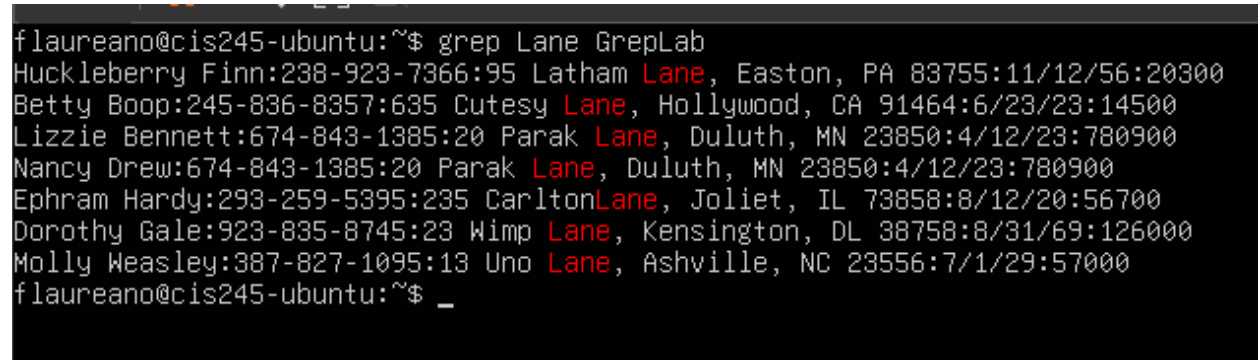


Assignment 2

1. Print all lines containing the string Lane

1a.

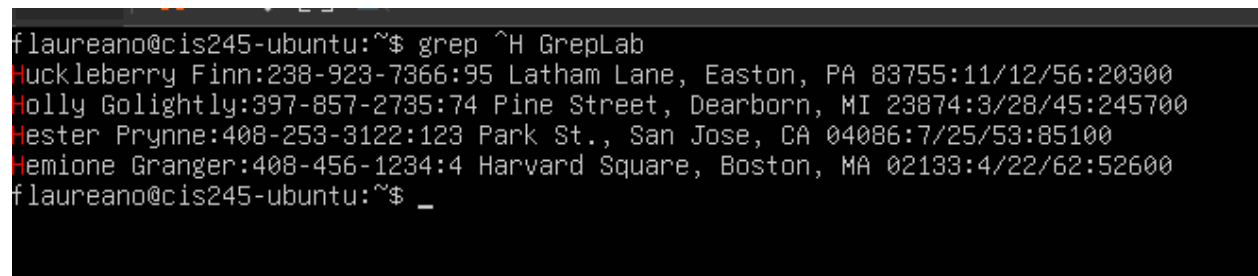


```
flaureano@cis245-ubuntu:~$ grep Lane GrepLab
Huckleberry Finn:238-923-7366:95 Latham Lane, Easton, PA 83755:11/12/56:20300
Betty Boop:245-836-8357:635 Cutesy Lane, Hollywood, CA 91464:6/23/23:14500
Lizzie Bennett:674-843-1385:20 Parak Lane, Duluth, MN 23850:4/12/23:780900
Nancy Drew:674-843-1385:20 Parak Lane, Duluth, MN 23850:4/12/23:780900
Ephram Hardy:293-259-5395:235 CarltonLane, Joliet, IL 73858:8/12/20:56700
Dorothy Gale:923-835-8745:23 Wimp Lane, Kensington, DL 38758:8/31/69:126000
Molly Weasley:387-827-1095:13 Uno Lane, Ashville, NC 23556:7/1/29:57000
flaureano@cis245-ubuntu:~$ _
```

1b. At it's base level, the grep command searches a file for a keyword. In the screenshot here I am searching for the keyword 'Lane' in the file GrepLab. After searching, a list of the results containing Lane is shown.

2. Print all lines where the person's first name starts with H

2a.



```
flaureano@cis245-ubuntu:~$ grep ^H GrepLab
Huckleberry Finn:238-923-7366:95 Latham Lane, Easton, PA 83755:11/12/56:20300
Holly Golightly:397-857-2735:74 Pine Street, Dearborn, MI 23874:3/28/45:245700
Hester Prynne:408-253-3122:123 Park St., San Jose, CA 04086:7/25/53:85100
Hemione Granger:408-456-1234:4 Harvard Square, Boston, MA 02133:4/22/62:52600
flaureano@cis245-ubuntu:~$ _
```

2b. Utilizing the ^ regex, I can search for a specific character at the start of each line. As the structure of the file lists names at the very start, I can utilize ^H to find any person whose name starts with an H. It's also very important to remember that unless I include -I, the search will be case sensitive.

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3. Print all lines ending in three zeros (000)

3a.

```
flaureano@cis245-ubuntu:~$ grep 000$ GrepLab
Meg Murry:834-938-8376:23445 Aster Ave., Allentown, NJ 83745:12/1/38:45000
Minerva McGonagall:408-233-8971:45 Rose Terrace, San Francisco, CA 92303:2/3/36:25000
Dorothy Gale:923-835-8745:23 Wimp Lane, Kensington, DL 38758:8/31/69:126000
Molly Weasley:387-827-1095:13 Uno Lane, Ashville, NC 23556:7/1/29:57000
flaureano@cis245-ubuntu:~$
```

3b. Utilizing the \$ regex, I can search for a specific character at the end of lines. Using x\$, I can find the lines that have the specific character I'm looking for at the end of the lines.

4. Print all lines that don't contain 408

```
last login: Mon Sep  9 01:34:58 2024 from 192.168.186.1
flaureano@cis245-ubuntu:~$ grep -v 408 GrepLab
Ruckleberry Finn:238-923-7366:95 Latham Lane, Easton, PA 83755:11/12/56:20300

Betty Boop:245-836-8357:635 Cutesy Lane, Hollywood, CA 91464:6/23/23:14500

Dorian Gray:385-375-8395:3567 Populus Place, Caldwell, NJ 23875:6/18/68:23400

Holly Golightly:397-857-2735:74 Pine Street, Dearborn, MI 23874:3/28/45:245700

Ebenezer Scrooge:548-834-2348:583 Laurel Ave., Kingsville, TX 83745:10/1/35:58900

Westley Pirate:284-758-2857:23 Edgecliff Place, Lincoln , NB 92743:7/25/53:85100
Westley Pirate:284-758-2867:23 Edgecliff Place, Lincoln, NB 92743:11/3/35:58200
Westley Pirate:284-758-2867:23 Edgecliff Place, Lincoln, NB 92743:11/3/35:58200

Lizzie Bennett:674-843-1385:20 Parak Lane, Duluth, MN 23850:4/12/23:780900

Nancy Drew:674-843-1385:20 Parak Lane, Duluth, MN 23850:4/12/23:780900

Jo March:327-832-5728:3465 Mirlo Street, Peabody, MA 34756:10/2/65:35200

Victor Frankenstein:835-365-1284:454 Easy Street, Decatur, IL 75732:2/28/53:123500

Cphram Hardy:293-259-5395:235 CarltonLane, Joliet, IL 73858:8/12/20:56700

Meg Murry:834-938-8376:23445 Aster Ave., Allentown, NJ 83745:12/1/38:45000

Lucy Pevensie:385-573-8326:832 Ponce Drive, Gzary, IN 83756:12/1/46:268500

Mary Poppins:846-836-2837:6937 Ware Road, Milton, PA 93756:9/21/46:43500

Sir Lancelot:837-835-8257:474 Camelot Boulevard, Bath, WY 28356:5/13/69:24500

Pippy Pinhead:834-823-8319:2356 Bizarro Ave., Farmount, IL 84357:1/1/67:89500

Dorothy Gale:923-835-8745:23 Wimp Lane, Kensington, DL 38758:8/31/69:126000

Popeye Sailor:156-454-3322:945 Bluto Street, NotHere, USA 29358:3/19/35:22350

Luna Lovegood:385-898-8357:38 Fife Way, Abilene, TX 39673:1/5/58:95600

Molly Weasley:387-827-1095:13 Uno Lane, Ashville, NC 23556:7/1/29:57000

Arya Stark:438-910-7449:8235 Maple Street, Wilmington, VM 29085:9/23/63:68900
flaureano@cis245-ubuntu:~$
```

4a.

4b. Utilizing the -v switch I can exclude specific words, letters, or characters in my grep search.

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5. Print all lines where birthdays are in the year 1935 (be careful of the date format! it's MM/DD/YY)

5a.

```
flaureano@cis245-ubuntu:~$ grep '/35' GrepLab
Ebenezer Scrooge:548-834-2348:583 Laurel Ave., Kingsville, TX 83745:10/1/35:5890
Westley Pirate:284-758-2867:23 Edgecliff Place, Lincoln, NB 92743:11/3/35:58200
Westley Pirate:284-758-2867:23 Edgecliff Place, Lincoln, NB 92743:11/3/35:58200
Popeye Sailor:156-454-3322:945 Bluto Street, NotHere, USA 29358:3/19/35:22350
flaureano@cis245-ubuntu:~$
```

5b. Knowing the format of the birthdays listed, we can search specifically for birthdays that occur 1935 by grepping the years listed that end in 35. With '/35', we can search all of the lines specifically for any mention of a birthday occurring in the xx35th year.

6. Print all lines where the phone number is in an area code that starts with an 8

6a.

```
flaureano@cis245-ubuntu:~$ grep 8..-...-.... GrepLab
Victor Frankenstein:835-365-1284:454 Easy Street, Decatur, IL 75732:2/28/53:123500
Meg Murry:834-938-8376:23445 Aster Ave., Allentown, NJ 83745:12/1/38:45000
Mary Poppins:846-836-2837:6937 Ware Road, Milton, PA 93756:9/21/46:43500
Sir Lancelot:837-835-8257:474 Camelot Boulevard, Bath, WY 28356:5/13/69:24500
Zippy Pinhead:834-823-8319:2356 Bizarro Ave., Farmount, IL 84357:1/1/67:89500
flaureano@cis245-ubuntu:~$
```

6b. The . character matches any character and when the structure of the search is formatted as a phone number I can filter the search down to any number that begins with 8. By building a phone number comprised entirely of the . characters with the exception of 8 leading the query, I parsed the entire list of numbers and returned only the numbers starting with 8.

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7. Print all lines containing an uppercase letter, followed by 4 lowercase letters, a space and one uppercase letter.

```
flaureano@cis245-ubuntu:~$ grep '[A-Z][a-z][a-z][a-z][a-z] [A-Z]' GrepLab
Betty Boop:245-836-8357:635 Cutesy Lane, Hollywood, CA 91464:6/23/23:14500
Holly Golightly:397-857-2735:74 Pine Street, Dearborn, MI 23874:3/28/45:245700
Lizzie Bennett:674-843-1385:20 Parak Lane, Duluth, MN 23850:4/12/23:780900
Nancy Drew:674-843-1385:20 Parak Lane, Duluth, MN 23850:4/12/23:780900
Jo March:327-832-5728:3465 Mirlo Street, Peabody, MA 34756:10/2/65:35200
Meg Murry:834-938-8376:23445 Aster Ave., Allentown, NJ 83745:12/1/38:45000
Lucy Pevensie:385-573-8326:832 Ponce Drive, Gzary, IN 83756:12/1/46:268500
Zippy Pinhead:834-823-8319:2356 Bizarro Ave., Farmount, IL 84357:1/1/67:89500
Popeye Sailor:156-454-3322:945 Bluto Street, NotHere, USA 29358:3/19/35:22350
Daenerys Targaryen:408-724-0140:1222 Oxbow Court, Sunnyvale, CA 94087:5/19/66:34200
Molly Weasley:387-827-1095:13 Uno Lane, Ashville, NC 23556:7/1/29:57000
Arya Stark:438-910-7449:8235 Maple Street, Wilmington, VM 29085:9/23/63:68900
flaureano@cis245-ubuntu:~$
```

7a.

7b. Searching for a range of characters is accomplished by building a range query. In this query you list which characters you wish to parse through and can formulate a grep search that can find your desired result. Something to keep in mind is that when using a space in a search query, you should wrap it with “ ” so that the space is properly treated as a part of the search

8. Print lines where the address begins with a two or three digit number (so this would be 12 main st or 123 main street but not 1234 main street).

```
flaureano@cis245-ubuntu:~$ grep -E '[0-9]\{2,3\}' GrepLab
Huckleberry Finn:238-923-7366:95 Latham Lane, Easton, PA 83755:11/12/56:20300
Betty Boop:245-836-8357:635 Cutesy Lane, Hollywood, CA 91464:6/23/23:14500
Dorian Gray:385-375-8395:3567 Populus Place, Caldwell, NJ 23875:6/18/68:23400
Holly Golightly:397-857-2735:74 Pine Street, Dearborn, MI 23874:3/28/45:245700
Ebenezer Scrooge:548-834-2348:583 Laurel Ave., Kingsville, TX 83745:10/1/35:58900
Hester Prynne:408-253-3122:123 Park St., San Jose, CA 04086:7/25/53:85100
Westley Pirate:284-758-2857:23 Edgecliff Place, Lincoln, NB 92743:7/25/53:85100
Westley Pirate:284-758-2867:23 Edgecliff Place, Lincoln, NB 92743:11/3/35:58200
Westley Pirate:284-758-2867:23 Edgecliff Place, Lincoln, NB 92743:11/3/35:58200
Lizzie Bennett:674-843-1385:20 Parak Lane, Duluth, MN 23850:4/12/23:780900
Nancy Drew:674-843-1385:20 Parak Lane, Duluth, MN 23850:4/12/23:780900
Jo March:327-832-5728:3465 Mirlo Street, Peabody, MA 34756:10/2/65:35200
Victor Frankenstein:835-365-1284:454 Easy Street, Decatur, IL 75732:2/28/53:123500
Ephram Hardy:293-259-5395:235 Carlton Lane, Joliet, IL 73858:8/12/20:56700
Meg Murry:834-938-8376:23445 Aster Ave., Allentown, NJ 83745:12/1/38:45000
Lucy Pevensie:385-573-8326:832 Ponce Drive, Gzary, IN 83756:12/1/46:268500
Hemione Granger:408-456-1234:4 Harvard Square, Boston, MA 02133:4/22/62:52600
Mary Poppins:846-836-2837:6937 Ware Road, Milton, PA 93756:9/21/46:43500
Sir Lancelot:837-835-8257:474 Camelot Boulevard, Bath, WY 28356:5/13/69:24500
Minerva McGonagall:408-233-8971:45 Rose Terrace, San Francisco, CA 92303:2/3/36:25000
Zippy Pinhead:834-823-8319:2356 Bizarro Ave., Farmount, IL 84357:1/1/67:89500
Dorothy Gale:923-835-8745:23 Wimp Lane, Kensington, DL 38758:8/31/69:126000
Popeye Sailor:156-454-3322:945 Bluto Street, NotHere, USA 29358:3/19/35:22350
Luna Lovegood:385-898-8357:38 Fife Way, Abilene, TX 39673:1/5/58:95600
Daenerys Targaryen:408-724-0140:1222 Oxbow Court, Sunnyvale, CA 94087:5/19/66:34200
Molly Weasley:387-827-1095:13 Uno Lane, Ashville, NC 23556:7/1/29:57000
Arya Stark:438-910-7449:8235 Maple Street, Wilmington, VM 29085:9/23/63:68900
flaureano@cis245-ubuntu:~$
```

8a.

8b. Grep allows us to filter by the amount of digits if you include {} brackets. So with [0-9]{2,3} we can say that we want the range of numbers to be between 0 and 9 and the number entries to be between a two digit number or a 3 digit number.

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9. Print lines where the person lives in Mass or Illinois

9a.

```
flaureano@cis245-ubuntu:~$ grep -E 'MA|IL' GrepLab
Jo March:327-832-5728:3465 Mirlo Street, Peabody, MA 34756:10/2/65:35200
Victor Frankenstein:835-365-1284:454 Easy Street, Decatur, IL 75732:2/28/53:123500
Ephram Hardy:293-259-5395:235 CarltonLane, Joliet, IL 73858:8/12/20:56700
Hemione Granger:408-456-1234:4 Harvard Square, Boston, MA 02133:4/22/62:52600
Zippy Pinhead:834-823-8319:2356 Bizarro Ave., Farmount, IL 84357:1/1/67:89500
flaureano@cis245-ubuntu:~$
```

9b. The | character represents or, so when presenting it with options to choose from we can filter the list with an array of choices separated by |.

10. Print lines containing the addresses that aren't on a street (You might see St as shorthand for street)

```
flaureano@cis245-ubuntu:~$ grep -v -E 'st|street|Street|St' GrepLab
Betty Boop:245-836-8357:635 Cutesy Lane, Hollywood, CA 91464:6/23/23:14500
Dorian Gray:385-375-8395:3567 Populus Place, Caldwell, NJ 23875:6/18/68:23400
Ebenezer Scrooge:548-834-2348:583 Laurel Ave., Kingsville, TX 83745:10/1/35:58900
Lizzie Bennett:674-843-1385:20 Parak Lane, Duluth, MN 23850:4/12/23:780900
Nancy Drew:674-843-1385:20 Parak Lane, Duluth, MN 23850:4/12/23:780900
Ephram Hardy:293-259-5395:235 CarltonLane, Joliet, IL 73858:8/12/20:56700
Lucy Pevensie:385-573-8326:832 Ponce Drive, Gzary, IN 83756:12/1/46:268500
Mary Poppins:846-836-2837:6937 Ware Road, Milton, PA 93756:9/21/46:43500
Sir Lancelot:837-835-8257:474 Camelot Boulevard, Bath, WY 28356:5/13/69:24500
Minerva McGonagall:408-233-8971:45 Rose Terrace, San Francisco, CA 92303:2/3/36:25000
Zippy Pinhead:834-823-8319:2356 Bizarro Ave., Farmount, IL 84357:1/1/67:89500
Dorothy Gale:923-835-8745:23 Wimp Lane, Kensington, DL 38758:8/31/69:126000
Luna Lovegood:385-898-8357:38 Fife Way, Abilene, TX 39673:1/5/58:95600
Daenerys Targaryen:408-724-0140:1222 Oxbow Court, Sunnyvale, CA 94087:5/19/66:34200
Molly Weasley:387-827-1095:13 Uno Lane, Ashville, NC 23556:7/1/29:57000
flaureano@cis245-ubuntu:~$
```

10a.

10b. Utilizing -v and |, I can create a string that filters out all addresses that include a street or st.

References

<https://www.digitalocean.com/community/tutorials/grep-command-in-linux-unix>

<https://www.baeldung.com/linux/bash-escape-characters>

<https://www.aholdengouveia.name/LinuxAdmin/Grep.html>