

## Exercise 1:

```
vishakan@vishakan-legion:~/Desktop$ cd ..
vishakan@vishakan-legion:~$ mkdir -p letters reports assignment

vishakan@vishakan-legion:~$ cd letters

vishakan@vishakan-legion:~/letters$ mkdir -p friendly formal

vishakan@vishakan-legion:~/letters$ cd ../reports

vishakan@vishakan-legion:~/reports$ mkdir -p perosnal business school

vishakan@vishakan-legion:~/reports$ mkdir -p ../assignments/UNIX

vishakan@vishakan-legion:~/reports$ cd ..

vishakan@vishakan-legion:~$ ls -R
.:
assignment    Desktop      Downloads          letters  Pictures  reports
Videos
assignments   Documents    examples.desktop  Music    Public    Templates

./assignment:

./assignments:
UNIX

./assignments/UNIX:

./Desktop:
Java

./Desktop/Java:
Date.class  Date.java  Ex1  Ex2

./Desktop/Java/Ex1:
Calc.java          EvenOddPrint.java  Matrix.class      Primes.java
CozaLozaWoza.class Factorial.java      Matrix.java
CozaLozaWoza.java  Fibonacci.java      Patterns.class
Digits.java        Greetings.java      Patterns.java

./Desktop/Java/Ex2:
ElecBill.java      Employee.java      Student.class
Employee.class      NumberGuess.java  Student.java

./Documents:

./Downloads:
Lecture3-ListADTLinkedList.pptx

./letters:
formal  friendly
```

```

./letters/formal:

./letters/friendly:

./Music:

./Pictures:
'Screenshot from 2019-07-01 21-39-58.png'

./Public:

./reports:
business perosnal school

./reports/business:

./reports/perosnal:

./reports/school:

./Templates:
'Empty Document' 'Untitled Document'

./Videos:

```

## Exercise 2:

```

vishakan@vishakan-legion:~$ ls -R
.:
assignment      Desktop         examples.desktop  Pictures        snap
'Assignment 2'   Documents       letters           Public          Templates
assignments      Downloads       Music             reports         Videos

./assignment:

./assignments:
UNIX

./assignments/UNIX:
hw4 hw4.bk

./Desktop:
Java

./Desktop/Java:
Date.class Date.java Ex1 Ex2

./Desktop/Java/Ex1:
Calc.java      EvenOddPrint.java  Matrix.class      Primes.java
CozaLozaWoza.class  Factorial.java     Matrix.java
CozaLozaWoza.java   Fibonacci.java     Patterns.class
Digits.java        Greetings.java     Patterns.java

```

```
./Desktop/Java/Ex2:
ElecBill.java    Employee.java    Student.class
Employee.class   NumberGuess.java   Student.java

./Documents:

./Downloads:
Lecture3-ListADTLinkedList.pptx  'sublime_text_3_build_3207_x64
(1).tar.bz2'

./letters:
formal  friendly

./letters/formal:

./letters/friendly:

./Music:

./Pictures:
'Screenshot from 2019-07-01 21-39-58.png'

./Public:

./reports:
business  perosnal  school

./reports/business:

./reports/perosnal:

./reports/school:

./snap:
sublime-text

./snap/sublime-text:
58  common  current

./snap/sublime-text/58:

./snap/sublime-text/common:

./Templates:
'Empty Document'  'Untitled Document'

./Videos:

vishakan@vishakan-legion:~$ cd assignments/UNIX

vishakan@vishakan-legion:~/assignments/UNIX$ pwd
/home/vishakan/assignments/UNIX

vishakan@vishakan-legion:~/assignments/UNIX$ vi hw4
```

```
vishakan@vishakan-legion:~/assignments/UNIX$ cd ../../

vishakan@vishakan-legion:~$ cat assignments/UNIX/hw4
hw4,hw4.bk and hw4HL are all TEXT files whereas hw4SL is a SOFT link to
hw4
inode values of hw4 and hw4HL are the same. (The first column in the ls -
il command gives inode number)
inode value of hw4.bk and hw4SL are different.

vishakan@vishakan-legion:~$ cp assignments/UNIX/hw4
assignments/UNIX/hw4.bk

vishakan@vishakan-legion:~$ ls assignments/UNIX
hw4  hw4.bk

vishakan@vishakan-legion:~$ cd assignments/UNIX

vishakan@vishakan-legion:~/assignments/UNIX$ pwd
/home/vishakan/assignments/UNIX

vishakan@vishakan-legion:~/assignments/UNIX$ ln hw4 hw4HL

vishakan@vishakan-legion:~/assignments/UNIX$ ln -s hw4 hw4SL

vishakan@vishakan-legion:~/assignments/UNIX$ ls -il hw4
1311717 -rw-r--r-- 2 vishakan vishakan 6 Jul  9 21:33 hw4

vishakan@vishakan-legion:~/assignments/UNIX$ ls -il hw4.bk
1310777 -rw-r--r-- 1 vishakan vishakan 6 Jul  9 21:34 hw4.bk

vishakan@vishakan-legion:~/assignments/UNIX$ ls -il hw4HL
1311717 -rw-r--r-- 2 vishakan vishakan 6 Jul  9 21:33 hw4HL

vishakan@vishakan-legion:~/assignments/UNIX$ ls -il hw4SL
1311718 lrwxrwxrwx 1 vishakan vishakan 3 Jul  9 21:39 hw4SL -> hw4

vishakan@vishakan-legion:~/assignments/UNIX$ ls -l
total 12
- rw-r--r-- 2 vishakan vishakan 6 Jul  9 21:33 hw4
- rw-r--r-- 1 vishakan vishakan 6 Jul  9 21:34 hw4.bk
- rw-r--r-- 2 vishakan vishakan 6 Jul  9 21:33 hw4HL
lrwxrwxrwx 1 vishakan vishakan 3 Jul  9 21:39 hw4SL -> hw4

vishakan@vishakan-legion:~/assignments/UNIX$ file hw4
hw4: ASCII text

vishakan@vishakan-legion:~/assignments/UNIX$ file hw4.bk
hw4.bk: ASCII text

vishakan@vishakan-legion:~/assignments/UNIX$ file hw4HL
hw4HL: ASCII text

vishakan@vishakan-legion:~/assignments/UNIX$ file hw4SL
```

hw4SL: symbolic link to hw4

#### REPORT:

hw4, hw4.bk and hw4HL are all TEXT files whereas hw4SL is a SOFT link to hw4  
inode values of hw4 and hw4HL are the same. (The first column in the ls -il command gives inode number)  
inode value of hw4.bk and hw4SL are different.

#### Exercise 3:

```
vishakan@vishakan-legion:~/assignments/UNIX$ cd ../../
```

```
vishakan@vishakan-legion:~$ mkdir backups
```

```
vishakan@vishakan-legion:~/backups$ find ~/assignments/UNIX/ -name "hw*" -exec cp '{}' ~/backups \;
```

```
vishakan@vishakan-legion:~/backups$ ls -il -l
total 16
1311388 -rw-r--r-- 1 vishakan vishakan 227 Jul  9 22:44 hw4
1311502 -rw-r--r-- 1 vishakan vishakan   6 Jul  9 22:44 hw4.bk
1311355 -rw-r--r-- 1 vishakan vishakan 227 Jul  9 22:44 hw4HL
1311383 -rw-r--r-- 1 vishakan vishakan 227 Jul  9 22:44 hw4SL
```

```
vishakan@vishakan-legion:~/backups$ cat hw4
hw4, hw4.bk and hw4HL are all TEXT files whereas hw4SL is a SOFT link to hw4
inode values of hw4 and hw4HL are the same. (The first column in the ls -il command gives inode number)
inode value of hw4.bk and hw4SL are different.
```

```
vishakan@vishakan-legion:~/backups$ cat hw4.bk
hw4, hw4.bk and hw4HL are all TEXT files whereas hw4SL is a SOFT link to hw4
inode values of hw4 and hw4HL are the same. (The first column in the ls -il command gives inode number)
inode value of hw4.bk and hw4SL are different.
```

```
vishakan@vishakan-legion:~/backups$ cat hw4HL
hw4, hw4.bk and hw4HL are all TEXT files whereas hw4SL is a SOFT link to hw4
inode values of hw4 and hw4HL are the same. (The first column in the ls -il command gives inode number)
inode value of hw4.bk and hw4SL are different.
```

```
vishakan@vishakan-legion:~/backups$ cat hw4SL
hw4, hw4.bk and hw4HL are all TEXT files whereas hw4SL is a SOFT link to hw4
```

inode values of hw4 and hw4HL are the same. (The first column in the ls -il command gives inode number)  
inode value of hw4.bk and hw4SL are different.

```
vishakan@vishakan-legion:~/backups$ rm -r ~/assignments/UNIX/hw4
```

```
vishakan@vishakan-legion:~$ ls -l ~/assignments/UNIX
total 8
1310777 -rw-r--r-- 1 vishakan vishakan  6 Jul  9 21:34 hw4.bk
1311717 -rw-r--r-- 1 vishakan vishakan 227 Jul  9 21:50 hw4HL
1311718 lrwxrwxrwx 1 vishakan vishakan  3 Jul  9 22:55 hw4SL -> hw4
```

```
vishakan@vishakan-legion:~/assignments/UNIX$ cat hw4.bk
hw4,hw4.bk and hw4HL are all TEXT files whereas hw4SL is a SOFT link to hw4
inode values of hw4 and hw4HL are the same. (The first column in the ls -il command gives inode number)
inode value of hw4.bk and hw4SL are different.
```

```
vishakan@vishakan-legion:~/assignments/UNIX$ cat hw4HL
hw4,hw4.bk and hw4HL are all TEXT files whereas hw4SL is a SOFT link to hw4
inode values of hw4 and hw4HL are the same. (The first column in the ls -il command gives inode number)
inode value of hw4.bk and hw4SL are different.
```

```
vishakan@vishakan-legion:~/assignments/UNIX$ cat hw4SL
cat: hw4SL: No such file or directory
```

```
vishakan@vishakan-legion:~/assignments/UNIX$ cp ~/backups/hw4.bk
~/assignments/UNIX/hw4
```

```
vishakan@vishakan-legion:~/assignments/UNIX$ ln -s hw4 hw4SL
```

```
vishakan@vishakan-legion:~$ ls -R
.:
'Assignment 2'  Desktop      examples.desktop  Pictures  snap
assignments    Documents   letters          Public    Templates
backups        Downloads  Music            reports   Videos

./assignments:
UNIX  'UNIX?hw4SL'

./assignments/UNIX:
hw4  hw4.bk  hw4HL  hw4SL

./backups:
hw4  hw4.bk  hw4HL  hw4SL

./Desktop:
Java

./Desktop/Java:
Date.class  Date.java  Ex1  Ex2
```

```
./Desktop/Java/Ex1:
Calc.java          EvenOddPrint.java  Matrix.class      Primes.java
CozaLozaWoza.class Factorial.java    Matrix.java
CozaLozaWoza.java  Fibonacci.java   Patterns.class
Digits.java        Greetings.java   Patterns.java
```

```
./Desktop/Java/Ex2:
ElecBill.java      Employee.java      Student.class
Employee.class     NumberGuess.java  Student.java
```

```
./Documents:
```

```
./Downloads:
Lecture3-ListADTLinkedList.pptx  'sublime_text_3_build_3207_x64
(1).tar.bz2'
```

```
./letters:
formal  friendly
```

```
./letters/formal:
```

```
./letters/friendly:
```

```
./Music:
```

```
./Pictures:
'Screenshot from 2019-07-01 21-39-58.png'
```

```
./Public:
```

```
./reports:
business  perosnal  school
```

```
./reports/business:
```

```
./reports/perosnal:
```

```
./reports/school:
```

```
./snap:
sublime-text
```

```
./snap/sublime-text:
58  common  current
```

```
./snap/sublime-text/58:
```

```
./snap/sublime-text/common:
```

```
./Templates:
'Empty Document'  'Untitled Document'
```

```
./Videos:
```

REPORT:

Question 4: Each file has 1 link and the inode numbers are totally different for all three files present.

Exercise 4:

```
vishakan@vishakan-legion:~$ ls -l ~/assignments/UNIX/hw*
- rw-r--r-- 1 vishakan vishakan  6 Jul  9 22:55
  /home/vishakan/assignments/UNIX/hw
- rw-r--r-- 1 vishakan vishakan  6 Jul  9 21:34
  /home/vishakan/assignments/UNIX/hw4.bk
- rw-r--r-- 1 vishakan vishakan 227 Jul  9 21:50
  /home/vishakan/assignments/UNIX/hw4HL
lrwxrwxrwx 1 vishakan vishakan   3 Jul  9 22:55
/home/vishakan/assignments/UNIX/hw4SL -> hw4

vishakan@vishakan-legion:~$ mv ~/assignments/UNIX/hw4.bk
~/assignments/UNIX/hw4.bak

vishakan@vishakan-legion:~$ cd letters

vishakan@vishakan-legion:~/letters$ cd friendly

vishakan@vishakan-legion:~/letters/friendly$ vi friend.1

vishakan@vishakan-legion:~/letters/friendly$ cd ../formal

vishakan@vishakan-legion:~/letters/formal$ vi formal.1

vishakan@vishakan-legion:~/letters/formal$ cp formal.1 formal.2

vishakan@vishakan-legion:~/letters/formal$ vi formal.2

vishakan@vishakan-legion:~/letters/formal$ cat formal*
this is morgan freeman
Good morning
This is a formal letter

this is seth rogen of yonder glen
Good morning

vishakan@vishakan-legion:~/letters/formal$ cd ../..
vishakan@vishakan-legion:~$ mkdir business

vishakan@vishakan-legion:~$ mv ~/letters/formal ~/business

vishakan@vishakan-legion:~$ ls -R
.:
'Assignment 2'  business  Downloads  Music  reports
Videos
assignments    Desktop  examples.desktop  Pictures  snap
```



```

backups          Documents    letters          Public          Templates

./assignments:
  UNIX 'UNIX?hw4SL'

./assignments/UNIX:
hw4 hw4.bak hw4HL hw4SL

./backups:
hw4 hw4.bk hw4HL hw4SL

./business:
formal

./business/formal:
formal.1 formal.2

./Desktop:
Java

./Desktop/Java:
Date.class Date.java Ex1 Ex2

./Desktop/Java/Ex1:
Calc.java          EvenOddPrint.java Matrix.class      Primes.java
CozaLozaWoza.class Factorial.java      Matrix.java
CozaLozaWoza.java  Fibonacci.java      Patterns.class
Digits.java        Greetings.java      Patterns.java

./Desktop/Java/Ex2:
ElecBill.java      Employee.java        Student.class
Employee.class      NumberGuess.java    Student.java

./Documents:

./Downloads:
Lecture3-ListADTLinkedList.pptx 'sublime_text_3_build_3207_x64
(1).tar.bz2'

./letters:
friendly

./letters/friendly:
friend.1

./Music:

./Pictures:
'Screenshot from 2019-07-01 21-39-58.png'

./Public:

./reports:
business perosnal school

```

./reports/business:

./reports/perosnal:

./reports/school:

./snap:  
sublime-text

./snap/sublime-text:  
58 common current

./snap/sublime-text/58:

./snap/sublime-text/common:

./Templates:  
'Empty Document' 'Untitled Document'

./Videos: