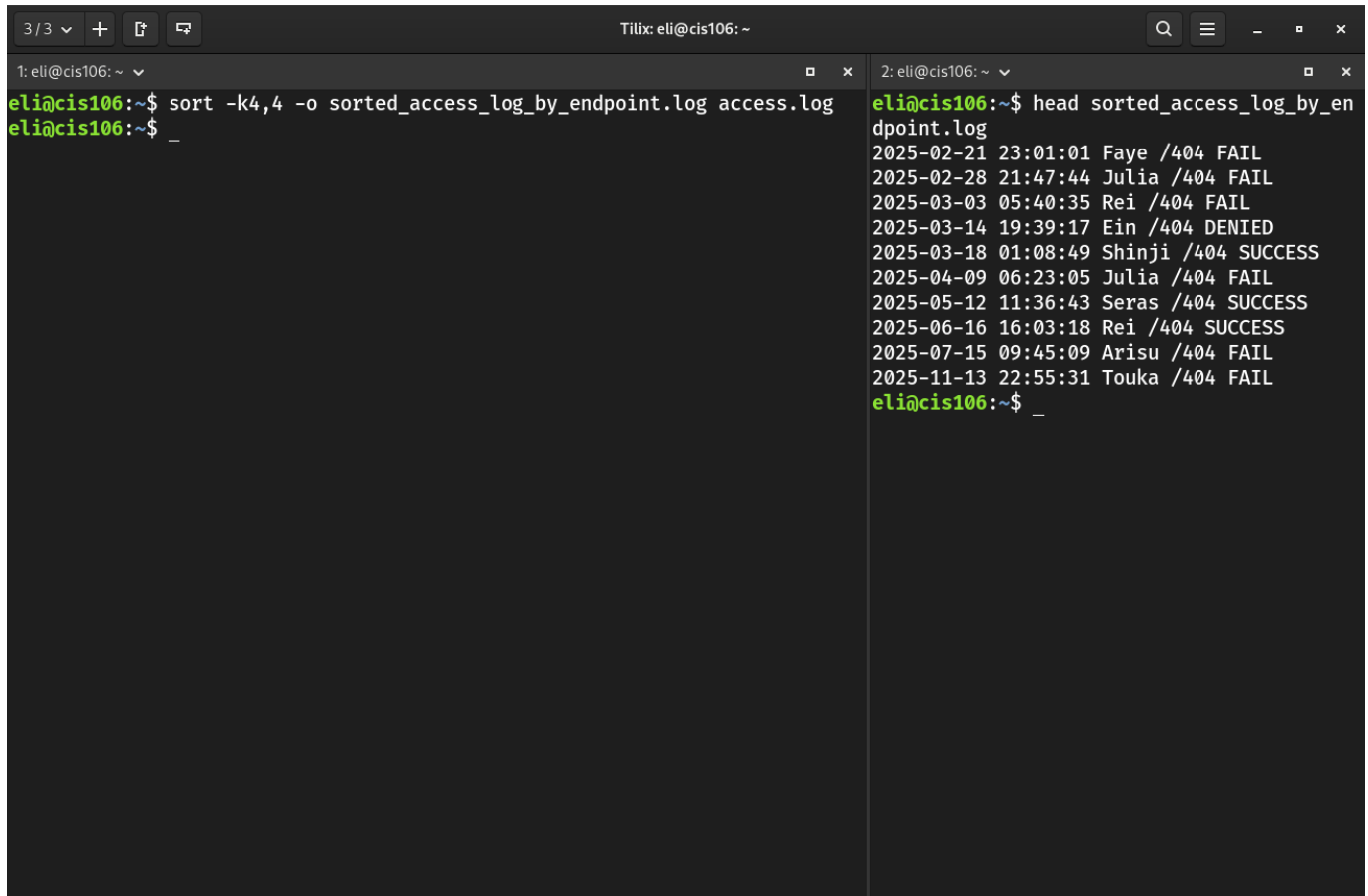


```
3/3 v + f m Tilix: eli@cis106: ~ Q ≡ - □ x

1: eli@cis106: ~ x
eli@cis106:~$ sort -k3,3 -o sorted_access_log_by_uname.log access.log
eli@cis106:~$ _

2: eli@cis106: ~ x
eli@cis106:~$ head sorted_access_log_by_uname.log
2025-03-08 06:37:50 Annie /admin FAIL
2025-05-03 14:12:24 Annie /admin SUCCESS
2025-05-21 06:29:34 Annie /settings SUCCESS
2025-07-11 23:48:09 Annie /dashboard SUCCESS
2025-09-15 23:12:20 Annie /dashboard SUCCESS
2025-11-09 05:47:47 Annie /upload FAIL
2025-12-14 23:42:33 Annie /admin DENIED
2025-07-07 00:55:13 Arisu /reset SUCCESS
2025-07-15 09:45:09 Arisu /404 FAIL
2025-07-21 11:37:16 Arisu /settings SUCCESS
eli@cis106:~$ _
```

q2.8



```
3/3 v + f m Tilix: eli@cis106: ~ Q ≡ - □ x

1: eli@cis106: ~ x
eli@cis106:~$ sort -k4,4 -o sorted_access_log_by_endpoint.log access.log
eli@cis106:~$ _

2: eli@cis106: ~ x
eli@cis106:~$ head sorted_access_log_by_endpoint.log
2025-02-21 23:01:01 Faye /404 FAIL
2025-02-28 21:47:44 Julia /404 FAIL
2025-03-03 05:40:35 Rei /404 FAIL
2025-03-14 19:39:17 Ein /404 DENIED
2025-03-18 01:08:49 Shinji /404 SUCCESS
2025-04-09 06:23:05 Julia /404 FAIL
2025-05-12 11:36:43 Seras /404 SUCCESS
2025-06-16 16:03:18 Rei /404 SUCCESS
2025-07-15 09:45:09 Arisu /404 FAIL
2025-11-13 22:55:31 Touka /404 FAIL
eli@cis106:~$ _
```


q2.9

```
3/3 + [ ] [ ] Tilix: eli@cis106: ~  
1: eli@cis106: ~  
eli@cis106:~$ cut -d' ' -f3,4 --output-delimiter=" accessed: " access.log  
Eren accessed: /download  
Annie accessed: /dashboard  
Honami accessed: /logout  
Eren accessed: /dashboard  
Arisu accessed: /404  
Arisu accessed: /logout  
Edward accessed: /login  
Walter accessed: /admin  
Arisu accessed: /reset  
Haruka accessed: /logout  
Eren accessed: /reset  
Annie accessed: /admin  
Annie accessed: /admin  
Rize accessed: /dashboard  
Haruka accessed: /admin  
Seras accessed: /settings  
Kei accessed: /reset  
Kei accessed: /upload  
Honami accessed: /settings  
Shinji accessed: /404  
Honami accessed: /upload  
Walter accessed: /upload  
Honami accessed: /admin  
Rei accessed: /404  
Walter accessed: /dashboard  
Julia accessed: /settings  
Touka accessed: /404  
Ken accessed: /download  
Spike accessed: /settings  
Annie accessed: /upload  
Haruka accessed: /settings  
Rize accessed: /settings
```