

# Assignment 2

## Software Tools and Technologies

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Course : MCA  
Semester : 1st semester

### Que 1

1. Create a directory named week2\_lab in your home folder.

```
mkdir week2_lab
```

```
ravish@RavishPC:/mnt/c/work/sem1/stt$ mkdir week2_lab  
ravish@RavishPC:/mnt/c/work/sem1/stt$ ls  
week2_lab  
ravish@RavishPC:/mnt/c/work/sem1/stt$ |
```

2. Inside it, create three files: file1.txt, file2.txt, and file3.txt.

```
touch file1.txt file2.txt file3.txt
```

```
ravish@RavishPC:/mnt/c/work/sem1/stt$ touch file1.txt file2.txt file3.txt  
ravish@RavishPC:/mnt/c/work/sem1/stt$ ls  
file1.txt file2.txt file3.txt week2_lab  
ravish@RavishPC:/mnt/c/work/sem1/stt$
```

3. Move file3.txt into a subdirectory named archive/.

```
mkdir -p archive/ && mv file3.txt archive/
```

```
ravish@RavishPC:/mnt/c/work/sem1/stt$ mkdir -p archive/ && mv file3.txt archive/  
ravish@RavishPC:/mnt/c/work/sem1/stt$ ls  
archive file1.txt file2.txt week2_lab  
ravish@RavishPC:/mnt/c/work/sem1/stt$ ls ./archive  
file3.txt  
ravish@RavishPC:/mnt/c/work/sem1/stt$
```

4. List all files (long format) and redirect the output to a file named listing.txt.

```
ls -l >> listing.txt
```

```
ravish@RavishPC:/mnt/c/work/sem1/stt$ ls -l >> listing.txt
ravish@RavishPC:/mnt/c/work/sem1/stt$ cat listing.txt
total 0
drwxrwxrwx 1 ravish ravish 512 Oct  5 12:51 archive
-rwxrwxrwx 1 ravish ravish  0 Oct  5 12:47 file1.txt
-rwxrwxrwx 1 ravish ravish  0 Oct  5 12:47 file2.txt
-rwxrwxrwx 1 ravish ravish  0 Oct  5 12:54 listing.txt
drwxrwxrwx 1 ravish ravish 512 Oct  5 12:47 week2_lab
ravish@RavishPC:/mnt/c/work/sem1/stt$
```

## Que 2

1. Display permissions of file1.txt using ls -l.

```
ls -l file1.txt
```

```
ravish@RavishPC:/mnt/c/work/sem1/stt$ ls -l file1.txt
-rwxrwxrwx 1 ravish ravish 0 Oct  5 12:47 file1.txt
ravish@RavishPC:/mnt/c/work/sem1/stt$
```

2. Change its permissions so that only the owner has read and write access.

```
chmod 600 file1.txt
```

```
ravish@RavishPC:~$ ls -l file1.txt
-rwxrwxrwx 1 ravish ravish 0 Oct  5 12:59 file1.txt
ravish@RavishPC:~$ chmod 600 file1.txt
ravish@RavishPC:~$ ls -l file1.txt
-rw----- 1 ravish ravish 0 Oct  5 12:59 file1.txt
ravish@RavishPC:~$
```

3. Add execute permission for all users and verify the change.

```
chmod a+x file1.txt
```

```
ravish@RavishPC:~$ chmod a+x file1.txt
ravish@RavishPC:~$ ls -l file1.txt
-rwx--x--x 1 ravish ravish 0 Oct  5 12:59 file1.txt
ravish@RavishPC:~$
```

## Que3

1. Create a file named sample.txt with at least 10 lines of text.

```
echo "What is the boy now, who has lost his ball.  
What, what is he to do? I saw it go  
Merrily bouncing, down the street, and then  
Merrily over—there it is in the water!  
No use to say 'O there are other balls':  
An ultimate shaking grief fixes the boy  
As he stands rigid, trembling, staring down  
All his young days into the harbour where  
His ball went. I would not intrude on him,  
A dime, another ball, is worthless. Now  
He senses first responsibility  
In a world of possessions. People will take balls,  
Balls will be lost always, little boy,  
And no one buys a ball back. Money is external.  
He is learning, well behind his desperate eyes,  
The epistemology of loss, how to stand up  
Knowing what every man must one day know  
And most know many days, how to stand up  
And gradually light returns to the street,  
A whistle blows, the ball is out of sight.  
Soon part of me will explore the deep and dark  
Floor of the harbour . . I am everywhere,  
I suffer and move, my mind and my heart move  
With all that move me, under the water  
Or whistling, I am not a little boy.  
" >> sample.txt
```

```
ravish@RavishPC:/mnt/c/work/sem1/stt$ echo "What is the boy now, who has lost his ball.
What, what is he to do? I saw it go
Merrily bouncing, down the street, and then
Merrily over-there it is in the water!
No use to say 'O there are other balls':
An ultimate shaking grief fixes the boy
As he stands rigid, trembling, staring down
All his young days into the harbour where
His ball went. I would not intrude on him,
A dime, another ball, is worthless. Now
He senses first responsibility
In a world of possessions. People will take balls,
Balls will be lost always, little boy,
And no one buys a ball back. Money is external.
He is learning, well behind his desperate eyes,
The epistemology of loss, how to stand up
Knowing what every man must one day know
And most know many days, how to stand up
And gradually light returns to the street,
A whistle blows, the ball is out of sight.
Soon part of me will explore the deep and dark
Floor of the harbour . . I am everywhere,
I suffer and move, my mind and my heart move
With all that move me, under the water
Or whistling, I am not a little boy." >> sample.txt
ravish@RavishPC:/mnt/c/work/sem1/stt$ ls
archive file1.txt file2.txt listing.txt sample.txt week2_lab
ravish@RavishPC:/mnt/c/work/sem1/stt$
```

2. Use grep to display all lines containing the word "boy".

```
grep -i -n "boy" sample.txt
```

```
ravish@RavishPC:/mnt/c/work/sem1/stt$ grep -i -n "boy" sample.txt
1:What is the boy now, who has lost his ball.
6:An ultimate shaking grief fixes the boy
13:Balls will be lost always, little boy,
25:Or whistling, I am not a little boy.
ravish@RavishPC:/mnt/c/work/sem1/stt$
```

3. Count the total number of lines using wc -l.

```
wc -l sample.txt
```

```
ravish@RavishPC:/mnt/c/work/sem1/stt$ wc -l sample.txt
25 sample.txt
ravish@RavishPC:/mnt/c/work/sem1/stt$
```

4. Display all unique words in sorted order using a combination of tr, sort, and uniq.

```
tr -s "[:space:]" "\n" < sample.txt | sort | uniq
```

```
ravish@RavishPC:/mnt/c/work/sem1/stt$ tr -s "[:space:]" "\n" < sample.txt | sort | uniq
'O
.
A
All
An
And
As
Balls
Floor
He
His
I
In
Knowing
Merrily
Money
No
Now
Or
People
Soon
The
What
What,
With
a
all
always,
am
```