SED

1. Change the name Jo to Josephine
   To change the name Jo to Josephine we can use the following command.
   sed s/Jo/Josephine/ SedLab

s: is the substitution option in sed, it finds and replaces a pattern with another one.

/: forward slashes are used to separate the search pattern and the replacement string.

/Jo/Josephine/: this expression tells sed to search for Jo and replace it with Josephine.

```
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

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

2. Delete the last 5 lines.
   To delete the last 5 lines of a given file we can use the following command.
   sed '$d' sedlab | sed '$d'| sed '$d'| sed '$d'| sed '$d'
   $: represents the last line of a file.
   d: this is the delete command in sed.
   |: the pipe operator passes the output of one command to another.
   | sed '$d': adding this to the initial command repeats the action as many times as this part
   of the command is added. As the initial command deletes the last line all the | sed '$d'
   delete the new last line. In this case this deletes the 5 last lines of the file.

```
victoria@ubuntuserver:~$ sed '$d' SedLab | sed '$d' | sed '$d' | sed '$d' | sed '$d'
```

```
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

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

victoria@ubuntuserver:~$
```

3. Print lines 3-15.

sed -n '2-15p' sedlab

-n: this option in sed tells it to only print the specified lines and not the entire file.

p: this option in sed means print, it prints the specified line or range.

2-15: this specifies the range of lines we are working with. All together the command prints lines 2-15 only.

```
victoria@ubuntuserver:~$ sed -n '3,15p' SedLab
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
victoria@ubuntuserver:~$
```

Delete lines for people who live in California

sed /CA/d sedlab

/: the forward slashes are used to set a boundary for the command.

d: this is the delete command in sed.

/CA/: this is the pattern that sed will search for. This command removes lines that contain CA in them.

```
victoria@ubuntuserver:~$ sed /CA/d SedLab
Huckleberry Finn:238-923-7366:95 Latham Lane, Easton, PA 83755:11/12/56:20300

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 83745:10/1/35:5890
0

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 75732:2/28/53:1235
00

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

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
```

5. Print all lines where the birthdays are in the first week of the month.

Be careful of the dates for birthdays, the format is MM/DD/YY

sed -n '/[0-9]\/[1-7]\/[0-9]\{2\}/p sedlab

-n: this option in sed tells it to only print the specified lines and not the entire file.

/: the forward slashes are used to set a boundary for the command.

p: this option in sed means print, it prints the specified line or range.

'/[0-9]\/[1-7]\/[0-9]\{2\}/

[0-9]: Matches any digit from 0 to 9.

\/: Matches the forward slash (/) for the date. The slash needs to be escaped with a backslash (\) because it's also used to delimit the pattern.

[1-7]: Matches any digit from 1 to 7.

[0-9]\{2\}: this part of the command matches any digit from 0 to 9, this \{2\} repeats it two times to match two digits. This command prints lines containing birthdays on the first week of the month.

```
victoria@ubuntuserver:~$ sed -n '/[0-9]\/[1-7]\/[0-9]\{2\}/p' SedLab
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
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
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
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
victoria@ubuntuserver:~$
```

6. Append three asterisks (*) to the end of lines starting with Sir

Sed '/^sir/s/$/***/' SedLab

^: indicates the start of a line.

/^sir/: this part of the command tells sed to search for a line that stats with *sir*

$: represent the end of the line.

s: is the substitution option in sed, it finds and replaces a pattern with another one.

s/$/***/: this part of the command tells sed to append *** to the end of the line by technically telling it to replace the end of the line with ***.

```
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
victoria@ubuntuserver:~$
```

7. Replace the line containing "Westley Pirate" with the phrase "As you wish." Make sure you replace the whole line not just the name

sed -i '/Westley Pirate/c\As you wish' SedLab

-i: this option tells sed to edit the file directly.

c: this option means change in sed, it changes the entire line that matches the given pattern. This command tells sed to replace the line containing Westley Pirate with As you wish.

```
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

As you wish

As you wish

As you wish

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

victoria@ubuntuserver:~$
```

8. Change Minerva McGonagall's birthday to 10/04/1935. Assume you

don't know Minerva's original birthday. Use a regular expression to

search for it.

Print the line containing minerva's information to find her DOB

sed -n -E '/Minerva McGonagall/s/([0-9]{1,2}\/[0-9]{1,2}\/[0-9]{2})/10\/04\/1935/p' filename

/Minerva McGonagall/: restricts the command to affect only lines including this.

-E: this option makes it easier to write regular expressions.

-n: this option in sed tells it to only print the specified lines and not the entire file.

([0-9]{1,2}\/[0-9]{1,2}\/[0-9]{2}): Matches dates where the month and day can have either one or two digits, and the year has two digits.

10\/04\/1935: Replaces the matched date.

p: this option prints.

```
victoria@ubuntuserver:~$ sed -n -E '/Minerva McGonagall/s/([0-9]{1,2}\/[0-9]{1,2}\/[0-9]{2})/10\/04\
/1935/p' Sed2
Minerva McGonagall:408-233-8971:45 Rose Terrace, San Francisco, CA 92303:10/04/1935:25000
```

9. Delete all blank lines.

Sed '/^$/d' sedlab

/^$/: This pattern matches empty lines. The caret (^) represents the start of a line, and the dollar sign represents the end of a line. When used together, they match lines that have nothing in them.

d: this is the delete command in sed. This command deletes blank lines in the file.

```
victoria@ubuntuserver:~$ sed '/^$/d' SedLab
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
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
```

10. Write a sed script that will (actual sed script, NOT just the commands

on the command line)

(a) Insert above the first line the title - Great Literary Characters -.

(b) Print the contents of the file, but instead of the phone number

starting with an area code, have it start with a 1+, then include

the area code and number. For example, (603)123-1234 would

turn into 1+(603)123-1234

(c) Append at the end of the file "Happily Ever after. The End"

1i\

Great Literacy Characters

$ a\

Happily ever after. The end

s/(:\s*)([0-9]{3}-[0-9]{3}-[0-9]{4})/\11+\2/gp

to run this script type sed -n -E -f script.sed yourfile

-n: this option in sed tells it to only print the specified lines and not the entire file.

-f: this option tells sed read the file and execute the commands.

-E: this option makes it easier to write regular expressions.

```
#insert Great literacy Characters above the first line
1i\
Great Literacy Characters
#append Happily ever after. The end at the end of the file
$ a\
Happily ever after. The end
#add 1+ before the phone numbers and print output
s/(:\s*)([0-9]{3}-[0-9]{3}-[0-9]{4})/\11+\2/gp
```

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

1i

Great Literacy Characters

1i: this line tells sed to insert the text "Great Literacy Characters" before the first line of the file.

s/(:\s*)([0-9]{3}-[0-9]{3}-[0-9]{4})/\11+\2/gp

s: is the substitution option in sed

g: this option tells sed to perform the change globally.

p: this option prints

\1: refers to the first captured group (the : and white space).

1+: this is the string that will be added.

\2: Refers to the second captured group (the phone #).

([0-9]{3}-[0-9]{3}-[0-9]{4}): this captures the phone numbers.

$a

Happily ever after. The end

$a: tells sed to append Happily ever after. The end after the last line of the file

References

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https://phoenixnap.com/kb/linux-sed

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https://unix.stackexchange.com/questions/121161/how-to-insert-text-after-a-certain-string-in-a-file

https://www.youtube.com/watch?v=8YMPbErxNhA&ab_channel=RoelVandePaar

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