PHY473 Assignment 1

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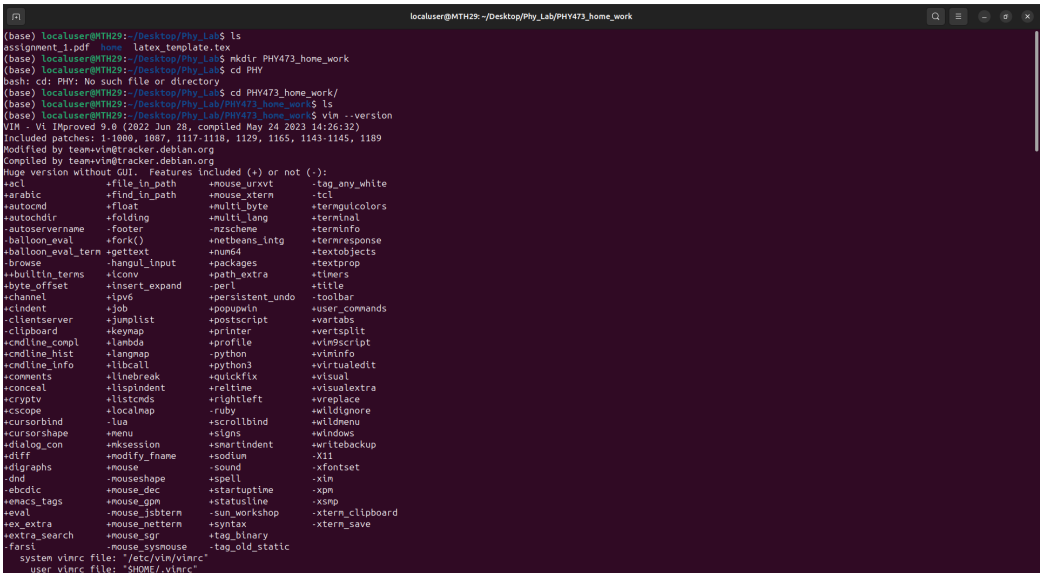
Answer to the first Question

we have used mkdir to make directories and touch to create text files within the created ditrectory.

Script Code

```
  #!/bin/bash
for ((i=1;i<=10;i++)); do
mkdir  "dir$i"
touch "dir$i/file.txt"
done
```

Terminal Screenshots



Answer to the second Question

Script Code

```
#!/bin/bash

dir="$PWD"
for file in *.txt; do
echo "copying file: $file"
npath=${file::-4}
nfile="$npath-copy.txt"
touch "$nfile"
tail +2 "$file" | head -2 > "$nfile"
echo "copied $file to $nfile"
done
```

Terminal Screenshots

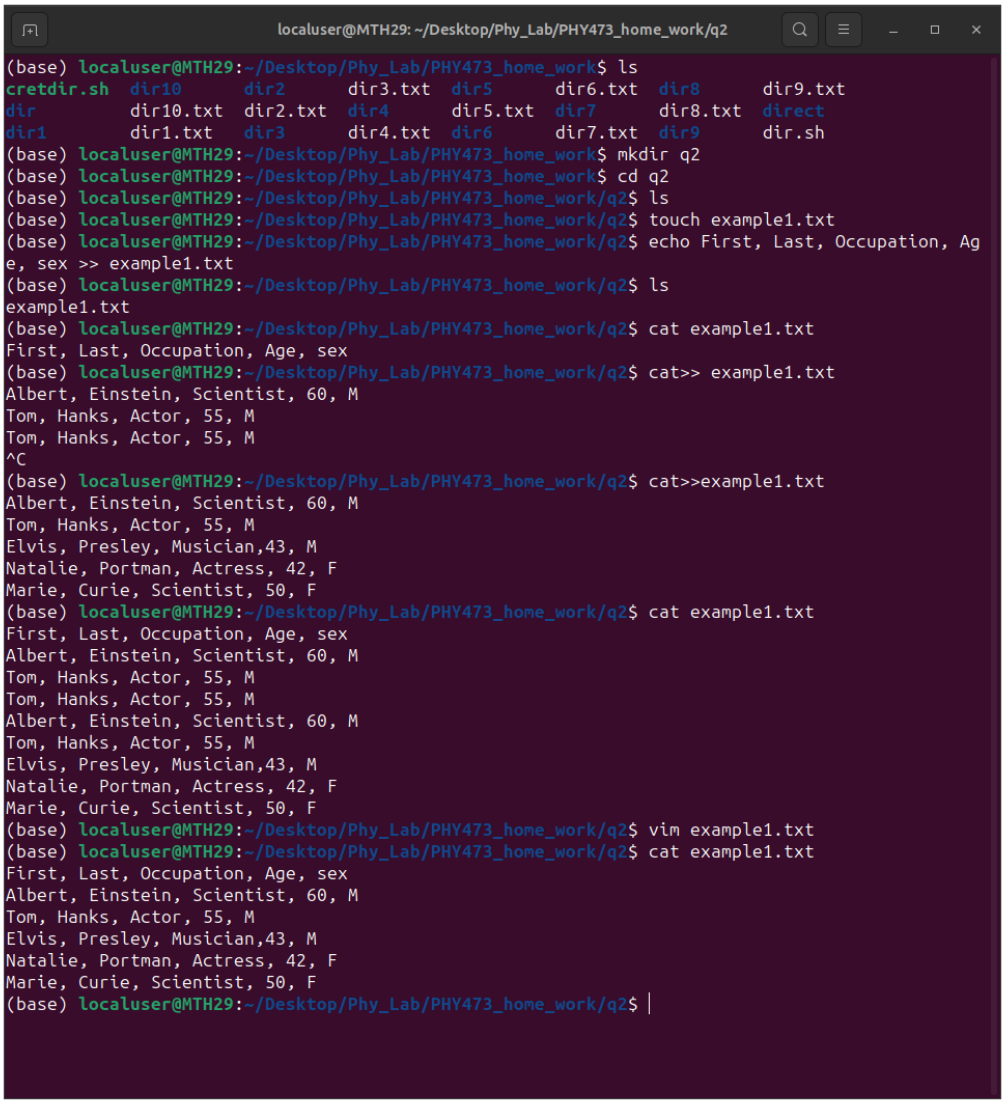


Figure 1: created example1.txt

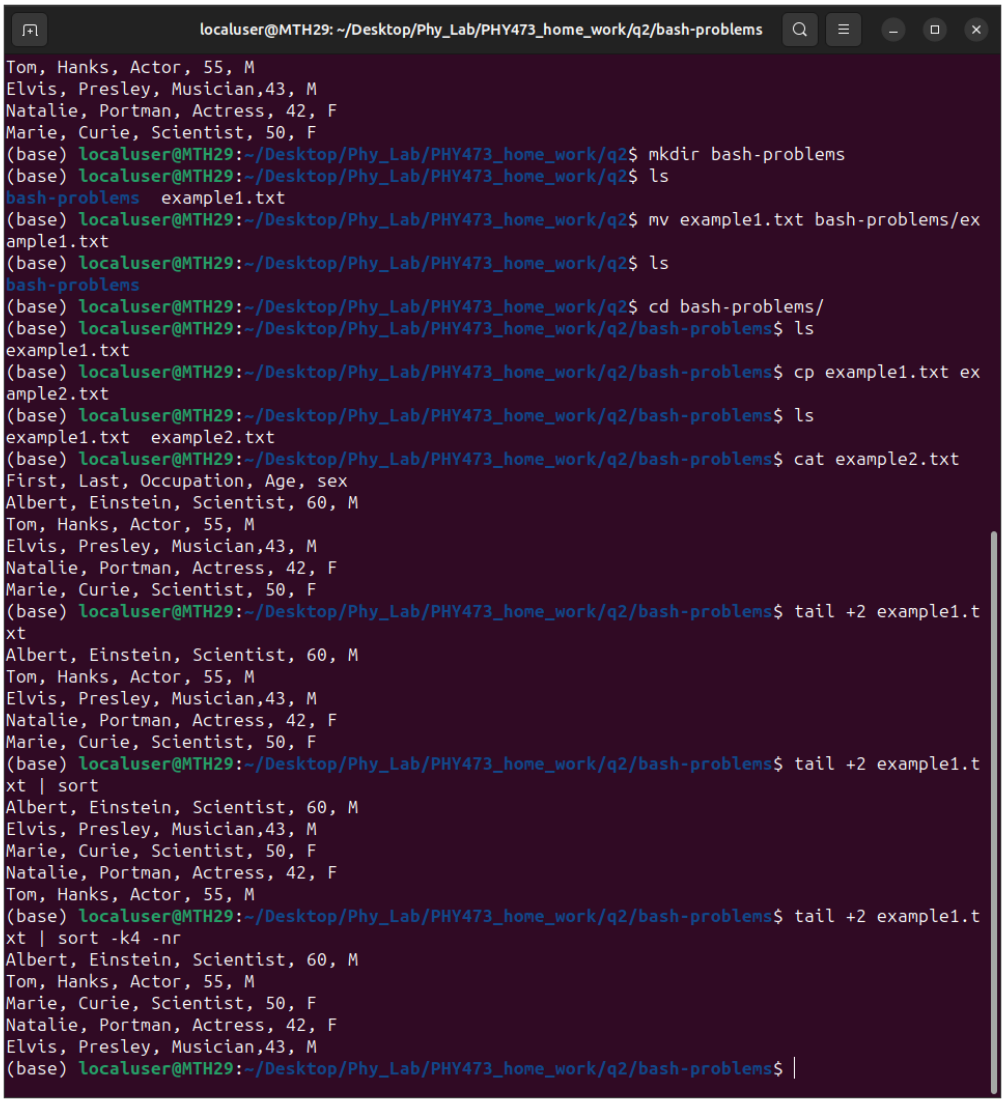


Figure 2: (a) to (d)

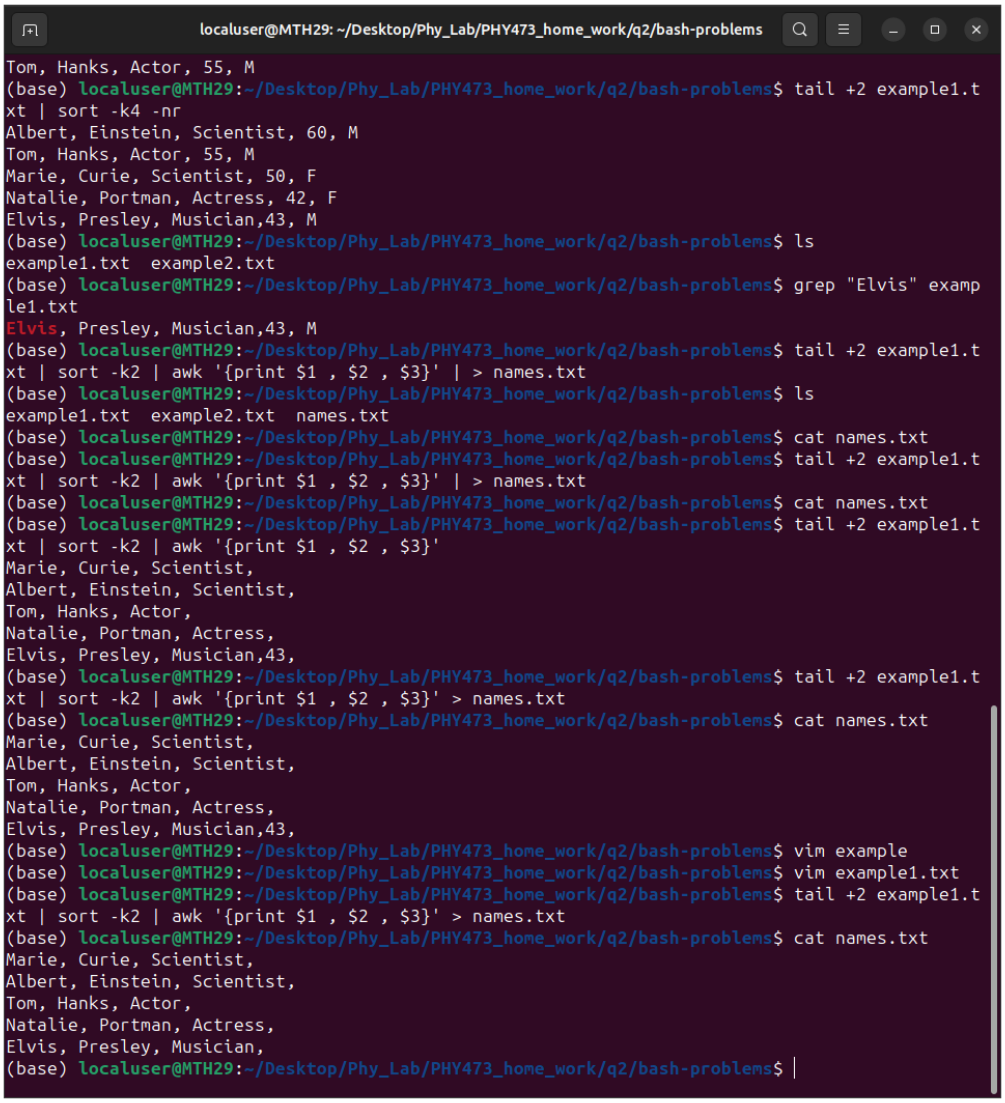


Figure 3: (e) to (g)

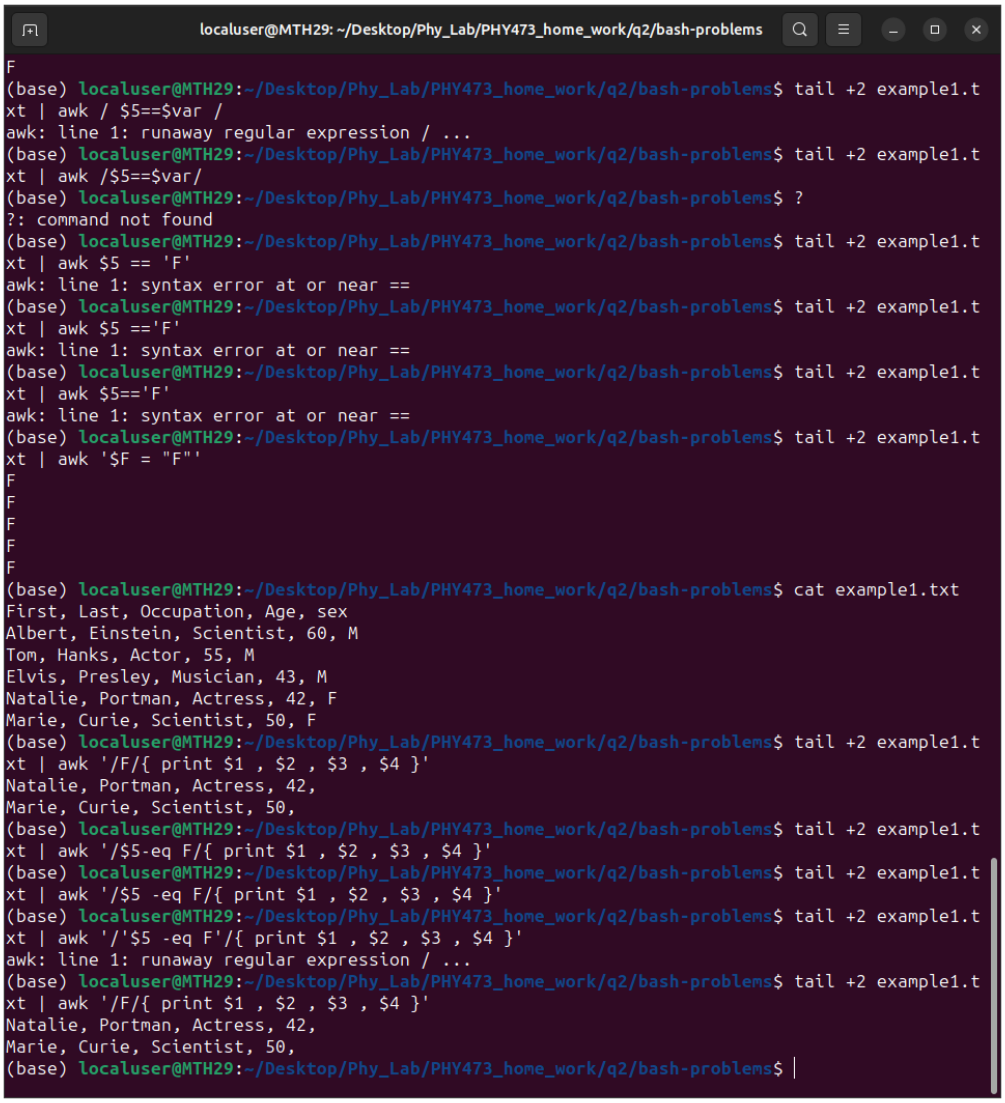


Figure 4: (h) to (i)

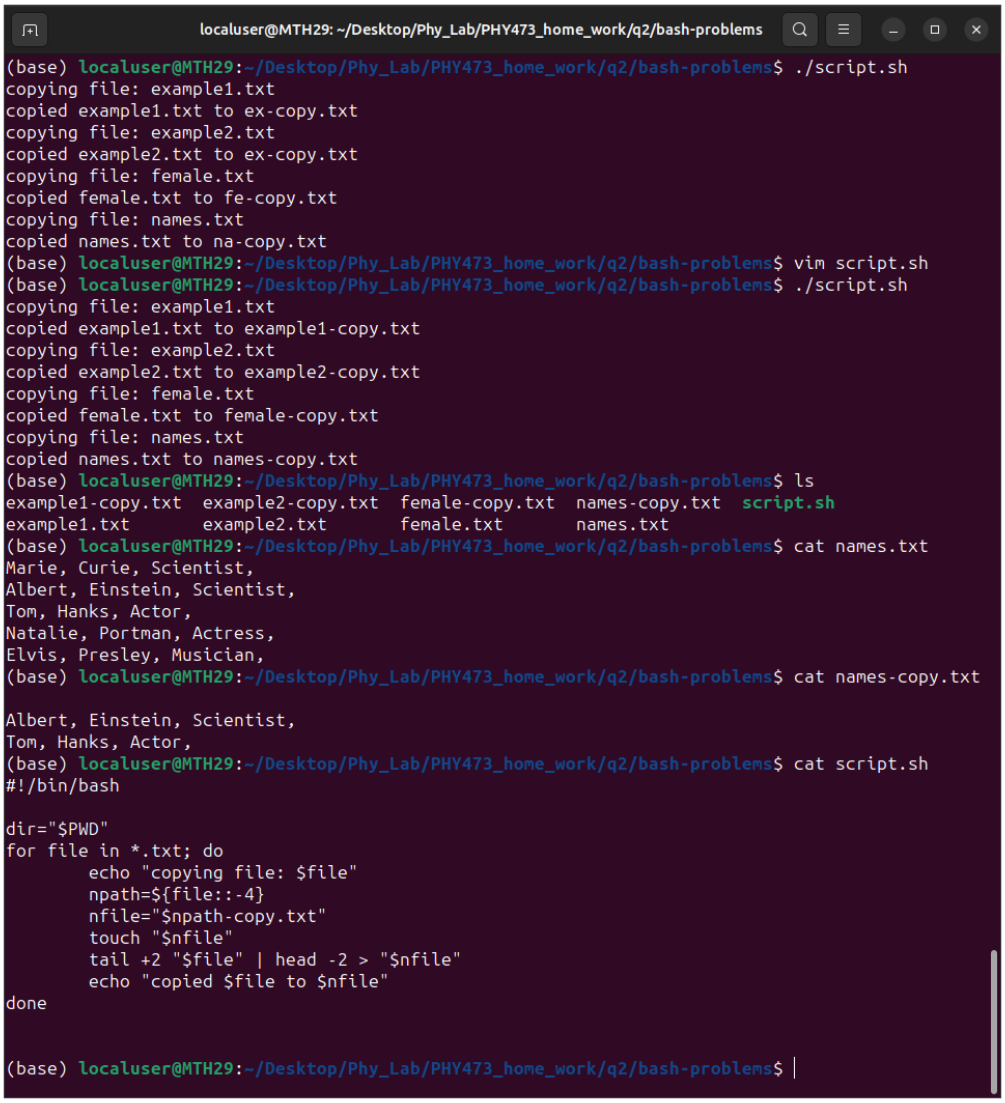


Figure 5: (j)

Answer to the third Question

wrote a recurssive function to calculate factorial of a number

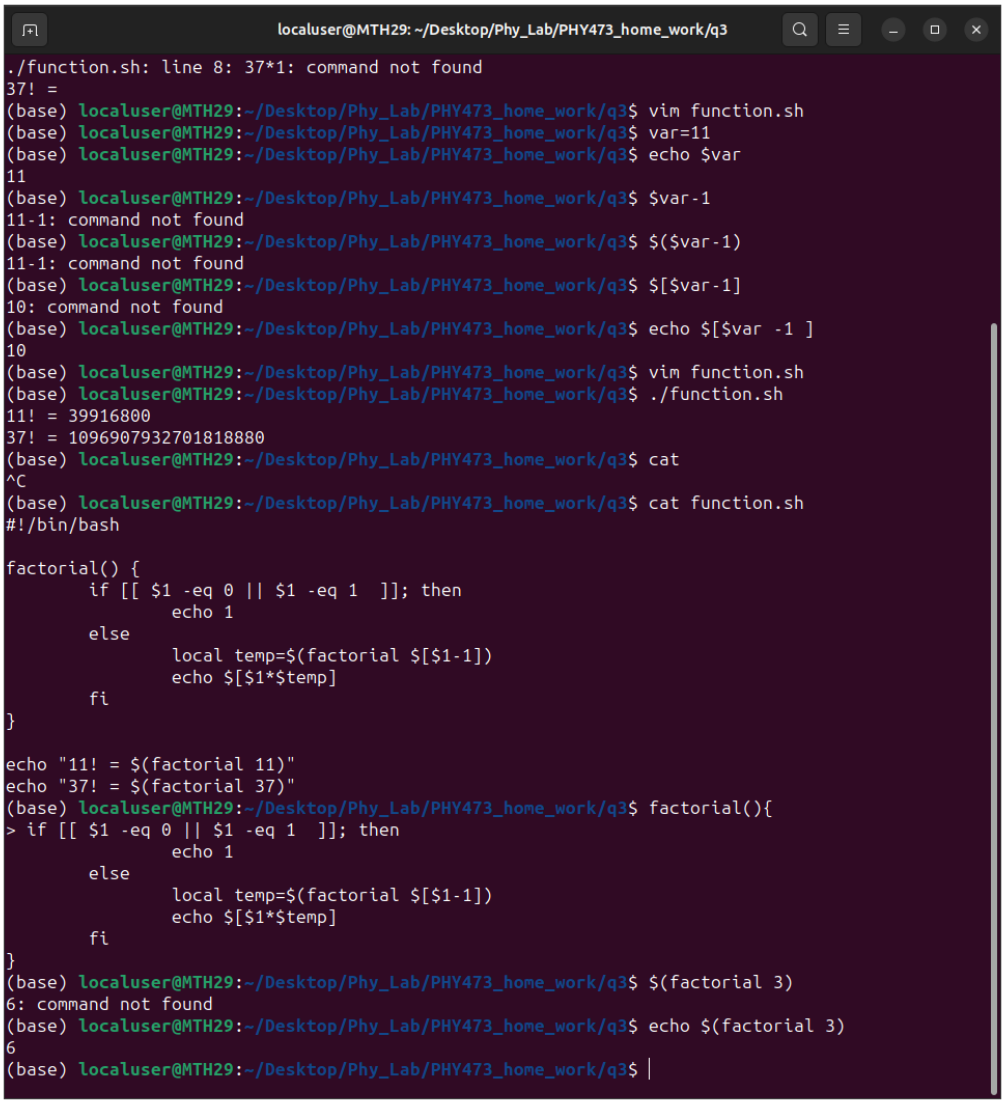
Script Code

```
#!/bin/bash

factorial() {
if [[ $1 -eq 0 || $1 -eq 1  ]]; then
echo 1
else
local temp=$(factorial $[$1-1])
echo $[$1*$temp]
fi
}

echo "11! = $(factorial 11)"
echo "37! = $(factorial 37)"
```

Terminal Screenshots



Answer to the fourth Question

wrote a script to determine whether a file exists or not and also print number of words present in it if file exists

Script Code

```
#!/bin/bash
if [[ -f "$1" ]]; then
if ! [[ -s "$1" ]]; then
echo "Error: Empty File"
else
a=$(wc -w < "$1")
echo "word count = $a"
fi
else
echo "Error: File does not exist"
fi
```

Terminal Screenshots