

Lab 8

EXERCISES Start a fresh terminal for this Lab and make a new directory called 'Lab8'. Copy the 'Braincancer.csv' file to this directory. At the end of the lab, rename the data file as 'Braincancer Lab8.csv' and upload this to github as well.

(1) Open the data file using the VIM editor.

```
,sex,diagnosis,loc,ki,gtv,sterео,status,time
1,Female,Meningioma,Infratentorial,90,6.11,SRS,0,57.64
2,Male,HG glioma,Supratentorial,90,19.35,SRT,1,8.98
3,Female,Meningioma,Infratentorial,70,7.95,SRS,0,26.46
4,Female,LG glioma,Supratentorial,80,7.61,SRT,1,47.8
5,Male,HG glioma,Supratentorial,90,5.06,SRT,1,6.3
6,Female,Meningioma,Supratentorial,80,4.82,SRS,0,52.75
7,Male,Meningioma,Supratentorial,80,3.19,SRT,0,55.8
8,Male,LG glioma,Supratentorial,80,12.37,SRT,0,42.1
9,Female,Meningioma,Supratentorial,70,12.16,SRT,0,34.66
10,Male,HG glioma,Supratentorial,100,2.53,SRT,0,11.48
11,Male,LG glioma,Supratentorial,80,0.14,SRT,1,35.93
12,Female,Meningioma,Infratentorial,90,6.54,SRS,0,34.26
13,Female,Meningioma,Infratentorial,90,0.63,SRS,0,32.98
14,Male,NA,Supratentorial,90,6.38,SRT,0,50.85
15,Female,Meningioma,Supratentorial,60,9.18,SRT,0,41.44
16,Female,HG glioma,Supratentorial,70,11.38,SRS,1,7.05
17,Female,Other,Infratentorial,60,24,SRT,1,6.82
18,Male,HG glioma,Supratentorial,90,10.8,SRT,0,82.56
19,Male,Meningioma,Supratentorial,80,13.49,SRS,1,6.92
20,Female,Meningioma,Supratentorial,90,2.5,SRT,0,30.16
21,Female,Meningioma,Supratentorial,80,2.82,SRS,0,24.39
22,Male,HG glioma,Supratentorial,70,14.44,SRT,1,14
23,Female,Other,Infratentorial,80,2.11,SRS,0,10.49
24,Female,Meningioma,Infratentorial,100,2.13,SRS,1,51.02
25,Female,Meningioma,Supratentorial,70,6.48,SRT,1,33.41
26,Male,LG glioma,Supratentorial,90,4.23,SRT,1,25.02
27,Male,Other,Supratentorial,60,34.64,SRT,1,11.57
28,Male,HG glioma,Supratentorial,70,33.69,SRT,1,0.07
```

(2) Move to the beginning of the file and insert the text: "VIM challenge begins!" on a new line at the very top.

```
VIM challenge begins!
,sex,diagnosis,loc,ki,gtv,sterео,status,time
1,Female,Meningioma,Infratentorial,90,6.11,SRS,0,57.64
2,Male,HG glioma,Supratentorial,90,19.35,SRT,1,8.98
3,Female,Meningioma,Infratentorial,70,7.95,SRS,0,26.46
4,Female,LG glioma,Supratentorial,80,7.61,SRT,1,47.8
5,Male,HG glioma,Supratentorial,90,5.06,SRT,1,6.3
6,Female,Meningioma,Supratentorial,80,4.82,SRS,0,52.75
7,Male,Meningioma,Supratentorial,80,3.19,SRT,0,55.8
8,Male,LG glioma,Supratentorial,80,12.37,SRT,0,42.1
9,Female,Meningioma,Supratentorial,70,12.16,SRT,0,34.66
10,Male,HG glioma,Supratentorial,100,2.53,SRT,0,11.48
11,Male,LG glioma,Supratentorial,80,0.14,SRT,1,35.93
12,Female,Meningioma,Infratentorial,90,6.54,SRS,0,34.26
```

(3) Find the word 'Meningioma' and replace it with 'LG glioma'

```
VIM challenge begins!  
,sex,diagnosis,loc,ki,gtv,stereo,status,time  
1,Female,Meningioma,Infratentorial,90,6.11,SRS,0,57.64  
2,Male,HG glioma,Supratentorial,90,19.35,SRT,1,8.98  
3,Female,Meningioma,Infratentorial,70,7.95,SRS,0,26.46  
4,Female,LG glioma,Supratentorial,80,7.61,SRT,1,47.8  
5,Male,HG glioma,Supratentorial,90,5.06,SRT,1,6.3  
6,Female,Meningioma,Supratentorial,80,4.82,SRS,0,52.75  
7,Male,Meningioma,Supratentorial,80,3.19,SRT,0,55.8  
8,Male,LG glioma,Supratentorial,80,12.37,SRT,0,42.1  
9,Female,Meningioma,Supratentorial,70,12.16,SRT,0,34.66  
10,Male,HG glioma,Supratentorial,100,2.53,SRT,0,11.48  
11,Male,LG glioma,Supratentorial,80,0.14,SRT,1,35.93  
12,Female,HG glioma,Supratentorial,90,6.54,SRS,0,34.36
```

Meningioma word searched-

```
VIM challenge begins!  
,sex,diagnosis,loc,ki,gtv,stereo,status,time  
1,Female,Meningioma,Infratentorial,90,6.11,SRS,0,57.64  
2,Male,HG glioma,Supratentorial,90,19.35,SRT,1,8.98  
3,Female,Meningioma,Infratentorial,70,7.95,SRS,0,26.46  
4,Female,LG glioma,Supratentorial,80,7.61,SRT,1,47.8  
5,Male,HG glioma,Supratentorial,90,5.06,SRT,1,6.3  
6,Female,Meningioma,Supratentorial,80,4.82,SRS,0,52.75  
7,Male,Meningioma,Supratentorial,80,3.19,SRT,0,55.8  
8,Male,LG glioma,Supratentorial,80,12.37,SRT,0,42.1  
9,Female,Meningioma,Supratentorial,70,12.16,SRT,0,34.66  
10,Male,HG glioma,Supratentorial,100,2.53,SRT,0,11.48  
11,Male,LG glioma,Supratentorial,80,0.14,SRT,1,35.93  
12,Female,HG glioma,Supratentorial,90,6.54,SRS,0,34.36
```

Meningioma replaced with LG glioma

```
VIM challenge begins!  
,sex,diagnosis,loc,ki,gtv,stereo,status,time  
1,Female,"LG glioma",Infratentorial,90,6.11,SRS,0,57.64  
2,Male,HG glioma,Supratentorial,90,19.35,SRT,1,8.98  
3,Female,"LG glioma",Infratentorial,70,7.95,SRS,0,26.46  
4,Female,LG glioma,Supratentorial,80,7.61,SRT,1,47.8  
5,Male,HG glioma,Supratentorial,90,5.06,SRT,1,6.3  
6,Female,"LG glioma",Supratentorial,80,4.82,SRS,0,52.75  
7,Male,"LG glioma",Supratentorial,80,3.19,SRT,0,55.8  
8,Male,LG glioma,Supratentorial,80,12.37,SRT,0,42.1  
9,Female,"LG glioma",Supratentorial,70,12.16,SRT,0,34.66  
10,Male,HG glioma,Supratentorial,100,2.53,SRT,0,11.48  
11,Male,LG glioma,Supratentorial,80,0.14,SRT,1,35.93  
12,Female,"HG glioma",Supratentorial,90,6.54,SRS,0,34.36
```

(4) Delete the entire line containing the time column entry '34.66'

Finding the column entry '34.66'

```
76,Female,"LG glioma",Supratentorial,80,31.74,SRT,0,57.25
77,Female,"LG glioma",Supratentorial,80,2.39,SRS,0,73.74
78,Female,"LG glioma",Supratentorial,90,7.26,SRT,0,49.05
79,Female,"LG glioma",Supratentorial,100,9.66,SRT,0,39.25
80,Female,"LG glioma",Infratentorial,70,2.94,SRS,0,1.54
81,Female,HG glioma,Supratentorial,80,15.45,SRT,1,46.16
82,Female,Other,Supratentorial,90,1.82,SRT,0,47.11
83,Male,LG glioma,Infratentorial,90,30.41,SRT,0,1.18
84,Male,HG glioma,Supratentorial,80,0.16,SRT,1,20.69
85,Male,HG glioma,Supratentorial,80,19.81,SRT,1,6.39
86,Male,"LG glioma",Supratentorial,90,2.5,SRT,0,32.82
87,Male,"LG glioma",Supratentorial,90,2.02,SRS,0,42.07
88,Male,Other,Infratentorial,80,0.11,SRT,0,13.9
:/34.66
```

Found the entry..

```
6,Female,"LG glioma",Supratentorial,80,4.82,SRS,0,52.75
7,Male,"LG glioma",Supratentorial,80,3.19,SRT,0,55.8
8,Male,LG glioma,Supratentorial,80,12.37,SRT,0,42.1
9,Female,"LG glioma",Supratentorial,70,12.16,SRT,0,34.66
10,Male,HG glioma,Supratentorial,100,2.53,SRT,0,11.48
11,Male,LG glioma,Supratentorial,80,0.14,SRT,1,35.93
12,Female,"LG glioma",Infratentorial,90,6.54,SRS,0,34.26
13,Female,"LG glioma",Infratentorial,90,0.63,SRS,0,32.98
```

Deleting the line with *dd*

```
6,Female,"LG glioma",Supratentorial,80,4.82,SRS,0,52.75
7,Male,"LG glioma",Supratentorial,80,3.19,SRT,0,55.8
8,Male,LG glioma,Supratentorial,80,12.37,SRT,0,42.1
10,Male,HG glioma,Supratentorial,100,2.53,SRT,0,11.48
11,Male,LG glioma,Supratentorial,80,0.14,SRT,1,35.93
12,Female,"LG glioma",Infratentorial,90,6.54,SRS,0,34.26
13,Female,"LG glioma",Infratentorial,90,0.63,SRS,0,32.98
14,Male,NA,Supratentorial,90,6.38,SRT,0,50.85
```


(5) Copy the current line and paste it two lines below. Show the screenshot before and after pasting with file line numbers to prove that you did it correctly.

Before

```
5 3,Female, LG glioma ,Infratentorial,70,7.95,SRS,0,28.48
6 4,Female, LG glioma, Supratentorial,80,7.61,SRT,1,47.8
7 5,Male,HG glioma, Supratentorial,90,5.06,SRT,1,6.3
8 6,Female, "LG glioma", Supratentorial,80,4.82,SRS,0,52.75
9 7,Male, "LG glioma", Supratentorial,80,3.19,SRT,0,55.8
10 8,Male, LG glioma, Supratentorial,80,12.37,SRT,0,42.1
11 10,Male,HG glioma, Supratentorial,100,2.53,SRT,0,11.48
12 11,Male, LG glioma, Supratentorial,80,0.14,SRT,1,35.93
13 12,Female, "LG glioma", Infratentorial,90,6.54,SRS,0,34.26
14 13,Female, "LG glioma", Infratentorial,90,0.63,SRS,0,32.98
15 14,Male, NA, Supratentorial,90,6.38,SRT,0,50.85
16 15,Female, "LG glioma", Supratentorial,60,0.18,SRT,0,41.44
```

After

```
10 8,Male, LG glioma, Supratentorial,80,12.37,SRT,0,42.1
11 10,Male,HG glioma, Supratentorial,100,2.53,SRT,0,11.48
12 11,Male, LG glioma, Supratentorial,80,0.14,SRT,1,35.93
13 12,Female, LG glioma, Infratentorial,90,6.54,SRS,0,34.26
14 10,Male,HG glioma, Supratentorial,100,2.53,SRT,0,11.48
15 13,Female, LG glioma, Infratentorial,90,0.63,SRS,0,32.98
16 14,Male, NA, Supratentorial,90,6.38,SRT,0,50.85
```

(6) Move to the 11th line of this file and insert "Hello from line 11!"

```
8 6,Female, LG glioma, Supratentorial,80,4.82,SRS,0,52.75
9 7,Male, LG glioma, Supratentorial,80,3.19,SRT,0,55.8
10 8,Male, LG glioma, Supratentorial,80,12.37,SRT,0,42.1
11 Hello from line 11!
12 10,Male,HG glioma, Supratentorial,100,2.53,SRT,0,11.48
13 11,Male, LG glioma, Supratentorial,80,0.14,SRT,1,35.93
14 12,Female, LG glioma, Infratentorial,90,6.54,SRS,0,34.26
15 10,Male,HG glioma, Supratentorial,100,2.53,SRT,0,11.48
16 13,Female, LG glioma, Infratentorial,90,0.63,SRS,0,32.98
```

(7) Search for the word 'SRT' and replace it with 'SRS' (all occurrences in the file)

Before searching and replacing

```
2 ,sex,diagnosis,loc,ki,gtv,stereo,status,time
3 1,Female,LG glioma,Infratentorial,90,6.11,SRS,0,57.64
4 2,Male,HG glioma,Supratentorial,90,19.35,SRT,1,8.98
5 3,Female,LG glioma,Infratentorial,70,7.95,SRS,0,26.46
6 4,Female,LG glioma,Supratentorial,80,7.61,SRT,1,47.8
7 5,Male,HG glioma,Supratentorial,90,5.06,SRT,1,6.3
8 6,Female,LG glioma,Supratentorial,80,4.82,SRS,0,52.75
9 7,Male,LG glioma,Supratentorial,80,3.19,SRT,0,55.8
10 8,Male,LG glioma,Supratentorial,80,12.37,SRT,0,42.1
11 Hello from line 11!
12 10,Male,HG glioma,Supratentorial,100,2.53,SRT,0,11.48
```

Command for Searching and Replacing....

```
29 26,Male,LG glioma,Supratentorial,90,4.23,SRT,1,23.02
30 27,Male,Other,Supratentorial,60,34.64,SRT,1,11.57
31 28,Male,HG glioma,Supratentorial,70,33.69,SRT,1,0.07
32 29,Male,LG glioma,Supratentorial,60,3.81,SRT,0,36.1
33 30,Female,LG glioma,Supratentorial,90,4.72,SRS,0,65.02
34 31,Female,LG glioma,Supratentorial,80,0.85,SRS,1,6.1
35 32,Male,LG glioma,Supratentorial,90,2.56,SRS,0,44.39
36 33,Female,Other,Infratentorial,70,13.45,SRT,1,10.82
:%s/SRT/SRS
```

After it has been replaced..

```
2 ,sex,diagnosis,loc,ki,gtv,stereo,status,time
3 1,Female,LG glioma,Infratentorial,90,6.11,SRS,0,57.64
4 2,Male,HG glioma,Supratentorial,90,19.35,SRS,1,8.98
5 3,Female,LG glioma,Infratentorial,70,7.95,SRS,0,26.46
6 4,Female,LG glioma,Supratentorial,80,7.61,SRS,1,47.8
7 5,Male,HG glioma,Supratentorial,90,5.06,SRS,1,6.3
8 6,Female,LG glioma,Supratentorial,80,4.82,SRS,0,52.75
9 7,Male,LG glioma,Supratentorial,80,3.19,SRS,0,55.8
10 8,Male,LG glioma,Supratentorial,80,12.37,SRS,0,42.1
11 Hello from line 11!
12 10,Male,HG glioma,Supratentorial,100,2.53,SRS,0,11.48
```

(8) Yank the first 3 lines of the file and paste them at the bottom

First 3 line of the file....

```
1 VIM challenge begins!
2 ,sex,diagnosis,loc,ki,gtv,ster eo,status,time
3 1,Female,LG glioma,Infratentorial,90,6.11,SRS,0,57.64
4 2,Male,HG glioma,Supratentorial,90,19.35,SRS,1,8.98
5 3,Female,LG glioma,Infratentorial,70,7.95,SRS,0,26.46
6 4,Female,LG glioma,Supratentorial,80,7.61,SRS,1,47.8
7 5,Male,HG glioma,Supratentorial,90,5.06,SRS,1,6.3
8 6,Female,LG glioma,Supratentorial,80,4.82,SRS,0,52.75
9 7,Male,LG glioma,Supratentorial,80,3.19,SRS,0,55.8
10 8,Male,LG glioma,Supratentorial,80,12.37,SRS,0,42.1
11 Hello from line 11!
```

After pasting them at the bottom

```
88 85,Male,HG glioma,Supratentorial,80,19.81,SRS,1,6.39
89 86,Male,LG glioma,Supratentorial,90,2.5,SRS,0,32.82
90 87,Male,LG glioma,Supratentorial,90,2.02,SRS,0,42.07
91 88,Male,Other,Infratentorial,80,0.11,SRS,0,13.9
92 VIM challenge begins!
93 ,sex,diagnosis,loc,ki,gtv,ster eo,status,time
94 1,Female,LG glioma,Infratentorial,90,6.11,SRS,0,57.64
3 more lines
```

(9) Visually select this entire file contents and indent by 2 spaces.

```
1 VIM challenge begins!
2 ,sex,diagnosis,loc,ki,gtv,ster eo,status,time
3 1,female,lg glioma,infratentorial,90,6.11,srs,0,57.64
4 2,male,hg glioma,supratentorial,90,19.35,srs,1,8.98
5 3,female,lg glioma,infratentorial,70,7.95,srs,0,26.46
6 4,female,lg glioma,supratentorial,80,7.61,srs,1,47.8
7 5,male,hg glioma,supratentorial,90,5.06,srs,1,6.3
8 6,female,lg glioma,supratentorial,80,4.82,srs,0,52.75
9 7,male,lg glioma,supratentorial,80,3.19,srs,0,55.8
10 8,male,lg glioma,supratentorial,80,12.37,srs,0,42.1
11 hello from line 11!
12 10,male,hg glioma,supratentorial,100,2.53,srs,0,11.48
13 11,male,lg glioma,supratentorial,80,0.14,srs,1,35.93
14 12,female,lg glioma,infratentorial,90,6.54,srs,0,34.26
```


(10) Go to the 50th line number, and insert the following text: “ The cat sat on the mat. Another cat was watching. The cat did not move.” Replace all occurrences of the word “cat” with “tiger”.

```
47 44,male,tg glioma,supratentorial,80,12.03,srs,1,4.10
48 45,male,other,infratentorial,90,3.12,srs,0,18.95
49 46,male,lg glioma,supratentorial,60,7.09,srs,1,31.25
50 The cat sat on the mat. Another cat was watching. The cat did not move.
51 47,male,hg glioma,supratentorial,80,29.27,srs,0,5.15
52 48,female,lg glioma,supratentorial,80,26.31,srs,1,39.54
```

After adding the text replace the “cat” word with “tiger”

```
48 45,male,other,infratentorial,90,3.12,srs,0,18.95
49 46,male,lg glioma,supratentorial,60,7.09,srs,1,31.25
50 The tiger sat on the mat. Another tiger was watching. The tiger did not move.
51 47,male,hg glioma,supratentorial,80,29.27,srs,0,5.15
52 48,female,lg glioma,supratentorial,80,26.31,srs,1,39.54
53 49,male,lg glioma,supratentorial,70,0.97,srs,1,1.41
```

(11) Insert the text “This is an important reminder for you.” at 70th line number. Then change the word ‘important’ to ‘critical’. Describe the sequence of keystrokes used in full

First we use Shift +a while our cursor is on 69th line.

Then press enter , Shift + a (This will take you to the end of line 69th and enter the insert mode)

Then press insert this will take you to the 70th line.

Then insert the text in 70th line.

```
68 64,male,tg glioma,supratentorial,80,4.77,srs,0,07.58
69 65,male,lg glioma,supratentorial,80,9.58,srs,0,78.75
70 This is an important reminder for you.
71 66,female,lg glioma,supratentorial,100,4,srs,0,52.23
72 67,female,hg glioma,supratentorial,80,7.59,srs,1,4.56
73 68,male,other,infratentorial,70,0.01,srs,0,23.67
```

For replacing the text

```
92 87,male,lg glioma,supratentorial,90,2.02,srs,0,42.07
93 88,male,other,infratentorial,80,0.11,srs,0,13.9
94 vIM challenge begins!
95 ,sex,diagnosis,loc,ki,gtv,stereo,status,time
96 1,Female,LG glioma,Infratentorial,90,6.11,SRS,0,57.64
:70s/important/critical
```

```
68 64,male,tg glioma,supratentorial,80,4.77,srs,0,07.58
69 65,male,lg glioma,supratentorial,80,9.58,srs,0,78.75
70 This is an critical reminder for you.
71 66,female,lg glioma,supratentorial,100,4,srs,0,52.23
72 67,female,hg glioma,supratentorial,80,7.59,srs,1,4.56
73 68,male,other,infratentorial,70,0.01,srs,0,23.67
```

The important term has been replaced with critical.

(12) Note down the current line number, jump to the end of the file and jump back to this line without scrolling through every line. Describe the sequence of keystrokes used in full.

```
72 67,female,lg glioma,supratentorial,80,7.93,srs,1,4.50
73 68,male,other,infratentorial,70,0.01,srs,0,23.67
74 69,female,lg glioma,supratentorial,80,6.93,srs,0,10.1
75 70,female,lg glioma,supratentorial,70,3.63,srs,0,32.82
76 71,male,lg glioma,supratentorial,70,8.45,srs,0,19.41
77 72,male,lg glioma,supratentorial,80,20.93,srs,1,31.15
```

The current line number is 74.

First give the command **set nu** for line numbers....

Then give the command **:74**

```
93 88,male,other,infratentorial,80,0.11,srs,0,13.9
94 vIM challenge begins!
95 ,sex,diagnosis,loc,ki,gtv,stereo,status,time
96 1,Female,LG glioma,Infratentorial,90,6.11,SRS,0,57.64
:74
```

press enter the cursor will jump back to the 74th line.

```
72 67,female,lg glioma,supratentorial,80,7.93,srs,1,4.50
73 68,male,other,infratentorial,70,0.01,srs,0,23.67
74 69,female,lg glioma,supratentorial,80,6.93,srs,0,10.1
75 70,female,lg glioma,supratentorial,70,3.63,srs,0,32.82
76 71,male,lg glioma,supratentorial,70,8.45,srs,0,19.41
77 72,male,lg glioma,supratentorial,80,20.93,srs,1,31.15
```

(13) Add the following sentence at the end of the file: "The quick brown fox (who was very quick) jumps over the lazy dog." Delete the text inside the parentheses (including the parentheses) in the following text. Describe the sequence of keystrokes used in full.

```
93 88,male,other,infratentorial,80,0.11,srs,0,13.9
94 vIM challenge begins!
95 ,sex,diagnosis,loc,ki,gtv,stereo,status,time
96 The quick brown fox (who was very quick) jumps over the lazy dog.1,Female,LG glioma,Infratentorial,90,6.11,SRS,0,57.64
```

The sentence was added at the end of file.

Then use Ctrl +V to enter the visual block then select the text in the paranthesis.

```
93 88,male,other,infratentorial,80,0.11,srs,0,13.9
94 vIM challenge begins!
95 ,sex,diagnosis,loc,ki,gtv,stereo,status,time
96 The quick brown fox (who was very quick) jumps over the lazy dog.1,Female,LG glioma,Infratentorial,90,6.11,SRS,0,57.64
```

Then to delete it press x key on the keyboard. It will remove the whole text in the paranthesis.

```
93 88,male,other,infratentorial,80,0.11,srs,0,13.9
94 vIM challenge begins!
95 ,sex,diagnosis,loc,ki,gtv,stereo,status,time
96 The quick brown fox jumps over the lazy dog.1,Female,LG glioma,Infratentorial,90,6.11,SRS,0,57.64
```


(14) Go to the last line of the file and append: "-- end of challenge"

After pressing Shift+a

```
93 88,male,other,infratentorial,80,0.11,srs,0,13.9
94 vIM challenge begins!
95 ,sex,diagnosis,loc,ki,gtv,stereo,status,time
96 The quick brown fox jumps over the lazy dog.2,Female,LG glioma,Infratentorial,90,6.11,SRS,0,57.64
-- INSERT --
```

The cursor goes to the end of line and enters insert mode

```
93 88,male,other,infratentorial,80,0.11,srs,0,13.9
94 vIM challenge begins!
95 ,sex,diagnosis,loc,ki,gtv,stereo,status,time
96 The quick brown fox jumps over the lazy dog.1,Female,LG glioma,Infratentoria
97 - end of challenge
```

(15) In the remaining exercises, we are going to use Vim's search, replace, visual modes and text objects. Open the file vim_cleanup_exercises.txt and do the following. Describe the sequence of keystrokes fully for each problem.

(i) Fix spacing issues in the text in the lines 1-3.

Lines 1-3 having spacing issues

```
This line has too many spaces.
Replace tabs with single spaces.
This line starts with too many spaces.
-----
```

Press "i" this will enter the **INSERT** Mode.

Then you can remove the extra spaces using the backspace key.

In **Normal mode**,

Use **x** command to delete the unnecessary spaces. You can delete the spaces by specifying the number of spaces which have to be deleted. Eg after "line" there are 3 spaces so press **3 and then x**

The correct spaced lines....

```
This line has too many spaces.
Replace tabs with single spaces.
This line starts with too many spaces.
-----
```

(ii) Fix any capitalization and typographical errors in lines 5-8.

The Lines having errors....

```
5 the quick brown fox jumps ovr the lazy dog.
6 Vim is a amazing text editor.
7 i enjoy learning vim.
8 python is fun But also chalenging.
```

enter the insert mode using i command.

Change **the** to **The** ,then **ovr** to **over**

Change **a** to **an**, then **amaziing** to **amazing**

Change **i** to **I** , then **vim** to **Vim**

Change **python** to **Python** add a “,” before but and also change **But** to **but**

Then change and modify the errors accordingly

```
5 The quick brown fox jumps over the lazy dog.
6 Vim is an amazing text editor.
7 I enjoy learning Vim.
8 Python is fun ,but also challenging.
```

(iii) Correct punctuation errors in lines 10-13.

```
10 Hello world this sentence needs a period
11 What is your name
12 Yes , I like apples
13 Wait...this is too...many dots...
```

First enter Insert mode by pressing i

Then add a period at the end of the line 10.

Add a question mark at the end of line 11.

Then add a period at the end of line 12 and remove the extra spaces.

Then remove the extra dots from the line 13 and change **this is to these are**

The corrected lines are....

```
10 Hello world this sentence needs a period.
11 What is your name?
12 Yes, I like apples.
13 Wait...these are too many dots.
```

(iv) Remove unwanted words in lines 15-17.

the lines with error are

```
14 -----
15 I really just literally totally want to say that this is fine.
16 Please delete the word TODO anywhere it appears.
17 TODO I will fix this line.
18 -----
```

In Normal Mode,

we can use **dw** command to delete the unwanted words from the lines. Use dw for words : *really,literally, totally* in line 15.

to delete the word TODO anywhere it appears in the file, use **:%s/TODO/** and TODO word willl be removed from all the lines.

Then press x to remove the extra spaces.

(v) Fix alignment issues in lines 19-22.

```
18
19 Name      Age      City
20 Alice      24      New York
21 Bob       32      Los Angeles
22 Charlie   19      Chicago
23 -----
24
```

Enter Insert mode by pressing i.

Then remove the extra spaces by using x.

In line 20 add spaces in between New york and 24.

Add spaces in between Bob and 32, remove the extra spaces between 32 and Los Angeles by pressing 3 and x .

In line 22 add one space before 19 and remove 2 spaces by pressing 2 and x between 19 and Chicago

the corrected lines are-

```
18
19 Name      Age      City
20 Alice      24      New York
21 Bob       32      Los Angeles
22 Charlie   19      Chicago
23 -----
24
```