SED: A Stream Editor

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Agenda for Discussion

1. Sed: What and Why ?
   - A stream Editor
2. Sed: How?
   - Basic Usage
   - Printing lines
   - Address Ranges
   - Deleting Text
   - Substituting Text

Introduction

SED is used to manipulate the text in Linux. It's called a stream editor as it performs the editing operations line-by-line on the information coming from standard input or a file.

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Command Syntax

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sed [OPTIIONS] commands [INPUTFILE]
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Command Syntax

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```

Let's look at basic usage by performing specific tasks using sed.
NOTE: All the task consider the file `players.csv`, which will be shared with you.

Basic Usage

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sed '' players.csv
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How to view the contents of the input file ?

Command Syntax

```
sed '' players.csv
```

Output

```
You should see all the content of players.csv displayed on
the screen.
```

Printing Lines

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How to print every line of input to `sed` ?

Use of `print` i.e `p` command

```
sed 'p' players.csv
```

Printing Lines

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How to print every line of input to sed ?

Use of print i.e p command

```
sed 'p' players.csv
```

Output

```
You should see every line of players.csv printed
twice. Why? sed prints each line by default and you are
explicitly telling it to print lines with p command.
```

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Use of `-n` option

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sed -n 'p' players.csv
```

Printing Lines

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How to suppress the automatic printing of every line of input?

Use of -n option

```
sed -n 'p' players.csv
```

Output

```
You should see every line of players.csv printed once.
```

Using Address Ranges

To target specific parts of a text stream, you can make use of addresses. Either a specific line or range of lines can be targeted.

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Use of p command

```
sed -n '2p' players.csv
```

Using Address Ranges

To target specific parts of a text stream, you can make use of addresses. Either a specific line or range of lines can be targeted.

How to print the 2nd line of the input csv file ?

Use of p command

```
sed -n '2p' players.csv
```

Output

```
"Adam Donachie", "BAL", "Catcher", 74, 180, 22.99
```

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How to print first 5 lines of the input csv file ?

Use of p command

```
sed -n '1,5p' players.csv
```

Using Address Ranges

To target specific parts of a text stream, you can make use of addresses. Either a specific line or range of lines can be targeted.

How to print first 5 lines of the input csv file ?

Use of p command

```
sed -n '1,5p' players.csv
```

Output

```
You should see first first 5 lines, including the header
of players.csv file.
```

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How to print every other line of the input csv file ?

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Use of p command

```
sed -n '1~2p' players.csv
```

Using Address Ranges

To target specific parts of a text stream, you can make use of addresses. Either a specific line or range of lines can be targeted.

How to print every other line of the input csv file ?

Use of p command

```
sed -n '1~2p' players.csv
```

Output

```
You should see alternate lines of players.csv file printed
on your screen.
```

Deleting Text

To do deletion from the text, change the previous used **p** command (for printing lines) with **d** command (for deleting lines)

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How to delete every other line of the input csv file ?

Use of d command

```
sed '1~2d' players.csv
```

Deleting Text

To do deletion from the text, change the previous used **p** command (for printing lines) with **d** command (for deleting lines)

How to delete every other line of the input csv file ?

Use of d command

```
sed '1~2d' players.csv
```

Output

```
You should see every line except the alternate lines of
players.csv file printed on your screen.
```

Deleting Text

To do deletion from the text, change the previous used **p** command (for printing lines) with **d** command (for deleting lines)

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How to delete every other line of the input csv file **(in-place)** ?

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How to delete every other line of the input csv file **(in-place)** ?

Use of d command

```
sed -i '1~2d' players.csv
```

Deleting Text

To do deletion from the text, change the previous used **p** command (for printing lines) with **d** command (for deleting lines)

How to delete every other line of the input csv file **(in-place)** ?

Use of d command

```
sed -i '1~2d' players.csv
```

Output

```
You won't see any output on the terminal, as inplace
deletion is done.
```

Deleting Text

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How to delete every other line of the input csv file **(in-place)** with backup ?

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To do deletion from the text, change the previous used **p** command (for printing lines) with **d** command (for deleting lines)

How to delete every other line of the input csv file **(in-place)** with backup ?

Use of d command

```
sed -i.bak '1~2d' players.csv
```

Deleting Text

To do deletion from the text, change the previous used **p** command (for printing lines) with **d** command (for deleting lines)

How to delete every other line of the input csv file **(in-place)** with backup ?

Use of d command

```
sed -i.bak '1~2d' players.csv
```

Output

```
You won't see any output on the terminal, as inplace
deletion is done. This creates a backup file with .bak
extension
```

Substituting Text

sed can be utilised to search for patterns via regular expressions and then replace the found text with desired text.

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Use of s command

```
sed 's/,/;/' players.csv
```

Substituting Text

sed can be utilised to search for patterns via regular expressions and then replace the found text with desired text.

How to replace comma(,) with semicolon(;) of the input csv file ?

Use of s command

```
sed 's/,/;/' players.csv
```

Output

```
You should see the first comma(,) of every line is
replaced with semicolon(;). But, not all commas are
replaced!
```

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sed can be utilised to search for patterns via regular expressions and then replace the found text with desired text.

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How to replace all commas(,) with semicolon(;) of the input csv file ?

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sed can be utilised to search for patterns via regular expressions and then replace the found text with desired text.

How to replace all commas(,) with semicolon(;) of the input csv file ?

Use of s command with g flag

```
sed 's/,/;/g' players.csv
```

Substituting Text

sed can be utilised to search for patterns via regular expressions and then replace the found text with desired text.

How to replace all commas(,) with semicolon(;) of the input csv file ?

Use of s command with g flag

```
sed 's/,/;/g' players.csv
```

Output

```
You should see all commas(,) of every line is replaced
with semicolon(;).
```

References

- sed, a stream editor

Thank You!

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Post your queries at: resources@e-yantra.org