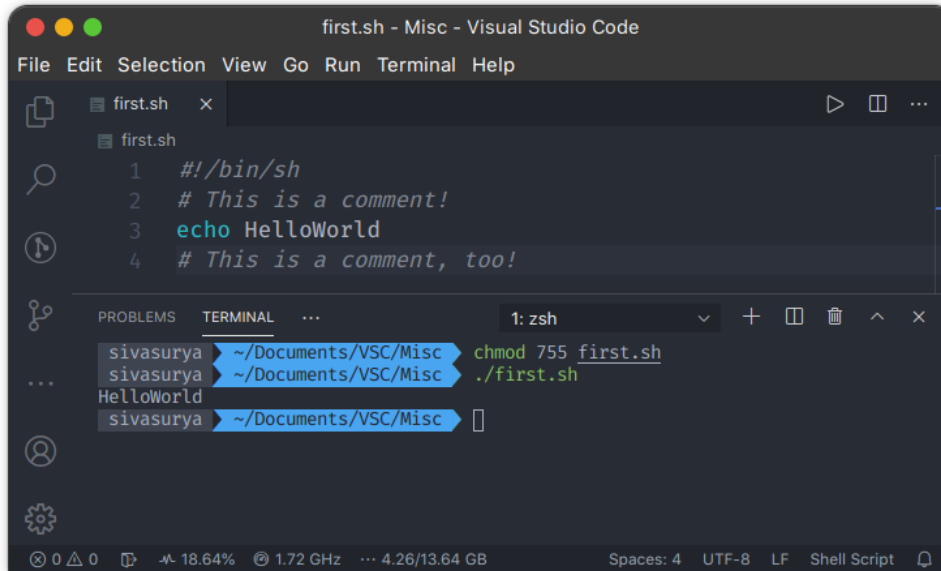


# OS Lab Week 2

Siva Surya Babu  
PES2201800475

## First Script



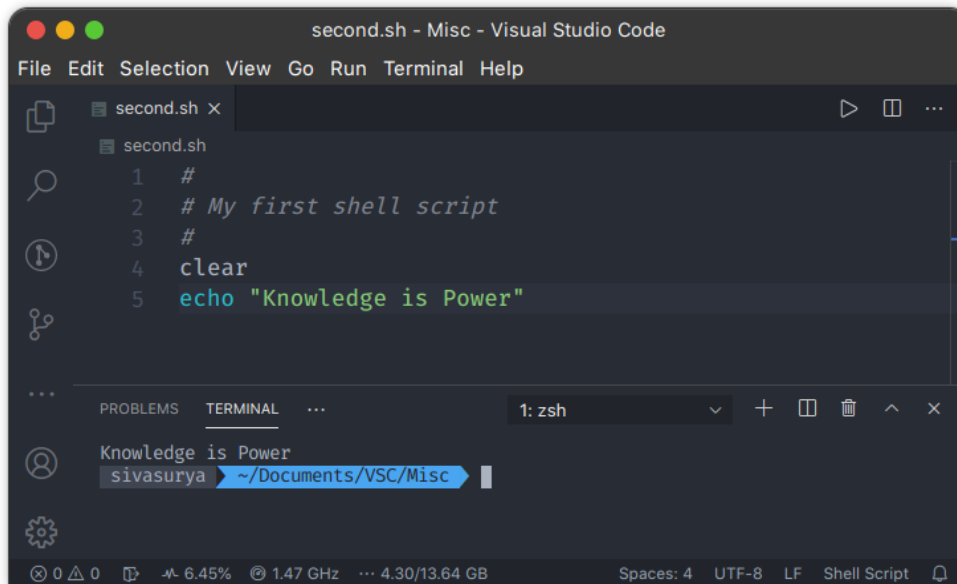
The screenshot shows the Visual Studio Code editor with a file named `first.sh` open. The file contains the following script:

```
1  #!/bin/sh
2  # This is a comment!
3  echo HelloWorld
4  # This is a comment, too!
```

The terminal window at the bottom shows the execution of the script:

```
1: zsh
sivasurya ~/Documents/VSC/Misc $ chmod 755 first.sh
sivasurya ~/Documents/VSC/Misc $ ./first.sh
HelloWorld
sivasurya ~/Documents/VSC/Misc $
```

## Second Script



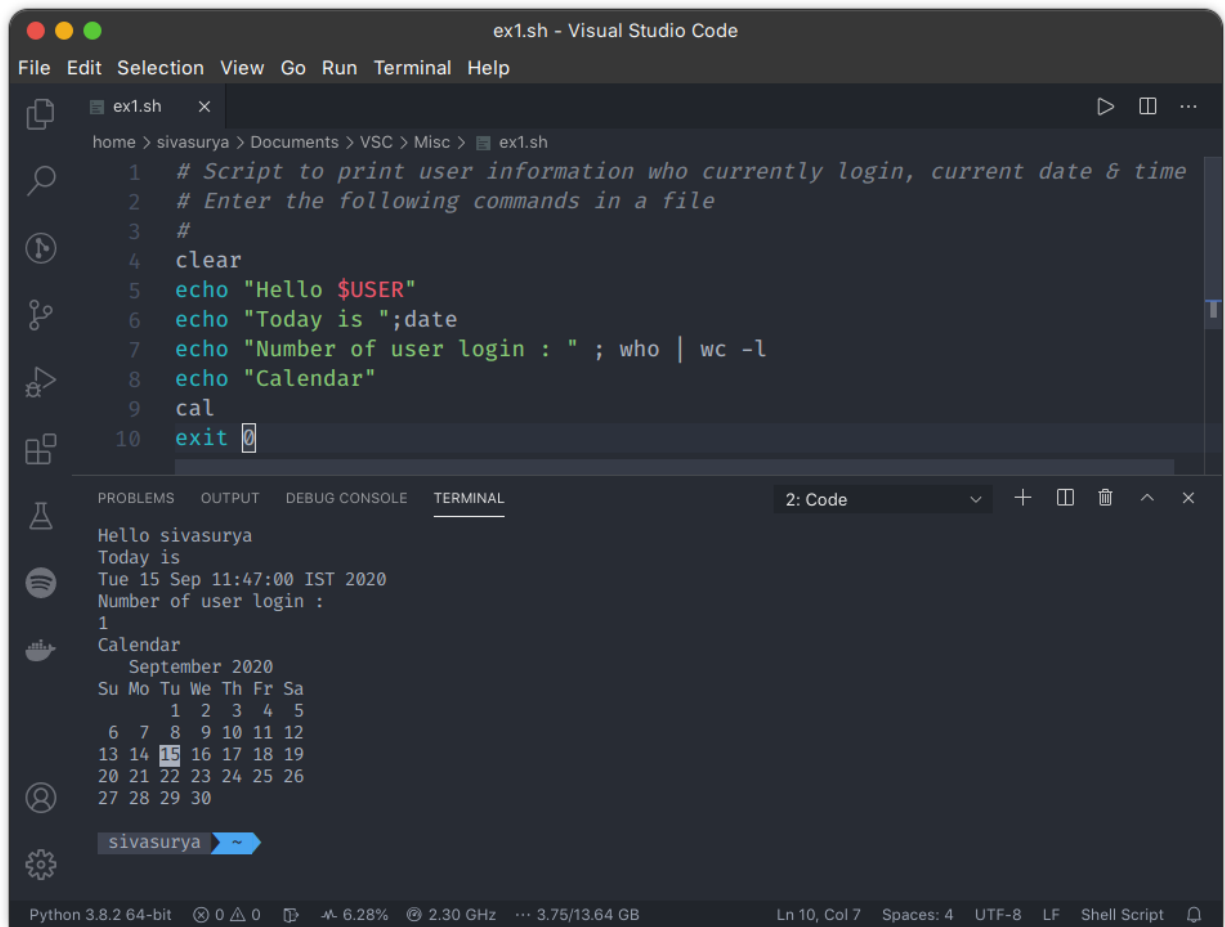
The screenshot shows the Visual Studio Code editor with a file named `second.sh` open. The file contains the following script:

```
1  #
2  # My first shell script
3  #
4  clear
5  echo "Knowledge is Power"
```

The terminal window at the bottom shows the execution of the script:

```
1: zsh
Knowledge is Power
sivasurya ~/Documents/VSC/Misc $
```

## Exercise 1:



The screenshot shows the Visual Studio Code interface with a file named `ex1.sh` open. The script contains the following commands:

```
1 # Script to print user information who currently login, current date & time
2 # Enter the following commands in a file
3 #
4 clear
5 echo "Hello $USER"
6 echo "Today is ";date
7 echo "Number of user login : " ; who | wc -l
8 echo "Calendar"
9 cal
10 exit 0
```

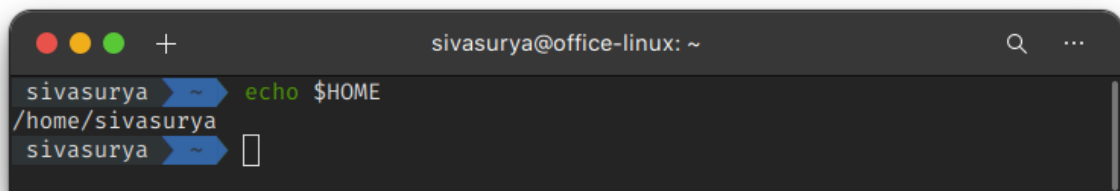
The terminal output shows the execution of the script:

```
Hello sivasurya
Today is
Tue 15 Sep 11:47:00 IST 2020
Number of user login :
1
Calendar
September 2020
Su Mo Tu We Th Fr Sa
    1  2  3  4  5
 6  7  8  9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30
```

The terminal prompt is `sivasurya ~`.

## Exercise 2:

`$HOME` is used to print the home directory of the current user, and `HOME` just prints the string `HOME`

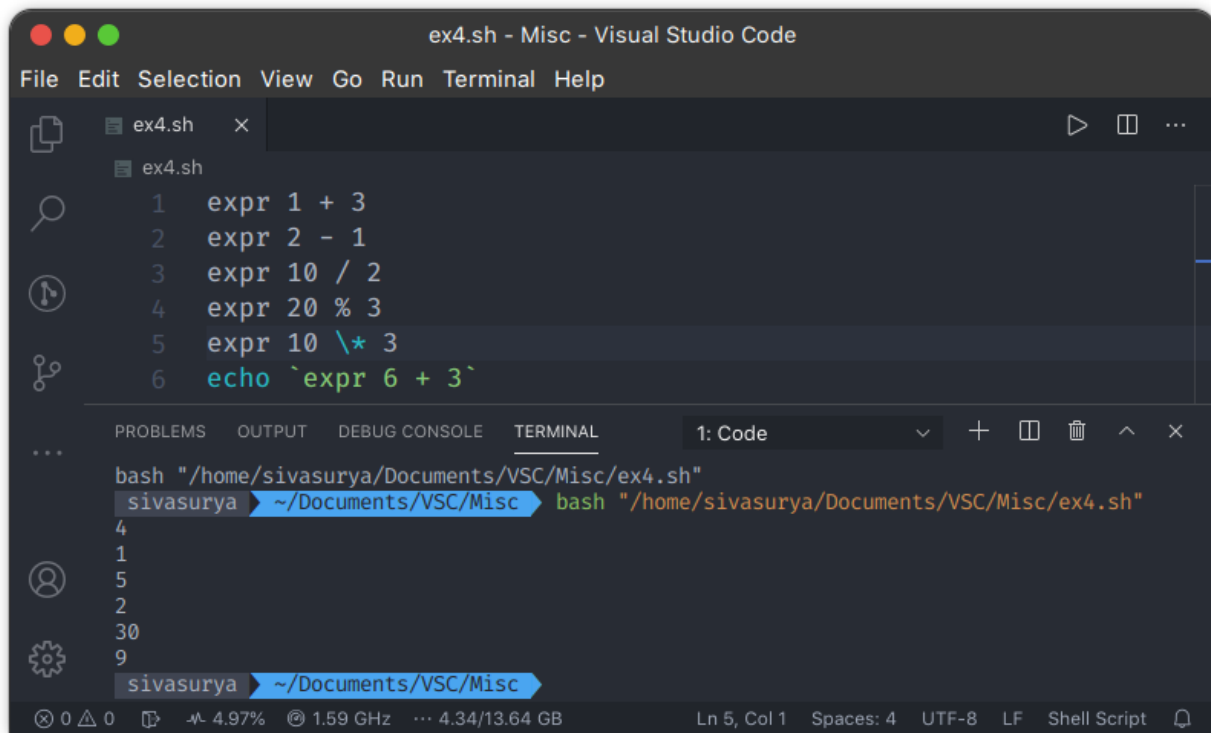


The screenshot shows a terminal window with the following commands and output:

```
sivasurya ~ echo $HOME
/home/sivasurya
sivasurya ~
```

## Exercise 3:

Q. What is the output of the following expressions?



The screenshot shows a Visual Studio Code window titled "ex4.sh - Misc - Visual Studio Code". The editor displays a file named "ex4.sh" with the following content:

```
1 expr 1 + 3
2 expr 2 - 1
3 expr 10 / 2
4 expr 20 % 3
5 expr 10 \* 3
6 echo `expr 6 + 3`
```

The terminal output shows the execution of the script:

```
bash "/home/sivasurya/Documents/VSC/Misc/ex4.sh"
sivasurya ~/Documents/VSC/Misc bash "/home/sivasurya/Documents/VSC/Misc/ex4.sh"
4
1
5
2
30
9
sivasurya ~/Documents/VSC/Misc
```

The terminal output corresponds to the script content: line 1 outputs 4, line 2 outputs 1, line 3 outputs 5, line 4 outputs 2, line 5 outputs 30, and line 6 outputs 9. The backticks in line 6 are used to execute the command `expr 6 + 3` and print its output.

## Exercise 4:

What is the meaning of Single quote ('), Double quote (") and Back quote (`) in shell?

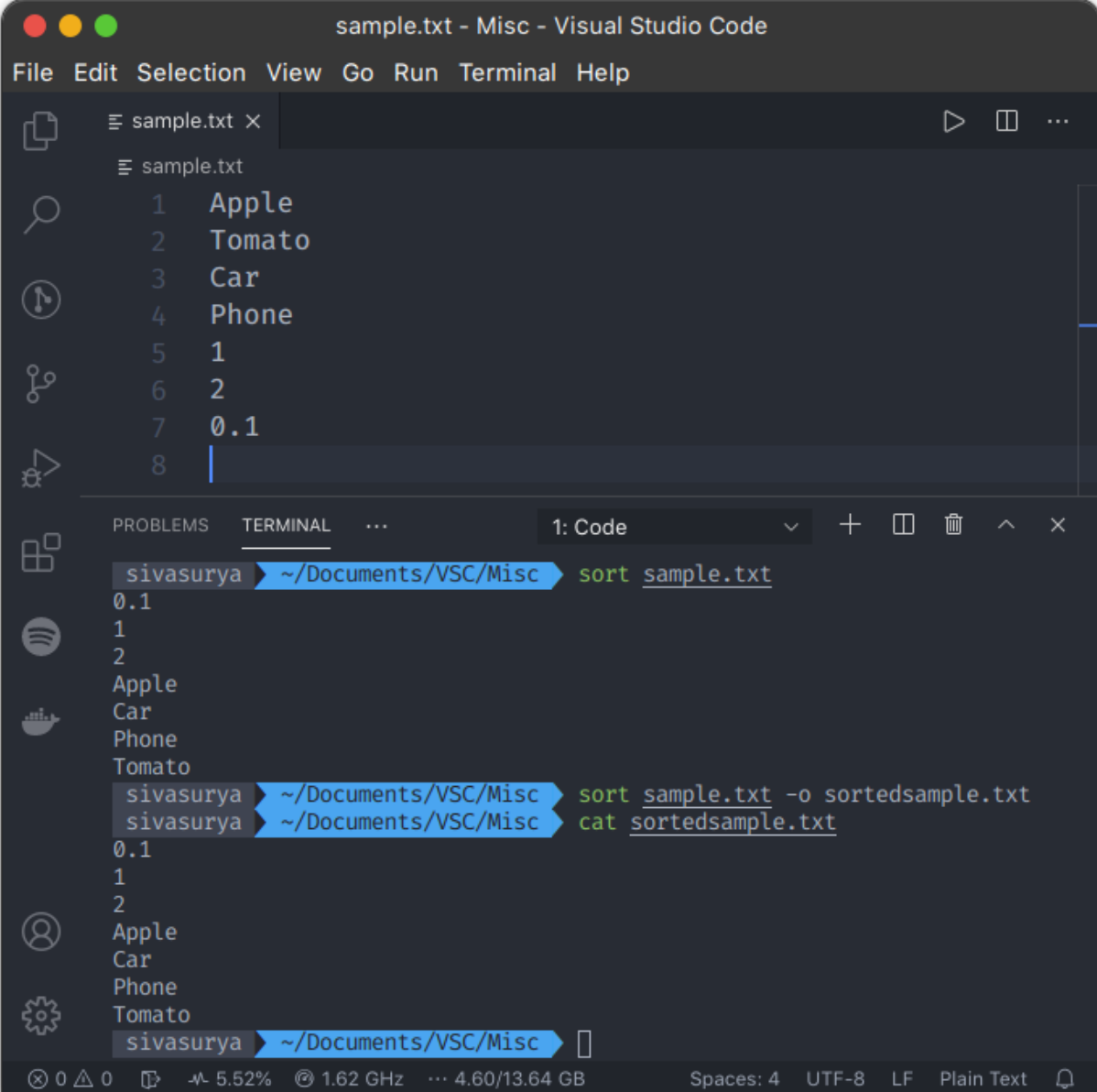
1. Single Quote outputs the text exactly as it put in them, even is there are any string formatters present (text needs to be replaced with the variable value) it will not do that
2. Double quotes outputs the text as it is, except it the dollar sign, backticks and backslash
3. When backticks are used, usually a shell command is given in the backticks, so the output of the command is the text that is printed to the shell

## Exercise 5:

Q. What does the following command do?

```
$ sort <myfile> sorted_file
```

This command sorts every line in the file and outputs it, optionally you can store the output in another file



The screenshot shows the Visual Studio Code interface. The editor window displays a file named `sample.txt` with the following content:

```
1 Apple
2 Tomato
3 Car
4 Phone
5 1
6 2
7 0.1
8
```

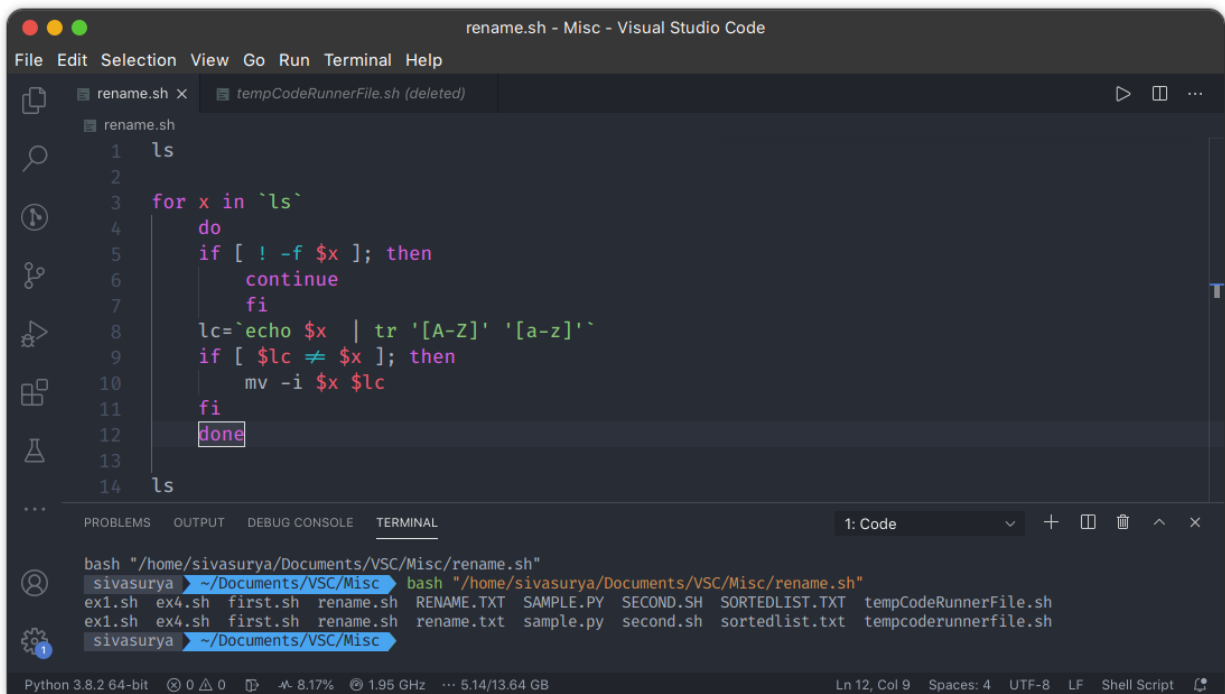
The terminal window at the bottom shows the following commands and their output:

```
sivasurya ~/Documents/VSC/Misc sort sample.txt
0.1
1
2
Apple
Car
Phone
Tomato
sivasurya ~/Documents/VSC/Misc sort sample.txt -o sortedsample.txt
sivasurya ~/Documents/VSC/Misc cat sortedsample.txt
0.1
1
2
Apple
Car
Phone
Tomato
sivasurya ~/Documents/VSC/Misc
```

The status bar at the bottom indicates the current file is `sample.txt`, using `UTF-8` encoding, `LF` line endings, and `Plain Text` format. The system tray shows the CPU usage at 5.52% and memory usage at 4.60/13.64 GB.

## Exercise 6:

Create a shell script which converts all files in the current directory to lowercase.



```
rename.sh - Misc - Visual Studio Code
File Edit Selection View Go Run Terminal Help

rename.sh
1  ls
2
3  for x in `ls`
4  do
5      if [ ! -f $x ]; then
6          continue
7      fi
8      lc=`echo $x | tr '[A-Z]' '[a-z]`
9      if [ $lc != $x ]; then
10         mv -i $x $lc
11     fi
12 done
13
14 ls

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
1: Code
bash "/home/sivasurya/Documents/VSC/Misc/rename.sh"
sivasurya ~/Documents/VSC/Misc bash "/home/sivasurya/Documents/VSC/Misc/rename.sh"
ex1.sh ex4.sh first.sh rename.sh RENAME.TXT SAMPLE.PY SECOND.SH SORTEDLIST.TXT tempCodeRunnerFile.sh
ex1.sh ex4.sh first.sh rename.sh rename.txt sample.py second.sh sortedlist.txt tempcoderunnerfile.sh
sivasurya ~/Documents/VSC/Misc

Python 3.8.2 64-bit 0 0 8.17% 1.95 GHz 5.14/13.64 GB Ln 12, Col 9 Spaces: 4 UTF-8 LF Shell Script
```