U18CO018

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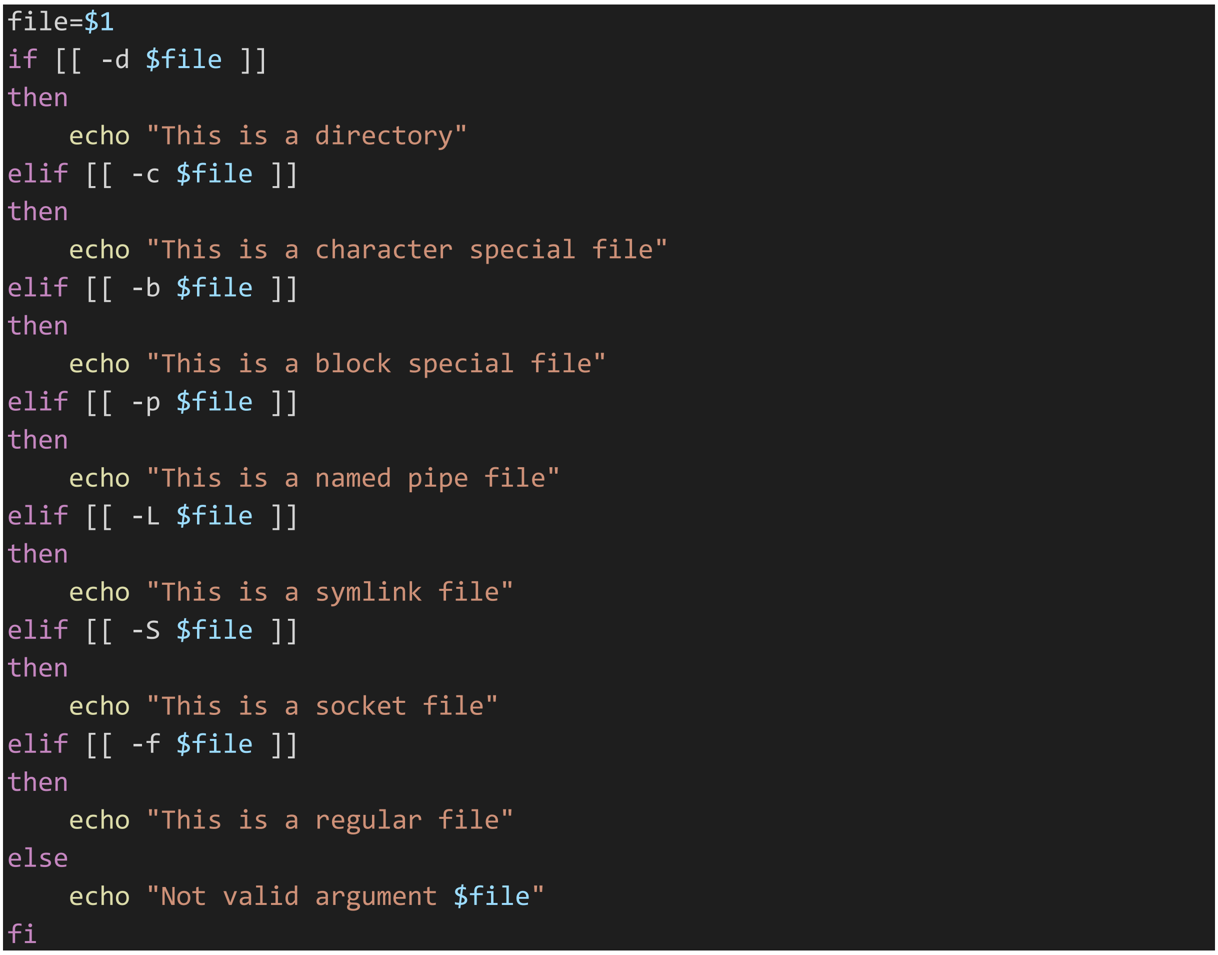
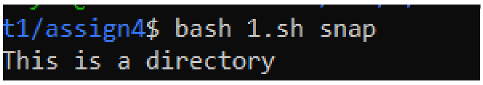
Operating System

Assignment 4

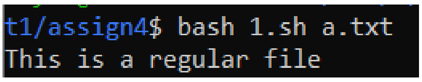
1) write a shell script which takes filename as argument and check whether file is regular file,directory,block special file,charcter special file,named pipe,symbolic link,socket,device file etc.



```
file=$1
if [[ -d $file ]]
then
    echo "This is a directory"
elif [[ -c $file ]]
then
    echo "This is a character special file"
elif [[ -b $file ]]
then
    echo "This is a block special file"
elif [[ -p $file ]]
then
    echo "This is a named pipe file"
elif [[ -L $file ]]
then
    echo "This is a symlink file"
elif [[ -S $file ]]
then
    echo "This is a socket file"
elif [[ -f $file ]]
then
    echo "This is a regular file"
else
    echo "Not valid argument $file"
fi
```



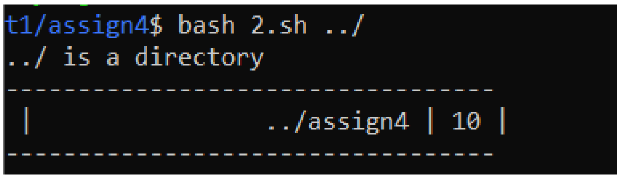
```
t1/assign4$ bash 1.sh snap
This is a directory
```



```
t1/assign4$ bash 1.sh a.txt
This is a regular file
```

2) Write a shell script which will take file name as argument and check whether the file name is a dir or not and then proceed further only if it is a dir, else give usage message. The script should then print in the tabular format, name of each sub-dir (within the argument dir) and a count of the number of top level files in that sub-dir. Modify the program to work with multiple number of arguments, too.

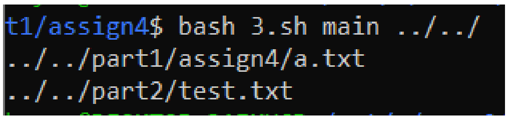
```
for arg in "$@"
do
    if [[ -d $arg ]]
    then
        echo "$arg is a directory"
        echo "----------------------------------"
        for Subdir in `find $arg -mindepth 1 -maxdepth 1 -type d`
        do
            printf " | %25s | %d | \n" "$Subdir" `ls "$Subdir" | wc -l`
        done
        echo "----------------------------------"
    else
        echo "Not a directory"
    fi
done
```



```
t1/assign4$ bash 2.sh ../
../ is a directory
----------------------------------
 |                 ../assign4 | 10 |
----------------------------------
```

3) Write a script that will search for a specific word in all the files in the current dictionary and then prompt with the file name in which word is found.

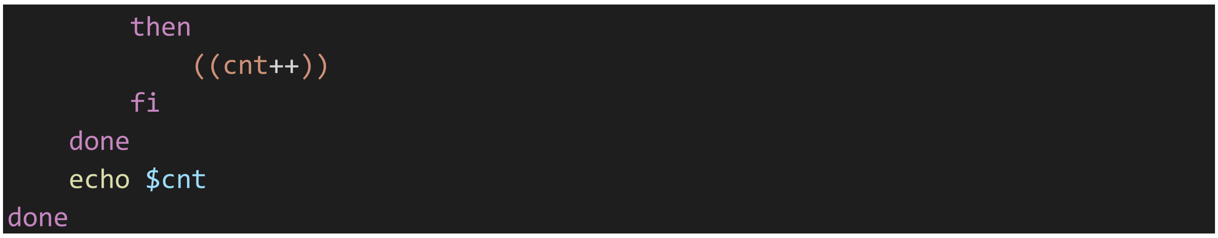
```
grep -r "$1" "$2" | awk -F : '{print $1}'
```



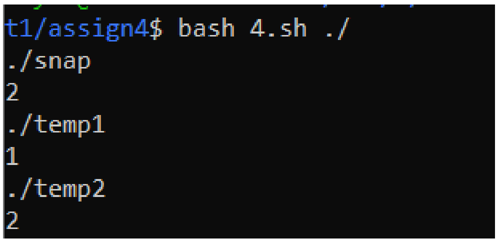
```
t1/assign4$ bash 3.sh main ../../
../../part1/assign4/a.txt
../../part2/test.txt
```

4) Write a script to print only the number of executable file in each sub-dir of the argument directory specified.

```
for i in `find $1 -mindepth 1 -maxdepth 1 -type d `;
do
    cnt=0
    echo $i
    for j in `find $i -mindepth 1 -maxdepth 1`
    do
        if [ -x $j ];
```

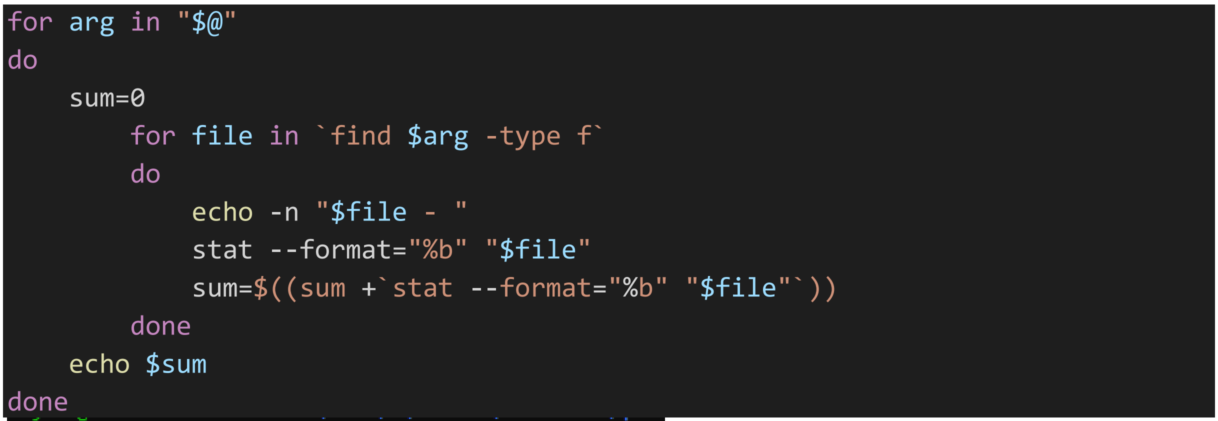


```
        then
            ((cnt++))
        fi
    done
    echo $cnt
done
```

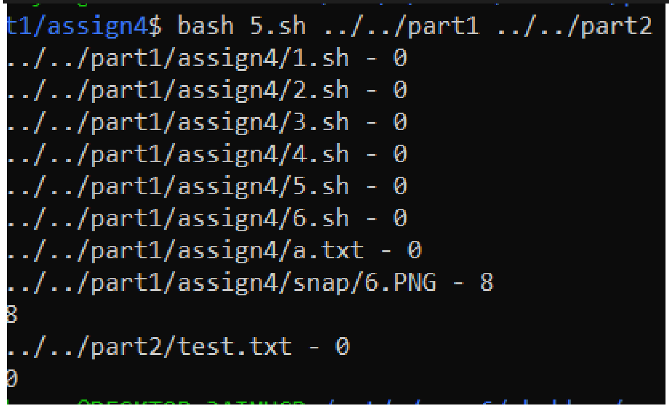


```
t1/assign4$ bash 4.sh ./
./snap
2
./temp1
1
./temp2
2
```

5) Write a non-interactive script that takes in any no. of directory name as argument and calculates total no. of blocks of disk space occupied by the ordinary files in all the directories.

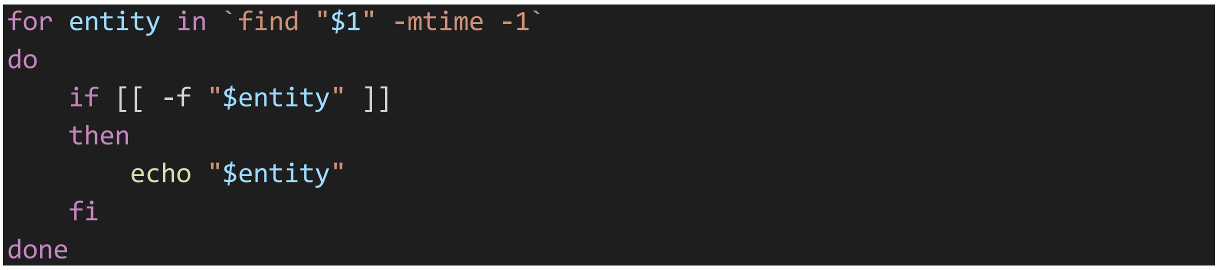


```
for arg in "$@"
do
    sum=0
        for file in `find $arg -type f`
        do
            echo -n "$file - "
            stat --format="%b" "$file"
            sum=$((sum +`stat --format="%b" "$file"`))
        done
    echo $sum
done
```

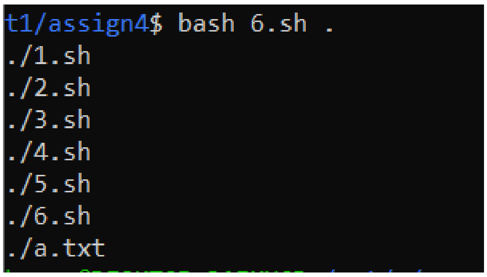


```
t1/assign4$ bash 5.sh ../../part1 ../../part2
../../part1/assign4/1.sh - 0
../../part1/assign4/2.sh - 0
../../part1/assign4/3.sh - 0
../../part1/assign4/4.sh - 0
../../part1/assign4/5.sh - 0
../../part1/assign4/6.sh - 0
../../part1/assign4/a.txt - 0
../../part1/assign4/snap/6.PNG - 8
8
../../part2/test.txt - 0
0
```

6) Write a shell script file named exercise2.sh that makes a list of files in your home directory that were changed less than 24 hours ago, but leave out directories.



```
for entity in `find "$1" -mtime -1`
do
    if [[ -f "$entity" ]]
    then
        echo "$entity"
    fi
done
```



```
t1/assign4$ bash 6.sh .
./1.sh
./2.sh
./3.sh
./4.sh
./5.sh
./6.sh
./a.txt
```