Question 1 Creating Files and Directories

```
andro@andro-VirtualBox:~/lab4$ touch docs/old/file1
andro@andro-VirtualBox:~/lab4$ touch docs/old/file2
andro@andro-VirtualBox:~/lab4$ touch docs/old/file3
andro@andro-VirtualBox:~/lab4$ touch songs/new/file1
andro@andro-VirtualBox:~/lab4$ touch songs/new/file2
andro@andro-VirtualBox:~/lab4$ touch songs/new/file3
andro@andro-VirtualBox:~/lab4$ touch songs/old/file1
andro@andro-VirtualBox:~/lab4$ touch songs/old/file2
andro@andro-VirtualBox:~/lab4$ touch songs/old/file3
andro@andro-VirtualBox:~/lab4$ ls -r
songs   pets   docs   2021-10-27_20-56.png
andro@andro-VirtualBox:~/lab4$ tree
.
├── 2021-10-27_20-56.png
├── docs
│   ├── new
│   │   ├── file1
│   │   ├── file2
│   │   └── file3
│   └── old
│       ├── file1
│       ├── file2
│       └── file3
├── pets
│   ├── new
│   │   ├── file1
│   │   ├── file2
│   │   └── file3
│   └── old
│       ├── file1
│       ├── file11
│       ├── file2
│       └── file3
└── songs
    ├── new
    │   ├── file1
    │   ├── file2
    │   └── file3
    └── old
        ├── file1
        ├── file2
        └── file3

9 directories, 20 files
```

Question 2 Removing Files and directories

```
andro@andro-VirtualBox:/srv$ rm ~/lab4/pets/new/file1 ~/lab4/pets/new/file2 ~/lab4/pets/new/file3
andro@andro-VirtualBox:/srv$ rm -r ~/lab4/pets/
andro@andro-VirtualBox:/srv$ rm -r ~/lab4/docs/
andro@andro-VirtualBox:/srv$ rm -r ~/lab4/songs/
andro@andro-VirtualBox:/srv$ rm -r ~/lab4/
andro@andro-VirtualBox:/srv$
```

Question 3 Moving Files and directories

```
andro@andro-VirtualBox:/srv$ cd
andro@andro-VirtualBox:~$ wget https://robertalberto.com/public/lab4.zip && unzip lab4.zip && rm lab4.zip
--2021-10-27 21:30:42--  https://robertalberto.com/public/lab4.zip
Resolving robertalberto.com (robertalberto.com)... 34.66.0.162, 2607:7700:0:28:0:1:2242:a2
Connecting to robertalberto.com (robertalberto.com)|34.66.0.162|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 4209377 (4.0M) [application/zip]
Saving to: 'lab4.zip'

lab4.zip              100%[====================>]   4.01M   429KB/s    in 21s

2021-10-27 21:31:03 (200 KB/s) - 'lab4.zip' saved [4209377/4209377]

Archive:  lab4.zip
   creating: lab4/
 extracting: lab4/.hidden
  inflating: lab4/Pexels.mp4
  inflating: lab4/Silence.mp3
  inflating: lab4/Videoleaf.mp4
  inflating: lab4/another.mp4
  inflating: lab4/audio.mp3
 extracting: lab4/fileA.txt
 extracting: lab4/fileB.txt
 extracting: lab4/filea.txt
 extracting: lab4/image1.jpeg
 extracting: lab4/image2.jpeg
 extracting: lab4/image3.png
 extracting: lab4/image4.png
 extracting: lab4/image5.gif
  inflating: lab4/song.mp3
  inflating: lab4/trivia.txt
 extracting: lab4/triviaXYZ.txt
 extracting: lab4/vita.txt
   creating: lab4/wallpaperslab4/
  inflating: lab4/wallpaperslab4/cpu.jpeg
  inflating: lab4/wallpaperslab4/keyboard.jpeg
  inflating: lab4/wallpaperslab4/pc.jpeg
```

Question 4 Copying Files

```
andro@andro-VirtualBox:~$ ls
cis106  Desktop  Documents  Downloads  exa_0.9.0-4_amd64.deb  lab4  Music  Pictures  Public  snap  Templates  Videos  website.html
andro@andro-VirtualBox:~$ mkdir lab4-imgs lab4-audio lab4-video lab4-docs
andro@andro-VirtualBox:~$ mv lab4/audio.mp3 lab4/silence.mp3 lab4/song.mp3 lab4-audio/
mv: cannot stat 'lab4/silence.mp3': No such file or directory
andro@andro-VirtualBox:~$ ls lab4-audio/
audio.mp3   song.mp3
andro@andro-VirtualBox:~$ mv lab4/wallpaperslab4/ pictures/NewWallpapers/
mv: cannot move 'lab4/wallpaperslab4/' to 'pictures/NewWallpapers/': No such file or directory
andro@andro-VirtualBox:~$ mv lab4/wallpaperslab4/ pictures/newWallpapers/
mv: cannot move 'lab4/wallpaperslab4/' to 'pictures/newWallpapers/': No such file or directory
andro@andro-VirtualBox:~$ mv lab4/wallpaperslab4/pictures/NewWallpapers/
mv: missing destination file operand after 'lab4/wallpaperslab4/pictures/NewWallpapers/'
Try 'mv --help' for more information.
andro@andro-VirtualBox:~$
```

```
andro@andro-VirtualBox:~$ mv /home/user/lab4 /home/user/Lab-4
mv: cannot stat '/home/user/lab4': No such file or directory
andro@andro-VirtualBox:~$ mv /home/user/lab4/home/user/Lab-4
mv: missing destination file operand after '/home/user/lab4/home/user/Lab-4'
Try 'mv --help' for more information.
andro@andro-VirtualBox:~$ mv /home/user/lab4 /home/user/Lab-4
mv: cannot stat '/home/user/lab4': No such file or directory
andro@andro-VirtualBox:~$
```

```
                          andro@andro-VirtualBox: ~                                    ×
andro@andro-VirtualBox:~$ mv /home/user/lab4 /home/user/Lab-4
mv: cannot stat '/home/user/lab4': No such file or directory
andro@andro-VirtualBox:~$ mv /home/user/lab4/home/user/Lab-4
mv: missing destination file operand after '/home/user/lab4/home/user/Lab-4'
Try 'mv --help' for more information.
andro@andro-VirtualBox:~$ mv /home/user/lab4 /home/user/Lab-4
mv: cannot stat '/home/user/lab4': No such file or directory
andro@andro-VirtualBox:~$ ls Downloads/
city.jpeg   dog3.jpeg   pexels-simon-berger-1323550.jpg
dog2.jpeg   dog.jpeg    roses.webp
andro@andro-VirtualBox:~$ ls pictures/NewWallpapers/
ls: cannot access 'pictures/NewWallpapers/': No such file or directory
andro@andro-VirtualBox:~$ cp Downloads/city.jpeg Downloads/pexels-simon-berger-1323550.jpg Downloads/roses.webp pictures/NewWallpapers/
cp: target 'pictures/NewWallpapers/' is not a directory
andro@andro-VirtualBox:~$ cd /Downloads
bash: cd: /Downloads: No such file or directory
andro@andro-VirtualBox:~$ cd /downloads
bash: cd: /downloads: No such file or directory
andro@andro-VirtualBox:~$
```

4.2

Question1

```
andro@andro-VirtualBox:~/lab4/question1$ ls
about-page.html  books.txt  bots.txt  creation.txt  download.js  home_page.html  html_page.html  linux.txt  main.css  page.css  pageload.js  rook.rock.txt  styles.css  workload.js
andro@andro-VirtualBox:~/lab4/question1$ ls *.txt
books.txt  bots.txt  creation.txt  linux.txt  rook.rock.txt
andro@andro-VirtualBox:~/lab4/question1$
```

```
andro@andro-VirtualBox:~/lab4/question1$ ls -Xl
total 36
-rw-rw-r-- 1 andro andro     0 Oct 27 22:46 main.css
-rw-rw-r-- 1 andro andro    22 Oct 27 22:46 page.css
-rw-rw-r-- 1 andro andro     0 Oct 27 22:46 styles.css
-rw-rw-r-- 1 andro andro  7575 Oct 27 22:46 about-page.html
-rw-rw-r-- 1 andro andro 12023 Oct 27 22:46 home_page.html
-rw-rw-r-- 1 andro andro  8158 Oct 27 22:46 html_page.html
-rw-rw-r-- 1 andro andro     0 Oct 27 22:46 download.js
-rw-rw-r-- 1 andro andro   810 Oct 27 22:46 pageload.js
-rw-rw-r-- 1 andro andro     0 Oct 27 22:46 workload.js
-rw-rw-r-- 1 andro andro     0 Oct 27 22:46 books.txt
-rw-rw-r-- 1 andro andro     0 Oct 27 22:46 bots.txt
-rw-rw-r-- 1 andro andro     0 Oct 27 22:46 creation.txt
-rw-rw-r-- 1 andro andro     0 Oct 27 22:46 linux.txt
-rw-rw-r-- 1 andro andro     0 Oct 27 22:46 rook.rock.txt
andro@andro-VirtualBox:~/lab4/question1$ ls -Xl b*.txt
-rw-rw-r-- 1 andro andro 0 Oct 27 22:46 books.txt
-rw-rw-r-- 1 andro andro 0 Oct 27 22:46 bots.txt
andro@andro-VirtualBox:~/lab4/question1$
```

```
andro@andro-VirtualBox:
andro@andro-VirtualBox:~/lab4/question1$ ls *.css
main.css   page.css   styles.css
andro@andro-VirtualBox:~/lab4/question1$ ls *html
about-page.html   home_page.html   html_page.html
andro@andro-VirtualBox:~/lab4/question1$
```

```
andro@andro-VirtualBox:~/lab4/question1$ ls -s *page*
 8 about-page.html  12 home_page.html   8 html_page.html   4 page.css   4 pageload.js
andro@andro-VirtualBox:~/lab4/question1$
```

```
andro@andro-VirtualBox:~/lab4/question1$ ls
about-page.html  books.txt  bots.txt  creation.txt  download.js  home_page.html  html_page.html  linux.txt  main.css  page.css  pageload.js  rook.rock.txt  styles.css  workload.js
andro@andro-VirtualBox:~/lab4/question1$ mkdir web
andro@andro-VirtualBox:~/lab4/question1$ mv ~/lab4/question1/~html web
mv: cannot stat '/home/andro/lab4/question1/~html': No such file or directory
andro@andro-VirtualBox:~/lab4/question1$ ~/lab4/question1/*html web
bash: /home/andro/lab4/question1/about-page.html: Permission denied
andro@andro-VirtualBox:~/lab4/question1$ mv ~/lab4/question1/*html web
andro@andro-VirtualBox:~/lab4/question1$ ls web
about-page.html  home_page.html  html_page.html
andro@andro-VirtualBox:~/lab4/question1$ mkdir docs
andro@andro-VirtualBox:~/lab4/question1$ mv ~/lab4/question1/*css web
andro@andro-VirtualBox:~/lab4/question1$ ls web
about-page.html  home_page.html  html_page.html  main.css  page.css  styles.css
andro@andro-VirtualBox:~/lab4/question1$ mv ~/lab4/question1/*txt docs
andro@andro-VirtualBox:~/lab4/question1$ mv ~/lab4/question1/*js docs
andro@andro-VirtualBox:~/lab4/question1$ ls docs
books.txt  bots.txt  creation.txt  download.js  linux.txt  pageload.js  rook.rock.txt  workload.js
andro@andro-VirtualBox:~/lab4/question1$
```

Question2

```
andro@andro-VirtualBox:~/lab4/question1$ cd ../question2
andro@andro-VirtualBox:~/lab4/question2$ mv b?d.xml xmlfiles/
andro@andro-VirtualBox:~/lab4/question2$ ls -Xl
total 4
drwxrwxr-x 2 andro andro 4096 Oct 28 13:00 xmlfiles
-rw-rw-r-- 1 andro andro    0 Oct 27 22:46 feat.json
-rw-rw-r-- 1 andro andro    0 Oct 27 22:46 feet.json
-rw-rw-r-- 1 andro andro    0 Oct 27 22:46 foot.json
-rw-rw-r-- 1 andro andro    0 Oct 27 22:46 casino.xml
-rw-rw-r-- 1 andro andro    0 Oct 27 22:46 cat.xml
-rw-rw-r-- 1 andro andro    0 Oct 27 22:46 cool.xml
andro@andro-VirtualBox:~/lab4/question2$ ls -X1
xmlfiles
feat.json
feet.json
foot.json
casino.xml
cat.xml
cool.xml
andro@andro-VirtualBox:~/lab4/question2$ ls .??*
.hiddenfileA.log  .hiddenfileB.log  .hiddenfileC.log  .hiddenfileD.log
andro@andro-VirtualBox:~/lab4/question2$ ls *.????
feat.json  feet.json  foot.json
andro@andro-VirtualBox:~/lab4/question2$ ls *f??t
ls: cannot access '*f??t': No such file or directory
andro@andro-VirtualBox:~/lab4/question2$ ls *f??t*
feat.json  feet.json  foot.json
andro@andro-VirtualBox:~/lab4/question2$ █
```

```
andro@andro-VirtualBox:~/lab4/question2$ cd ../question3
andro@andro-VirtualBox:~/lab4/question3$ ls -A [a-z]*.py
drill.py
andro@andro-VirtualBox:~/lab4/question3$ ls -A .[a-z]*.py
.app.py  .main.py
andro@andro-VirtualBox:~/lab4/question3$ ls [A-Z][a-z]*[0-9].*
Main1.py
andro@andro-VirtualBox:~/lab4/question3$ ls [a-k]*.??
drill.py  kcc.rb
andro@andro-VirtualBox:~/lab4/question3$ ls [!A-Z]*[?0-9].*
ls: cannot access '[!A-Z]*[?0-9].*': No such file or directory
andro@andro-VirtualBox:~/lab4/question3$ ls [!A-Z]*[!0-9].*
drill.py  kcc.rb
andro@andro-VirtualBox:~/lab4/question3$ █
```

Question 3

Question 4

```
andro@andro-VirtualBox:~/lab4/question3$ cd ../question4
andro@andro-VirtualBox:~/lab4/question4$ mkdir -p wallpapers/{cars,ocean}/{1080p,2k,4k}
andro@andro-VirtualBox:~/lab4/question4$ tree wallpapers
wallpapers
├── cars
│   ├── 1080p
│   ├── 2k
│   └── 4k
└── ocean
    ├── 1080p
    ├── 2k
    └── 4k

8 directories, 0 files
andro@andro-VirtualBox:~/lab4/question4$ mkdir -p assests/{imgs,videos}/{large,small}/source
andro@andro-VirtualBox:~/lab4/question4$ tree assests
assests
├── imgs
│   ├── large
│   │   └── source
│   └── small
│       └── source
└── videos
    ├── large
    │   └── source
    └── small
        └── source

10 directories, 0 files
andro@andro-VirtualBox:~/lab4/question4$ mkdir -p docs/{books,research}/{his,ma,sci,soc}
andro@andro-VirtualBox:~/lab4/question4$ tree docs
docs
├── books
│   ├── his
│   ├── ma
│   ├── sci
│   └── soc
└── research
    ├── his
    ├── ma
    ├── sci
    └── soc
```

Question 5

```
andro@andro-VirtualBox:~/lab4/question4$ mkdir -p research/{books/{math,science}/{epub,pdf},magazines/{computers,running,videogames}/{fanmade,official}}
andro@andro-VirtualBox:~/lab4/question4$ tree research
research
├── books
│   ├── math
│   │   ├── epub
│   │   └── pdf
│   └── science
│       ├── epub
│       └── pdf
└── magazines
    ├── computers
    │   ├── fanmade
    │   └── official
    ├── running
    │   ├── fanmade
    │   └── official
    └── videogames
        ├── fanmade
        └── official
```

```
andro@andro-VirtualBox:~/lab4/question4$ mkdir -p backup/{files/{personal,programs,school}/{feb,jan,mar},images/{cars,classic,panorama,world}/{high,low},random}
andro@andro-VirtualBox:~/lab4/question4$ tree backup
backup
├── files
│   ├── personal
│   │   ├── feb
│   │   ├── jan
│   │   └── mar
│   ├── programs
│   │   ├── feb
│   │   ├── jan
│   │   └── mar
│   └── school
│       ├── feb
│       ├── jan
│       └── mar
├── images
│   ├── cars
│   │   ├── high
│   │   └── low
│   ├── classic
│   │   ├── high
│   │   └── low
│   ├── panorama
│   │   ├── high
│   │   └── low
│   └── world
│       ├── high
│       └── low
└── random
```