MODULE 5

ASSIGNMENT 1

Advance topics in a function

1) Write a function add to add two numbers and call the function in another file.

Open ▾ addfunc.sh ~/ Save

```
#!/bin/bash

add() {
  num1=$1
  num2=$2
  result=$((num1 + num2))
  echo "The sum of $num1 and $num2 is: $result"
}


add "$@"

```

```
vboxuser@Ubuntu:~$ gedit addfunc.sh
vboxuser@Ubuntu:~$ gedit main.sh
vboxuser@Ubuntu:~$ chmod +x addfunc.sh
vboxuser@Ubuntu:~$ chmod +x main.sh
vboxuser@Ubuntu:~$ ./main.sh
Enter num1:25
Enter num2:35
The sum of 25 and 35 is: 60
vboxuser@Ubuntu:~$ gedit main.sh
vboxuser@Ubuntu:~$ ./main.sh
The sum of 25 and 36 is: 61
```

ASSIGNMENT 2

Recursive function

1) Write a program where the recursive function calculates the sum of N numbers

Open ▾ | sumofn.sh ~/ | Save

sumofn.sh × | redirection.sh ×

```
#!/bin/bash


calculate_sum() {
  n=$1
  if [ $n -eq 0 ]; then
    echo 0
  else
    prev_sum=$(calculate_sum $((n - 1)))
    current_sum=$((prev_sum + n))
    echo $current_sum
  fi
}


read -p "Enter the value of N: " N


result=$(calculate_sum $N)


echo "The sum of the first $N numbers is: $result"

```

```
vboxuser@Ubuntu:~$ ./sumofn.sh
Enter the value of N: 4
The sum of the first 4 numbers is: 10
vboxuser@Ubuntu:~$ ./sumofn.sh
Enter the value of N: 5
The sum of the first 5 numbers is: 15
vboxuser@Ubuntu:~$ ./sumofn.sh
Enter the value of N: 10
The sum of the first 10 numbers is: 55
vboxuser@Ubuntu:~$ ./sumofn.sh
Enter the value of N: 20
The sum of the first 20 numbers is: 210
```

ASSIGNMENT 3

Basics of Redirection (error handling)

1) Write a program in any language like C, C++, Java.

2) And redirect the output or error to a new file.

Open ▾ | helloworld.java ~/ | Save

sumofn.sh × | redirection.sh × | helloworld.java ×

```
1 public class helloworld{
2   public static void main(String args[]){
3     System.out.println("Hello World")
4   }
5 }
```

Open ▾ | redirection.sh ~/ | Save

sumofn.sh × | redirection.sh × | helloworld.java ×

```
1 #!/bin/bash
2
3 java sum >> output.txt
```

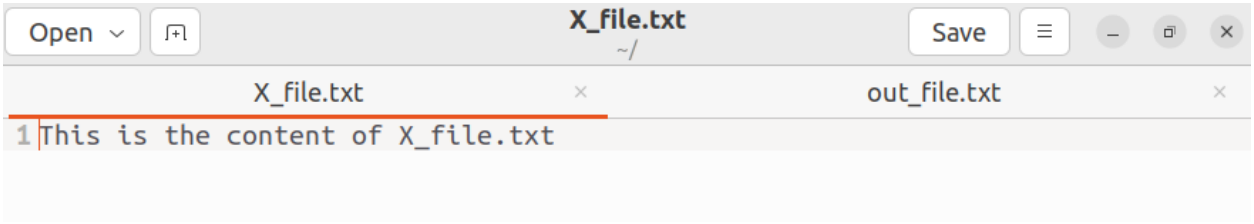
```
vboxuser@Ubuntu:~$ gedit helloworld.java
vboxuser@Ubuntu:~$ javac helloworld.java
vboxuser@Ubuntu:~$ java helloworld
Hello World
vboxuser@Ubuntu:~$ java helloworld > output1.txt
vboxuser@Ubuntu:~$ cat output1.txt
Hello World
vboxuser@Ubuntu:~$ gedit helloworld.java
vboxuser@Ubuntu:~$ javac helloworld.java > error.txt
helloworld.java:3: error: ';' expected
    System.out.println("Hello World")
                                      ^
1 error
vboxuser@Ubuntu:~$ javac helloworld.java 2> error.txt
vboxuser@Ubuntu:~$ cat error.txt
helloworld.java:3: error: ';' expected
    System.out.println("Hello World")
                                      ^
1 error
```

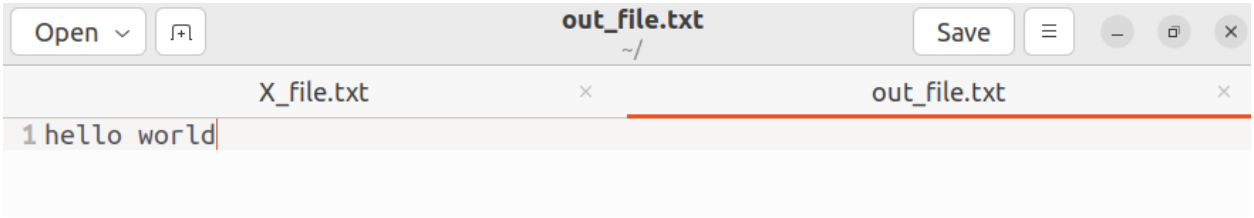
ASSIGNMENT 4

More on Redirection

1) Create X_file.txt file with some content.

2) Redirect the content of both out_file.txt and X_file.txt to a new file






```
vboxuser@Ubuntu:~$ echo "This is the content of X_file.txt" > X_file.txt
vboxuser@Ubuntu:~$ gedit out_file.txt
vboxuser@Ubuntu:~$ ^[[200~cat out_file.txt X_file.txt > combined.txt
cat: command not found
vboxuser@Ubuntu:~$ cat out_file.txt X_file.txt > combined.txt
vboxuser@Ubuntu:~$ cat combined.txt
hello world
This is the content of X_file.txt
```

ASSIGNMENT 5

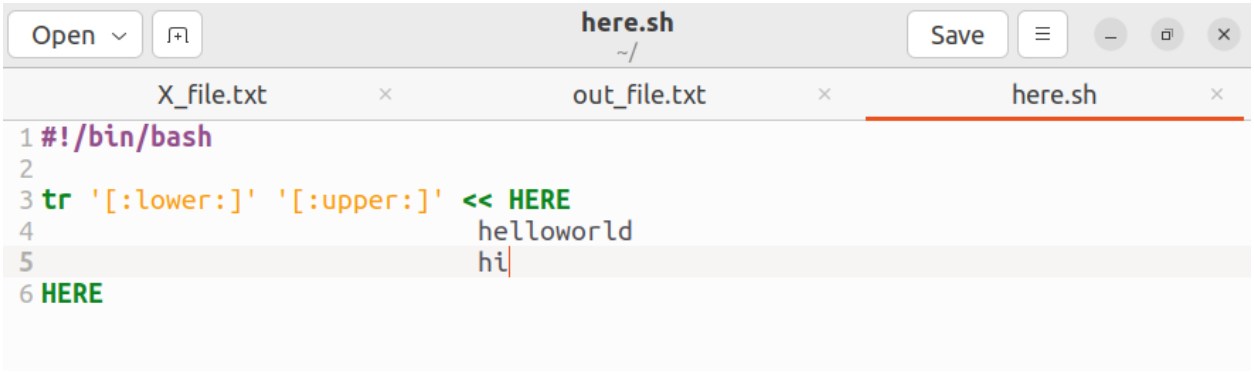
Here document and Here string

1) Convert a string to uppercase using:

a) Here document

b) Here string

Hint: tr a-z A-Z




```
vboxuser@Ubuntu:~$  gedit here.sh
vboxuser@Ubuntu:~$ chmod +x here.sh
vboxuser@Ubuntu:~$ ./here.sh
                        HELLOWORLD
                        HI
vboxuser@Ubuntu:~$
```