

Bài Kiểm Tra Số 1

Phần 1:

1. Tạo cây thư mục theo yêu cầu:

```
ubuntu@ubuntu-2274802010449:~$ mkdir -p Documents/Work/Project1 Documents/Work/Project2 Documents/Personal/Photos
ubuntu@ubuntu-2274802010449:~$ touch Documents/Work/Project1/requirement.txt Documents/Work/Project1/database.txt
ubuntu@ubuntu-2274802010449:~$ touch Documents/Work/Project2/member.txt Documents/Work/Project2/rules.txt
ubuntu@ubuntu-2274802010449:~$ touch Documents/Personal/Photos/photo1.jpg Documents/Personal/Photos/photo2.jpg
ubuntu@ubuntu-2274802010449:~$ tree
.
|-- Documents
|   |-- Personal
|   |   |-- Photos
|   |   |   |-- photo1.jpg
|   |   |   |-- photo2.jpg
|   |   |-- Work
|   |       |-- Project1
|   |       |   |-- database.txt
|   |       |   |-- requirement.txt
|   |       |-- Project2
|   |           |-- member.txt
|   |           |-- rules.txt
```

2. Di chuyển tất cả các file có đuôi “.txt” từ thư mục “Work” vào thư mục “Personal”. 3. Đổi tên thư mục “Photos” thành “Images”

```
ubuntu@ubuntu-2274802010449:~$ mv Documents/Work/*/*.txt Documents/Personal/
ubuntu@ubuntu-2274802010449:~$ tree
.
|-- Documents
|   |-- Personal
|   |   |-- Photos
|   |   |   |-- photo1.jpg
|   |   |   |-- photo2.jpg
|   |   |-- database.txt
|   |   |-- member.txt
|   |   |-- requirement.txt
|   |   |-- rules.txt
|   |-- Work
|       |-- Project1
|       |-- Project2
```

```
ubuntu@ubuntu-2274802010449:~$ mv Documents/Personal/Photos Documents/Personal/Images
ubuntu@ubuntu-2274802010449:~$ tree
.
|-- Documents
|   |-- Personal
|   |   |-- Images
|   |   |   |-- photo1.jpg
|   |   |   |-- photo2.jpg
|   |   |-- database.txt
|   |   |-- member.txt
|   |   |-- requirement.txt
|   |   |-- rules.txt
|   |-- Work
|   |   |-- Project1
|   |   |-- Project2
```

3. Tạo thư mục ẩn “secret” trong thư mục “Documents”

```
ubuntu@ubuntu-2274802010449:~$ mkdir Documents/.secret
ubuntu@ubuntu-2274802010449:~$ tree
.
|-- Documents
|   |-- Personal
|   |   |-- Images
|   |   |   |-- photo1.jpg
|   |   |   |-- photo2.jpg
|   |   |-- database.txt
|   |   |-- member.txt
|   |   |-- requirement.txt
|   |   |-- rules.txt
|   |-- Work
|   |   |-- Project1
|   |   |-- Project2
```

4. Sao chép thư mục “Images” vào thư mục “Work” với tên mới là “Pictures”

```
ubuntu@ubuntu-2274802010449:~$ cp -r Documents/Personal/Images Documents/Work/Pictures
ubuntu@ubuntu-2274802010449:~$ tree
.
|-- Documents
|   |-- Personal
|   |   |-- Images
|   |   |   |-- photo1.jpg
|   |   |   |-- photo2.jpg
|   |   |-- database.txt
|   |   |-- member.txt
|   |   |-- requirement.txt
|   |   |-- rules.txt
|   |-- Work
|   |   |-- Pictures
|   |   |   |-- photo1.jpg
|   |   |   |-- photo2.jpg
|   |   |-- Project1
|   |   |-- Project2
```

5. Nén thư mục “Documents” thành một file “documents.zip”

```
ubuntu@ubuntu-2274802010449:~$ zip -r documents.zip Documents
  adding: Documents/ (stored 0%)
  adding: Documents/Personal/ (stored 0%)
  adding: Documents/Personal/requirement.txt (stored 0%)
  adding: Documents/Personal/rules.txt (stored 0%)
  adding: Documents/Personal/database.txt (stored 0%)
  adding: Documents/Personal/member.txt (stored 0%)
  adding: Documents/Personal/Images/ (stored 0%)
  adding: Documents/Personal/Images/photo1.jpg (stored 0%)
  adding: Documents/Personal/Images/photo2.jpg (stored 0%)
  adding: Documents/Work/ (stored 0%)
  adding: Documents/Work/Project1/ (stored 0%)
  adding: Documents/Work/Project2/ (stored 0%)
  adding: Documents/Work/Pictures/ (stored 0%)
  adding: Documents/Work/Pictures/photo1.jpg (stored 0%)
  adding: Documents/Work/Pictures/photo2.jpg (stored 0%)
  adding: Documents/.secret/ (stored 0%)
ubuntu@ubuntu-2274802010449:~$ tree
.
|-- Documents
|   |-- Personal
|   |   |-- Images
|   |   |   |-- photo1.jpg
|   |   |   |-- photo2.jpg
|   |   |-- database.txt
|   |   |-- member.txt
|   |   |-- requirement.txt
|   |   |-- rules.txt
|   |-- Work
|   |   |-- Pictures
|   |   |   |-- photo1.jpg
|   |   |   |-- photo2.jpg
|   |   |-- Project1
|   |   |-- Project2
|-- documents.zip
```

6. Giải nén file “documents.zip” ra thành thư mục “Backup”

```
ubuntu@ubuntu-2274802010449:~$ unzip documents.zip -d Backup
Archive:  documents.zip
  creating: Backup/Documents/
  creating: Backup/Documents/Personal/
 extracting: Backup/Documents/Personal/requirement.txt
 extracting: Backup/Documents/Personal/rules.txt
 extracting: Backup/Documents/Personal/database.txt
 extracting: Backup/Documents/Personal/member.txt
  creating: Backup/Documents/Personal/Images/
 extracting: Backup/Documents/Personal/Images/photo1.jpg
 extracting: Backup/Documents/Personal/Images/photo2.jpg
  creating: Backup/Documents/Work/
  creating: Backup/Documents/Work/Project1/
  creating: Backup/Documents/Work/Project2/
  creating: Backup/Documents/Work/Pictures/
 extracting: Backup/Documents/Work/Pictures/photo1.jpg
 extracting: Backup/Documents/Work/Pictures/photo2.jpg
  creating: Backup/Documents/.secret/
ubuntu@ubuntu-2274802010449:~$ tree
.
|-- Backup
|   |-- Documents
|   |   |-- Personal
|   |   |   |-- Images
|   |   |   |   |-- photo1.jpg
|   |   |   |   |-- photo2.jpg
|   |   |   |-- database.txt
|   |   |   |-- member.txt
|   |   |   |-- requirement.txt
|   |   |   |-- rules.txt
|   |   |-- Work
|   |   |   |-- Pictures
|   |   |   |   |-- photo1.jpg
|   |   |   |   |-- photo2.jpg
|   |   |   |-- Project1
|   |   |   |-- Project2
```

7. Liệt kê các tập tin trong thư mục “Pictures” bao gồm tập tin ẩn

```
ubuntu@ubuntu-2274802010449:~$ ls -a Documents/Work/Pictures
.  ..  photo1.jpg  photo2.jpg
```

8. Tìm kiếm tập tin “photo1.jpg”

```
ubuntu@ubuntu-2274802010449:~$ find . -name "photo1.jpg"
./Backup/Documents/Personal/Images/photo1.jpg
./Backup/Documents/Work/Pictures/photo1.jpg
./Documents/Personal/Images/photo1.jpg
./Documents/Work/Pictures/photo1.jpg
```

9. Xóa các tập tin có đuôi “.jpg”

```
ubuntu@ubuntu-2274802010449:~$ find . -name "*.jpg" -exec rm {} \;
ubuntu@ubuntu-2274802010449:~$ tree
.
|-- Backup
|   |-- Documents
|   |   |-- Personal
|   |   |   |-- Images
|   |   |   |-- database.txt
|   |   |   |-- member.txt
|   |   |   |-- requirement.txt
|   |   |   |-- rules.txt
|   |   |-- Work
|   |       |-- Pictures
|   |       |-- Project1
|   |       |-- Project2
|-- Documents
|   |-- Personal
|   |   |-- Images
|   |   |-- database.txt
|   |   |-- member.txt
|   |   |-- requirement.txt
|   |   |-- rules.txt
|   |-- Work
|       |-- Pictures
|       |-- Project1
|       |-- Project2
|-- documents.zip
```

Phần 2:

1.

```
ubuntu@ubuntu-2274802010449:~$ wget https://archive.org/stream/negus-c.-linux-bible-10ed-2020-negus-c.-linux-bible-10ed-2020/negus%20C.%20Linux%20Bible%2010ed%202020/negus%20C.%20Linux%20Bible%2010ed%202020_djvu.txt
--2024-09-25 11:50:31-- https://archive.org/stream/negus-c.-linux-bible-10ed-2020-negus-c.-linux-bible-10ed-2020/negus%20C.%20Linux%20Bible%2010ed%202020/negus%20C.%20Linux%20Bible%2010ed%202020_djvu.txt
Resolving archive.org (archive.org)... 207.241.224.2
Connecting to archive.org (archive.org)|207.241.224.2|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'Negus C. Linux Bible 10ed 2020Negus C. Linux Bible 10ed 2020_djvu.txt'

Negus C. Linux Bible 10ed 2020Negus C. Linux Bible  [          ]  2.01M  1.29MB/s  in 1.6s

2024-09-25 11:50:33 (1.29 MB/s) - 'Negus C. Linux Bible 10ed 2020Negus C. Linux Bible 10ed 2020_djvu.txt' saved [2105939]

ubuntu@ubuntu-2274802010449:~$
```

a) Xóa khoảng trắng

```
ubuntu@ubuntu-2274802010449:~$ mv "$(ls | grep 'Negus')" "$(ls | grep 'Negus' | tr -d ' ')"
ubuntu@ubuntu-2274802010449:~$ tree
.
|-- Backup
|   |-- Documents
|       |-- Personal
|           |-- Images
|           |-- database.txt
|           |-- member.txt
|           |-- requirement.txt
|           |-- rules.txt
|       |-- Work
|           |-- Pictures
|           |-- Project1
|           |-- Project2
|-- Documents
|   |-- Personal
|       |-- Images
|       |-- database.txt
|       |-- member.txt
|       |-- requirement.txt
|       |-- rules.txt
|   |-- Work
|       |-- Pictures
|       |-- Project1
|       |-- Project2
|-- NegusC.LinuxBible10ed2020NegusC.LinuxBible10ed2020_djvu.txt
```

b) In ra màn hình

- 5 dòng đầu tiên và 7 dòng cuối cùng của file trên

```
ubuntu@ubuntu-2274802010449:~$ head -n 5 NegusC.LinuxBible10ed2020NegusC.LinuxBible10ed2020_djvu.txt
<!DOCTYPE html>
<html lang="en">
<!--
  _ _ _ _ _ | | _ ( ) _ _ _ _ _
 / _ \ | ' / _ \ | ' \ | \ v / - \
 \ _ / | | \ _ / | | | \ \ / \ _ / -->
ubuntu@ubuntu-2274802010449:~$ tail -n 7 NegusC.LinuxBible10ed2020NegusC.LinuxBible10ed2020_djvu.txt
        archive_analytics.create_tracking_image('in_page_executes');
    });
</script>
</div>
</body>
</html>
```

- Nội dung ở dòng thứ 1909 của file

```
ubuntu@ubuntu-2274802010449:~$ sed -n '1909p' NegusC.LinuxBible10ed2020NegusC.LinuxBible10ed2020_djvu.txt | cat -t
<desc id="imagesDescID" class="style-scope media-button">An illustration of two photographs.</desc>
```

- Đếm số lần xuất hiện của từ kernel trong file (hint: kết hợp với command

wc)

```
ubuntu@ubuntu-2274802010449:~$ grep -o "kernel" NegusC.LinuxBible10ed2020NegusC.LinuxBible10ed2020_djvu.txt | wc -l
271
```

2.

```
ubuntu@ubuntu-2274802010449:~$ wget https://www.football-data.co.uk/mmz4281/2122/E0.csv
--2024-09-25 12:17:19-- https://www.football-data.co.uk/mmz4281/2122/E0.csv
Resolving www.football-data.co.uk (www.football-data.co.uk)... 217.160.0.246
Connecting to www.football-data.co.uk (www.football-data.co.uk)[217.160.0.246]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 175360 (171K) [text/csv]
Saving to: 'E0.csv.2'

E0.csv.2                               100%[=====>] 171.25K  242KB/s  in 0.7s

2024-09-25 12:17:20 (242 KB/s) - 'E0.csv.2' saved [175360/175360]

ubuntu@ubuntu-2274802010449:~$
```

a) Tìm các trận đấu của “Man City”

```
ubuntu@ubuntu-2274802010449:~$ cat E0.csv E0.csv.1 E0.csv.2 | grep -i "Man City" | awk -F, '{print $1, $2, $3, $4}'
E0 11/08/2023 20:00 Burnley
E0 19/08/2023 20:00 Man City
E0 27/08/2023 14:00 Sheffield United
E0 02/09/2023 15:00 Man City
E0 16/09/2023 15:00 West Ham
E0 23/09/2023 15:00 Man City
E0 30/09/2023 15:00 Wolves
E0 08/10/2023 16:30 Arsenal
E0 01/10/2023 15:00 Man City
```

b) Tìm số trận đấu của “Man United” và “Liverpool”

```
ubuntu@ubuntu-2274802010449:~$ cat E0.csv E0.csv.1 E0.csv.2 | awk -F, '($4 == "Man United" && $5 == "Liverpool") || ($4 == "Liverpool" && $5 == "Man United") {count++} END {
print "Number of matches between Man United and Liverpool: ", count}'
Number of matches between Man United and Liverpool: 6
```

c) Tìm số trận thắng của “Arsenal” với “Man City”

```
ubuntu@ubuntu-2274802010449:~$ cat E0.csv E0.csv.1 E0.csv.2 | awk -F, '($4 == "Arsenal" && $5 == "Man City" && $6 > $7) || ($4 == "Man City" && $5 == "Arsenal" && $7 > $6) {count++} END {print "Number
of Arsenal wins against Man City: ", count}'
Number of Arsenal wins against Man City: 1
ubuntu@ubuntu-2274802010449:~$
```


