

Linux Assignment Part 1

Task 1.1

```
mkdir test1
cd test1
mkdir -p 'My files'/Programming/'Lecture notes'
mkdir -p CSIL/tests
tree >> file.txt
```

Task 1.2

```
vi test1/CSIL/tests/vi.txt
```

```
i
```

```
Subhaan Hussain
```

```
ESC
```

```
:wq
```

```
nano test1/'My files'/Programming/nano.txt
```

```
Computer Science with Cyber Security
```

```
CTRL + o
```

```
Enter
```

```
CTRL + x
```

```
cat test1/CSIL/tests/vi.txt test1/'My files'/Programming/nano.txt >> combined.txt
```

Task 1.3

```
mv /home/subhaan/test1/CSIL/tests/vi.txt /home/subhaan/test1/'My files'/Programming/'Lecture notes'
```

```
cd test1/CSIL
```

```
cp ../'My files'/Programming/nano.txt tests
```

NOTE: Continuing from test1/CSIL directory:

```
cd ../'My files'/Programming/'Lecture notes'
```

```
mv ../../Programming ../../'Programming One'
```

```
history
```

```
tree >> newfile.txt
```

Task 2.1

cat f1.txt | grep -E "Han"

134	[Germany]	Hans_Joachim_Stuck	74	0
142	[United_States]	Sam_Hanks	9	1
193	[Germany]	Hans_Herrmann	18	0

Task 2.2

cat f1.txt | grep -E "S[^aeiou]{2}"

6	[Germany]	Michael_Schumacher	307	91
29	[Germany]	Ralf_Schumacher	180	6
41	[South_Africa]	Jody_Scheckter	112	10
73	[Canada]	Lance_Stroll	75	0
125	[United_States]	Harry_Schell	63	0
189	[France]	Philippe_Streiff	54	0

Task 2.3

cat f1.txt | grep -E "([5-9][0-9]|[1-9][0-9]{2})\$"

1	[United_Kingdom]	Lewis_Hamilton	264	94
2	[Germany]	Sebastian_Vettel	254	53
6	[Germany]	Michael_Schumacher	307	91
13	[France]	Alain_Prost	199	51
68	[Italy]	Alberto_Ascari	36	132

Task 2.4

cat f1.txt | grep -E "[A-Za-z]{3}[_]"

11	[Netherlands]	Max_Verstappen	116	9
37	[United_Kingdom]	Jim_Clark	72	25
69	[United_States]	Dan_Gurney	86	4
130	[United_States]	Jim_Rathmann	12	1
139	[Italy]	Teo_Fabi	63	0
142	[United_States]	Sam_Hanks	9	1
147	[United_Kingdom]	Tom_Pryce	42	0
148	[United_Kingdom]	Roy_Salvadori	48	0
160	[Netherlands]	Jos_Verstappen	106	0
200	[United_States]	Lee_Wallard	2	1

Task 2.5

```
cat f1.txt | grep -E "([aeiou]{2})"
```

10	[Australia]	Daniel_Ricciardo	185	7
12	[Australia]	Mark_Webber	215	9
21	[Austria]	Niki_Lauda	173	25
25	[Austria]	Gerhard_Berger	210	10
31	[Colombia]	Juan_Pablo_Montoya	94	7
39	[Australia]	Jack_Brabham	127	14
48	[Australia]	Alan_Jones	116	12
79	[Austria]	Jochen_Rindt	60	6
115	[Austria]	Alexander_Wurz	69	0
170	[Austria]	Karl_Wendlinger	41	0
171	[Austria]	Christian_Klien	49	0

Task 2.6

```
cat f1.txt | grep -E "[3-9][0-9]{2}"
```

3	[Spain]	Fernando_Alonso	311	32
4	[Finland]	Kimi_Raikkonen	326	21
6	[Germany]	Michael_Schumacher	307	91
8	[United_Kingdom]	Jenson_Button	306	15
15	[Brazil]	Rubens_Barrichello	322	11

Task 2.7

```
cat f1.txt | grep -E "[A-Za-z]*[_][A-Za-z]*" | wc -l
```

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Task 2.8

```
cat f1.txt | grep -E "[A-Za-z_]{20,}"
```

36	[Italy]	Giancarlo_Fisichella	230	3
91	[Argentina]	Jose_Froilan_Gonzalez	29	2
182	[Brazil]	Christian_Fittipaldi	40	0

Task 2.9

```
cat f1.txt | grep -Eo "[A-Z][a-z]+" | sort | uniq -c | sort -n | tail -n 1
```

3 Hill

Task 2.10

```
cat f1.txt | grep -Eo "\[.*\]" | sort | uniq -c | sort -n | tail -n 3
```

23 [France]

27 [Italy]

37 [United_Kingdom]

Task 3.1

```
cat f1.txt | sed -r 'y/_/_/' | head -n 5
```

Rank	Country	Driver	Races	Wins
1	[United Kingdom]	Lewis Hamilton	264	94
2	[Germany]	Sebastian Vettel	254	53
3	[Spain]	Fernando Alonso	311	32
4	[Finland]	Kimi Raikkonen	326	21

Task 3.2

```
cat f1.txt | sed -r '/\[^[^A-M]/ !d' | head -n 5
```

1	[United_Kingdom]	Lewis_Hamilton	264	94
3	[Spain]	Fernando_Alonso	311	32
8	[United_Kingdom]	Jenson_Button	306	15
11	[Netherlands]	Max_Verstappen	116	9
17	[United_Kingdom]	David_Coulthard	246	13

Task 3.3

```
cat f1.txt | sed -r '/\[United/ s/] [A-Za-z_]*[_]*[A-Za-z]*|-[A-Za-z]*\U&/' | head -n 5
```

Rank	Country	Driver	Races	Wins
1	[United_Kingdom]	LEWIS_HAMILTON	264	94
2	[Germany]	Sebastian_Vettel	254	53
3	[Spain]	Fernando_Alonso	311	32
4	[Finland]	Kimi_Raikkonen	326	21

Task 3.4

```
cat f1.txt | sed -r '/ L| S/ aWINNER' | head -n 5
```

Rank	Country	Driver	Races	Wins
1	[United_Kingdom]	Lewis_Hamilton	264	94
WINNER				
2	[Germany]	Sebastian_Vettel	254	53
WINNER				

Task 3.5

```
cat f1.txt | sed -r 's/[A-Za-z\._-]+//' | sed -r 's/Driver//' | head -n 5
```

Rank	Races	Wins
1 [United_Kingdom]	264	94
2 [Germany]	254	53
3 [Spain]	311	32
4 [Finland]	326	21