

## SED command in UNIX

Stream Editor: a non interactive editor used for filtering out the desired data from the specified file.

It reads input sequentially, applies the operations specified via the command line or a sed script and directs the processed data to the standard output.

The instruction is a combination of two components: ***an address*** and ***a command***.

Address contains the filter condition that is applied on the data stream to extract the desired data.

The address in a syntax refers to the range of data of the file on which we wish to apply the desired action.

Two ways of addressing the lines:

1. By line number.
2. By specifying a pattern that occurs in a line

Command is applied on the desired data for processing.

Syntax: **sed options 'address action' file(s)**

### **options:**

- n suppresses duplicate line printing
- f Reads instruction from a file
- e Interpretes the next string as an instruction or a set of instructions.

Create file bank.lst with following data in editor and then run sed command on it.

### **Bank.lst**

101	Aditya	0	14/11/2000	current
102	Anil	10000	20/05/2011	saving
103	Naman	0	20/08/2009	current
104	Ram	10000	15/08/2010	saving
105	Jyotsna	5000	16/06/2012	saving
106	Mukesh	14000	20/12/2009	Current
107	Vishal	14500	30/11/2011	saving
108	Chirag	0	15/12/2012	Current
109	Arya	16000	14/12/2010	Current
110	Priya	130	16/11/2009	Saving

### Q. Print first 3 records from bank.lst

```
root@MUM084:~/Desktop# sed '3q' bank.lst
101  Aditya 0      14/11/2000  current
102  Anil  10000  20/05/2011  saving
103  Naman0      20/08/2009  current
```

**Note: By default sed prints all lines to the standard output.**

```
root@MUM084:~/Desktop# sed '3p' bank.lst
101  Aditya 0      14/11/2000  current
102  Anil  10000  20/05/2011  saving
103  Naman      0      20/08/2009  current
103  Naman      0      20/08/2009  current
104  Ram  10000  15/08/2010  saving
105  Jyotsna      5000  16/06/2012  saving
106  Mukesh      14000  20/12/2009  Current
107  Vishal 14500  30/11/2011  saving
108  Chirag 0      15/12/2012  Current
109  Arya  16000  14/12/2010  Current
110  Priya  130   16/11/2009  Saving
```

```
root@MUM084:~/Desktop# sed '1,2p' bank.lst
101  Aditya0      14/11/2000  current
101  Aditya0      14/11/2000  current
102  Anil  10000  20/05/2011  saving
102  Anil  10000  20/05/2011  saving
103  Naman0      20/08/2009  current
104  Ram  10000  15/08/2010  saving
105  Jyotsna      5000  16/06/2012  saving
106  Mukesh      14000  20/12/2009  Current
107  Vishal 14500  30/11/2011  saving
108  Chirag 0      15/12/2012  Current
109  Arya  16000  14/12/2010  Current
110  Priya  130   16/11/2009  Saving
```

**Use -n to suppress duplicate line printing.**

```
root@MUM084:~/Desktop# sed -n '1,2p' bank.lst
101  Aditya 0      14/11/2000  current
102  Anil  10000  20/05/2011  saving
```

```
root@MUM084:~/Desktop# sed -n '1,4p' bank.lst
101  Aditya 0      14/11/2000  current
102  Anil  10000  20/05/2011  saving
103  Naman0      20/08/2009  current
104  Ram  10000  15/08/2010  saving
```

```
root@MUM084:~/Desktop# sed -n '4,7p' bank.lst
104  Ram  10000  15/08/2010  saving
105  Jyotsna      5000  16/06/2012  saving
```

```
106 Mukesh      14000 20/12/2009 Current
107 Vishal 14500 30/11/2011 saving
```

**Note : \$ represents the last record in file.**

```
root@MUM084:~/Desktop# sed -n '$p' bank.lst
110 Priya 130 16/11/2009 Saving
```

```
root@MUM084:~/Desktop# sed -n '1,2p
> 7,9p
> $p' bank.lst
101 Aditya 0      14/11/2000 current
102 Anil 10000 20/05/2011 saving
107 Vishal 14500 30/11/2011 saving
108 Chirag 0      15/12/2012 Current
109 Arya 16000 14/12/2010 Current
110 Priya 130 16/11/2009 Saving
```

```
root@MUM084:~/Desktop# sed -n '3,$!p' bank.lst
101 Aditya 0      14/11/2000 current
102 Anil 10000 20/05/2011 saving
```

```
root@MUM084:~/Desktop# sed -n '$!p' bank.lst
101 Aditya 0      14/11/2000 current
102 Anil 10000 20/05/2011 saving
103 Naman0      20/08/2009 current
104 Ram 10000 15/08/2010 saving
105 Jyotsna      5000 16/06/2012 saving
106 Mukesh      14000 20/12/2009 Current
107 Vishal 14500 30/11/2011 saving
108 Chirag 0      15/12/2012 Current
109 Arya 16000 14/12/2010 Current
```

```
root@MUM084:~/Desktop# sed -n '2,5!p' bank.lst
101 Aditya 0      14/11/2000 current
106 Mukesh      14000 20/12/2009 Current
107 Vishal 14500 30/11/2011 saving
108 Chirag 0      15/12/2012 Current
109 Arya 16000 14/12/2010 Current
110 Priya 130 16/11/2009 Saving
```

```
root@MUM084:~/Desktop# sed -n -e '1,2p' -e '7,9p' -e '$p' bank.lst
101 Aditya 0      14/11/2000 current
102 Anil 10000 20/05/2011 saving
107 Vishal 14500 30/11/2011 saving
108 Chirag 0      15/12/2012 Current
109 Arya 16000 14/12/2010 Current
110 Priya 130 16/11/2009 Saving
```

```
root@MUM084:~/Desktop# cat > instr.fil
1,2p
7,9p
```

\$p

```
root@MUM084:~/Desktop# sed -n -f instr.fil bank.lst
```

```
101  Aditya 0      14/11/2000  current
102  Anil   10000  20/05/2011  saving
107  Vishal 14500  30/11/2011  saving
108  Chirag 0      15/12/2012  Current
109  Arya   16000  14/12/2010  Current
110  Priya  130    16/11/2009  Saving
```

```
root@MUM084:~/Desktop# sed -n '/current/p' bank.lst
```

```
101  Aditya 0      14/11/2000  current
103  Naman0      20/08/2009  current
```

```
root@MUM084:~/Desktop# sed -n '/current/,/saving/p' bank.lst
```

```
101  Aditya 0      14/11/2000  current
102  Anil   10000  20/05/2011  saving
103  Naman0      20/08/2009  current
104  Ram    10000  15/08/2010  saving
```

```
root@MUM084:~/Desktop# sed -n '1,/current/p' bank.lst
```

```
101  Aditya 0      14/11/2000  current
102  Anil   10000  20/05/2011  saving
103  Naman0      20/08/2009  current
```

```
root@MUM084:~/Desktop# sed -n '3,/current/p' bank.lst
```

```
103  Naman0      20/08/2009  current
104  Ram    10000  15/08/2010  saving
105  Jyotsna      5000  16/06/2012  saving
106  Mukesh      14000  20/12/2009  Current
107  Vishal 14500  30/11/2011  saving
108  Chirag 0      15/12/2012  Current
109  Arya   16000  14/12/2010  Current
110  Priya  130    16/11/2009  Saving
```

```
root@MUM084:~/Desktop# sed -n '3,/Current/p' bank.lst
```

```
103  Naman0      20/08/2009  current
104  Ram    10000  15/08/2010  saving
105  Jyotsna      5000  16/06/2012  saving
106  Mukesh      14000  20/12/2009  Current
```

```
root@MUM084:~/Desktop# sed -n '3,/saving/p' bank.lst
```

```
103  Naman0      20/08/2009  current
104  Ram    10000  15/08/2010  saving
```

```
root@MUM084:~/Desktop# sed -n '/[cC]urrent/p' bank.lst
```

```
101  Aditya 0      14/11/2000  current
103  Naman0      20/08/2009  current
106  Mukesh      14000  20/12/2009  Current
108  Chirag 0      15/12/2012  Current
109  Arya   16000  14/12/2010  Current
```

## Writing to other file:

```
root@MUM084:~/Desktop# sed -n '/[cC]urrent/w clist.lst' bank.lst
```

```
root@MUM084:~/Desktop# cat clist.lst
```

```
101  Aditya 0      14/11/2000  current
103  Naman0      20/08/2009  current
106  Mukesh      14000 20/12/2009  Current
108  Chirag 0      15/12/2012  Current
109  Arya 16000 14/12/2010  Current
```

```
root@MUM084:~/Desktop# sed -n '1,4w clist.lst' bank.lst
```

```
root@MUM084:~/Desktop# cat clist.lst
```

```
101  Aditya 0      14/11/2000  current
102  Anil 10000 20/05/2011  saving
103  Naman0      20/08/2009  current
104  Ram 10000 15/08/2010  saving
```

## Inserting into file

```
root@MUM084:~/Desktop# sed '1i 201 Viren 2000 13/05/2012 saving' bank.lst > newbank.lst
```

```
root@MUM084:~/Desktop# cat newbank.lst
```

```
201 Viren 2000 13/05/2012 saving
101  Aditya 0      14/11/2000  current
102  Anil 10000 20/05/2011  saving
103  Naman0      20/08/2009  current
104  Ram 10000 15/08/2010  saving
105  Jyotsna      5000 16/06/2012  saving
106  Mukesh      14000 20/12/2009  Current
107  Vishal 14500 30/11/2011  saving
108  Chirag 0      15/12/2012  Current
109  Arya 16000 14/12/2010  Current
110  Priya 130 16/11/2009  Saving
```

```
root@MUM084:~/Desktop# cat bank.lst
```

```
101  Aditya 0      14/11/2000  current
102  Anil 10000 20/05/2011  saving
103  Naman0      20/08/2009  current
104  Ram 10000 15/08/2010  saving
105  Jyotsna      5000 16/06/2012  saving
106  Mukesh      14000 20/12/2009  Current
107  Vishal 14500 30/11/2011  saving
108  Chirag 0      15/12/2012  Current
109  Arya 16000 14/12/2010  Current
110  Priya 130 16/11/2009  Saving
```

```
root@MUM084:~/Desktop# sed -n '1,/saving/p' newbank.lst
```

```
201 Viren 2000 13/05/2012 saving
101  Aditya 0      14/11/2000  current
102  Anil 10000 20/05/2011  saving
```

```
root@MUM084:~/Desktop# sed '4i 204 Viren 2000 13/05/2012 saving' bank.lst > newbank.lst
```

```
root@MUM084:~/Desktop# cat newbank.lst
```

```
101  Aditya 0      14/11/2000  current
102  Anil  10000  20/05/2011  saving
103  Naman0      20/08/2009  current
204 Viren 2000 13/05/2012 saving
104  Ram  10000  15/08/2010  saving
105  Jyotsna      5000  16/06/2012  saving
106  Mukesh      14000  20/12/2009  Current
107  Vishal 14500  30/11/2011  saving
108  Chirag 0      15/12/2012  Current
109  Arya  16000  14/12/2010  Current
110  Priya  130   16/11/2009  Saving
```

```
root@MUM084:~/Desktop# sed '4i\
> 206 viraj 3000 14/01/2011 current
> ' bank.lst >newbank.lst
```

```
root@MUM084:~/Desktop# cat newbank.lst
```

```
101  Aditya 0      14/11/2000  current
102  Anil  10000  20/05/2011  saving
103  Naman0      20/08/2009  current
206 viraj 3000 14/01/2011 current
104  Ram  10000  15/08/2010  saving
105  Jyotsna      5000  16/06/2012  saving
106  Mukesh      14000  20/12/2009  Current
107  Vishal 14500  30/11/2011  saving
108  Chirag 0      15/12/2012  Current
109  Arya  16000  14/12/2010  Current
110  Priya  130   16/11/2009  Saving
```

```
root@MUM084:~/Desktop# sed '4a\
206 viraj 3000 14/01/2011 current
' bank.lst >newbank.lst
```

```
root@MUM084:~/Desktop# cat newbank.lst
```

```
101  Aditya 0      14/11/2000  current
102  Anil  10000  20/05/2011  saving
103  Naman0      20/08/2009  current
104  Ram  10000  15/08/2010  saving
206 viraj 3000 14/01/2011 current
105  Jyotsna      5000  16/06/2012  saving
106  Mukesh      14000  20/12/2009  Current
107  Vishal 14500  30/11/2011  saving
108  Chirag 0      15/12/2012  Current
109  Arya  16000  14/12/2010  Current
110  Priya  130   16/11/2009  Saving
```

```
root@MUM084:~/Desktop# sed 'a\
```

```
' bank.lst > newbank.lst
```

```
root@MUM084:~/Desktop# cat newbank.lst
```

```
101  Aditya 0      14/11/2000  current
102  Anil   10000 20/05/2011  saving
103  Naman0   20/08/2009  current
104  Ram    10000 15/08/2010  saving
105  Jyotsna    5000 16/06/2012  saving
106  Mukesh    14000 20/12/2009  Current
107  Vishal 14500 30/11/2011  saving
108  Chirag 0    15/12/2012  Current
109  Arya   16000 14/12/2010  Current
110  Priya  130   16/11/2009  Saving
```

```
root@MUM084:~/Desktop# sed 'i\
```

```
' bank.lst > newbank.lst
```

```
root@MUM084:~/Desktop# cat newbank.lst
```

```
101  Aditya 0      14/11/2000  current
102  Anil   10000 20/05/2011  saving
103  Naman0   20/08/2009  current
104  Ram    10000 15/08/2010  saving
105  Jyotsna    5000 16/06/2012  saving
106  Mukesh    14000 20/12/2009  Current
107  Vishal 14500 30/11/2011  saving
108  Chirag 0    15/12/2012  Current
109  Arya   16000 14/12/2010  Current
110  Priya  130   16/11/2009  Saving
```

```
root@MUM084:~/Desktop# sed 'i\
```

```
This is blank line
```

```
' bank.lst > newbank.lst
```

```
root@MUM084:~/Desktop# cat newbank.lst
This is blank line
101  Aditya 0      14/11/2000  current
This is blank line
102  Anil  10000 20/05/2011  saving
This is blank line
103  Naman0      20/08/2009  current
This is blank line
104  Ram  10000 15/08/2010  saving
This is blank line
105  Jyotsna      5000 16/06/2012  saving
This is blank line
106  Mukesh      14000 20/12/2009  Current
This is blank line
107  Vishal 14500 30/11/2011  saving
This is blank line
108  Chirag 0      15/12/2012  Current
This is blank line
109  Arya  16000 14/12/2010  Current
This is blank line
110  Priya  130   16/11/2009  Saving
```

### **Deleting a line having specific pattern:**

```
root@MUM084:~/Desktop# sed '/viraj/d' newbank.lst
This is blank line
101  Aditya 0      14/11/2000  current
This is blank line
102  Anil  10000 20/05/2011  saving
This is blank line
103  Naman0      20/08/2009  current
This is blank line
104  Ram  10000 15/08/2010  saving
This is blank line
105  Jyotsna      5000 16/06/2012  saving
This is blank line
106  Mukesh      14000 20/12/2009  Current
This is blank line
107  Vishal 14500 30/11/2011  saving
This is blank line
108  Chirag 0      15/12/2012  Current
This is blank line
109  Arya  16000 14/12/2010  Current
This is blank line
110  Priya  130   16/11/2009  Saving

root@MUM084:~/Desktop# sed '/This is blank line/d' newbank.lst
101  Aditya 0      14/11/2000  current
102  Anil  10000 20/05/2011  saving
103  Naman0      20/08/2009  current
104  Ram  10000 15/08/2010  saving
105  Jyotsna      5000 16/06/2012  saving
```



106	Mukesh	14000	20/12/2009	Current
107	Vishal	14500	30/11/2011	saving
108	Chirag	0	15/12/2012	Current
109	Arya	16000	14/12/2010	Current
110	Priya	130	16/11/2009	Saving

### Substitution:

root@MUM084:~/Desktop# sed 's/\t/ /' bank.lst

**this command substitutes first occurrence of \t by space in each line**

101	Aditya	0	14/11/2000	current
102	Anil	10000	20/05/2011	saving
103	Naman	0	20/08/2009	current
104	Ram	10000	15/08/2010	saving
105	Jyotsna	5000	16/06/2012	saving
106	Mukesh	14000	20/12/2009	Current
107	Vishal	14500	30/11/2011	saving
108	Chirag	0	15/12/2012	Current
109	Arya	16000	14/12/2010	Current
110	Priya	130	16/11/2009	Saving

### to replace all occurrences of \t by space:

root@MUM084:~/Desktop# sed 's/\t/ /g' bank.lst

101	Aditya	0	14/11/2000	current
102	Anil	10000	20/05/2011	saving
103	Naman	0	20/08/2009	current
104	Ram	10000	15/08/2010	saving
105	Jyotsna	5000	16/06/2012	saving
106	Mukesh	14000	20/12/2009	Current
107	Vishal	14500	30/11/2011	saving
108	Chirag	0	15/12/2012	Current
109	Arya	16000	14/12/2010	Current
110	Priya	130	16/11/2009	Saving

root@MUM084:~/Desktop# sed 's/ /\t/g' bank.lst

101	Aditya	0	14/11/2000	current
102	Anil	10000	20/05/2011	saving
103	Naman	0	20/08/2009	current
104	Ram	10000	15/08/2010	saving
105	Jyotsna	5000	16/06/2012	saving
106	Mukesh	14000	20/12/2009	Current
107	Vishal	14500	30/11/2011	saving
108	Chirag	0	15/12/2012	Current
109	Arya	16000	14/12/2010	Current
110	Priya	130	16/11/2009	Saving

root@MUM084:~/Desktop# sed '1,3s/ /\t/g' bank.lst

101	Aditya	0	14/11/2000	current
102	Anil	10000	20/05/2011	saving
103	Naman	0	20/08/2009	current

```
104 Ram 10000 15/08/2010 saving
105 Jyotsna 5000 16/06/2012 saving
106 Mukesh 14000 20/12/2009 Current
107 Vishal 14500 30/11/2011 saving
108 Chirag 0 15/12/2012 Current
109 Arya 16000 14/12/2010 Current
110 Priya 130 16/11/2009 Saving
```

```
root@MUM084:~/Desktop# sed '1,3s/\t/ /g' bank.lst
```

```
101 Aditya 0 14/11/2000 current
102 Anil 10000 20/05/2011 saving
103 Naman 0 20/08/2009 current
104 Ram 10000 15/08/2010 saving
105 Jyotsna 5000 16/06/2012 saving
106 Mukesh 14000 20/12/2009 Current
107 Vishal 14500 30/11/2011 saving
108 Chirag 0 15/12/2012 Current
109 Arya 16000 14/12/2010 Current
110 Priya 130 16/11/2009 Saving
```

```
root@MUM084:~/Desktop# sed '1,3s/ /\t/g' bank.lst
```

```
101 Aditya 0 14/11/2000 current
102 Anil 10000 20/05/2011 saving
103 Naman0 20/08/2009 current
104 Ram 10000 15/08/2010 saving
105 Jyotsna 5000 16/06/2012 saving
106 Mukesh 14000 20/12/2009 Current
107 Vishal 14500 30/11/2011 saving
108 Chirag 0 15/12/2012 Current
109 Arya 16000 14/12/2010 Current
110 Priya 130 16/11/2009 Saving
```

```
root@MUM084:~/Desktop# sed '1,3s/current /demat/' bank.lst
```

```
101 Aditya 0 14/11/2000 current
102 Anil 10000 20/05/2011 saving
103 Naman0 20/08/2009 current
104 Ram 10000 15/08/2010 saving
105 Jyotsna 5000 16/06/2012 saving
106 Mukesh 14000 20/12/2009 Current
107 Vishal 14500 30/11/2011 saving
108 Chirag 0 15/12/2012 Current
109 Arya 16000 14/12/2010 Current
110 Priya 130 16/11/2009 Saving
```

```
root@MUM084:~/Desktop# sed '1,3s/current/demat/' bank.lst
```

```
101 Aditya 0 14/11/2000 demat
102 Anil 10000 20/05/2011 saving
103 Naman0 20/08/2009 demat
104 Ram 10000 15/08/2010 saving
105 Jyotsna 5000 16/06/2012 saving
106 Mukesh 14000 20/12/2009 Current
107 Vishal 14500 30/11/2011 saving
```

```
108 Chirag 0      15/12/2012 Current
109 Arya 16000 14/12/2010 Current
110 Priya 130   16/11/2009 Saving
```

### Remembered Patterns in sed

```
root@MUM084:~/Desktop# sed -n '/^([Aa])\([a-z]\)/p' bank.lst
```

```
101 Aditya 0      14/11/2000 current
102 Anil 10000 20/05/2011 saving
103 Naman0     20/08/2009 current
104 Ram 10000 15/08/2010 saving
105 Jyotsna    5000 16/06/2012 saving
107 Vishal 14500 30/11/2011 saving
108 Chirag 0      15/12/2012 Current
109 Arya 16000 14/12/2010 Current
110 Priya 130   16/11/2009 Saving
```

```
root@MUM084:~/Desktop# sed -n '/^([Aa])\([a-z]*\)/p' bank.lst
```

```
101 Aditya 0      14/11/2000 current
102 Anil 10000 20/05/2011 saving
103 Naman0     20/08/2009 current
104 Ram 10000 15/08/2010 saving
105 Jyotsna    5000 16/06/2012 saving
107 Vishal 14500 30/11/2011 saving
108 Chirag 0      15/12/2012 Current
109 Arya 16000 14/12/2010 Current
110 Priya 130   16/11/2009 Saving
```

```
root@MUM084:~/Desktop# sed -n '/^([Aa])\([Dd]*\)/p' bank.lst
```

```
101 Aditya 0      14/11/2000 current
102 Anil 10000 20/05/2011 saving
103 Naman0     20/08/2009 current
104 Ram 10000 15/08/2010 saving
105 Jyotsna    5000 16/06/2012 saving
107 Vishal 14500 30/11/2011 saving
108 Chirag 0      15/12/2012 Current
109 Arya 16000 14/12/2010 Current
110 Priya 130   16/11/2009 Saving
```

```
root@MUM084:~/Desktop# sed -n '/^([Aa])\)/p' bank.lst
```

```
101 Aditya 0      14/11/2000 current
102 Anil 10000 20/05/2011 saving
103 Naman0     20/08/2009 current
104 Ram 10000 15/08/2010 saving
105 Jyotsna    5000 16/06/2012 saving
107 Vishal 14500 30/11/2011 saving
108 Chirag 0      15/12/2012 Current
109 Arya 16000 14/12/2010 Current
110 Priya 130   16/11/2009 Saving
```

```
root@MUM084:~/Desktop# sed -n '/^([Cc])\)/p' bank.lst
```

```
101 Aditya 0      14/11/2000 current
```

```
103 Naman0      20/08/2009   current
106 Mukesh      14000 20/12/2009   Current
108 Chirag 0     15/12/2012   Current
109 Arya 16000  14/12/2010   Current
```

```
root@MUM084:~/Desktop# sed -n '/([Pp])/p' bank.lst
110 Priya 130    16/11/2009   Saving
```

```
root@MUM084:~/Desktop# sed -n '/([A])/p' bank.lst
101 Aditya 0      14/11/2000   current
102 Anil 10000 20/05/2011   saving
109 Arya 16000 14/12/2010   Current
```

```
root@MUM084:~/Desktop# sed -n '/(^Pp)/p' bank.lst
101 Aditya 0      14/11/2000   current
102 Anil 10000 20/05/2011   saving
103 Naman0      20/08/2009   current
104 Ram 10000 15/08/2010   saving
105 Jyotsna      5000 16/06/2012   saving
106 Mukesh      14000 20/12/2009   Current
107 Vishal 14500 30/11/2011   saving
108 Chirag 0     15/12/2012   Current
109 Arya 16000 14/12/2010   Current
110 Priya 130    16/11/2009   Saving
```

```
root@MUM084:~/Desktop# sed -n '/([Aa])\([d])/'p' bank.lst
101 Aditya 0      14/11/2000   current
```

```
root@MUM084:~/Desktop# sed -n '/([Aa])\([n])/'p' bank.lst
102 Anil 10000 20/05/2011   saving
103 Naman0      20/08/2009   current
```

```
root@MUM084:~/Desktop# sed -n '/([i])\([a-z]*)/p' bank.lst
101 Aditya 0      14/11/2000   current
102 Anil 10000 20/05/2011   saving
104 Ram 10000 15/08/2010   saving
105 Jyotsna      5000 16/06/2012   saving
107 Vishal 14500 30/11/2011   saving
108 Chirag 0     15/12/2012   Current
110 Priya 130    16/11/2009   Saving
```

```
root@MUM084:~/Desktop#
```