

The grep Family

In the following we will show different instances on how to use the **Grep** command. We will be using a file with data named GrepLab

For instance, to see all the lines that have the word **Lane** you would type the following assuming you copied your file to your home directory on your server

grep Lane /home/efelix/GrepLab and you will get the following results

```
efelix@felixus:~$ grep Lane /home/efelix/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
```

Since I didn't use any parameters with command it printed out all the lines with case sensitivity regardless of there is a space or not between words. This is useful as you could see in the example of **CarltonLane**, maybe there should be a space between words and now I could edit the file and correct it.

In the next example, I want to find all the lines where the first person's lane starts with H

grep ^H /home/efelix/GrepLab and you will get the following results

```
efelix@felixus:~$ grep ^H /home/efelix/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
```

By using **^** before the search parameter it will look for the line in this the line that has an **H** to start. This is useful as we know that in this file, we know that the first word is a name. We don't need a street name.

In this next example, we are asked to find lines that end with at least 3 zeros

grep 000\$ /home/efelix/GrepLab and you will get the following results

```
efelix@felixus:~$ grep 000$ /home/efelix/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
```

By using the **\$** it will look at the end of the line. In this case, we are looking for zip codes which makes this command convenient.

In this next example we want to avoid displaying the lines that have 408

grep -v 408 /home/efelix/GrepLab and you will get the following results

```
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

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 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

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

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
efelix@efelixus:~$ grep -v 408 /home/efelix/GrepLab
```

-v reverses inverts the match option and thus avoids all lines with 408. This saves time by avoiding data that you don't need to see.

In the next example we will print all lines where birthdays are in the year 1935 (be careful of the date format! it's MM/DD/YY)

grep '[0-9]\{1,2\}/[0-9]\{1,2\}/35' GrepLab

```
efelix@192.168.68.64:~$ grep '[0-9]\{1,2\}/[0-9]\{1,2\}/35' GrepLab
Ebenezer Scrooge:548-834-2348:583 Laurel Ave., Kingsville, TX 83745:10/1/35:58900
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
```

Since the dates have 1 or 2 digits to represent the day of the month, we added **{1,2\}** to produce one or the other. Otherwise, March (**3**) would not have been printed.

In this example we want to print all lines where the phone number is in an area code that starts with an 8

grep -E '8[0-9]{2}-[0-9]{3}-[0-9]{4}' GrepLab

```
efelix@192.168.68.64:~$ grep -E '8[0-9]{2}-[0-9]{3}-[0-9]{4}' 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
```

The reason this command works is because we are using ^ to tell what digit we want it to begin with. That leaves us with 2 remaining digits before the dash. Then you put {3} and {4} between the remaining digits to match the phone number format. We start the grep command with -E to enable extended regular expressions.

In this example we want to print all lines containing an uppercase letter, followed by 4 lowercase letters, a space and one uppercase letter.

grep -E '[A-Z][a-z]{4} [A-Z]' GrepLab

```
efelix@192.168.68.64:~$ grep -E '[A-Z][a-z]{4} [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
```

As you notice this command worked because we didn't add {} after the first capital letter thus telling the command that only one capital letter is required between A-Z. For the lower case it has to be 4 {4} and thus only 5 word names show up. We left a space between the search parameters so it could match what we are looking for.

In this example we will 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).

grep -E '[0-9]{2,3}' GrepLab

```
efelix@192.168.68.64:~$ 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 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
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
```

This command should work as it is to show no more than only 3 digits by using {2,3} and then a space to continue the characters but could not get the exact results that I'm looking although I have tried the command in various forms.

In this example we will print lines where the person lives in Mass or Illinois

Grep -E 'IL|MA' GrepLab

```
efelix@192.168.68.64:~$ grep -E 'IL|MA' 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
```

The pipe command allows you to search multiple items.

In this example we will print lines containing the addresses that aren't on a street (You might see St as shorthand for street)

grep -Ev 'Street|St' GrepLab

```
efelix@felixus:~$ grep -Ev 'Street|St' 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

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

Ephram 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
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

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
```

By using **v** in the parameters, we are excluding the items within the quotation marks.

Used the following websites as guides to find solutions for the problems that were assigned.

[How to Use the grep Command on Linux \(howtogeek.com\)](http://howtogeek.com)

[Regular expressions in grep \(regex \) with examples - nixCraft \(cyberciti.biz\)](http://cyberciti.biz)

[How to use grep command In Linux / UNIX with examples - nixCraft \(cyberciti.biz\)](http://cyberciti.biz)