

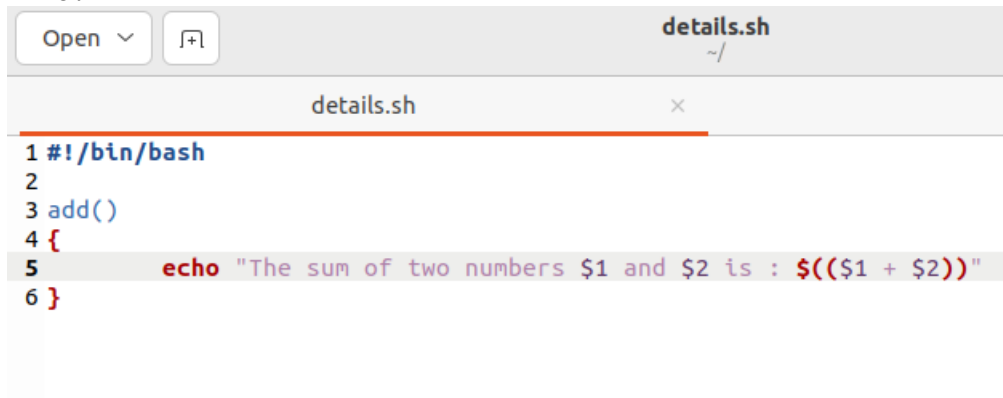
Bash Module 5

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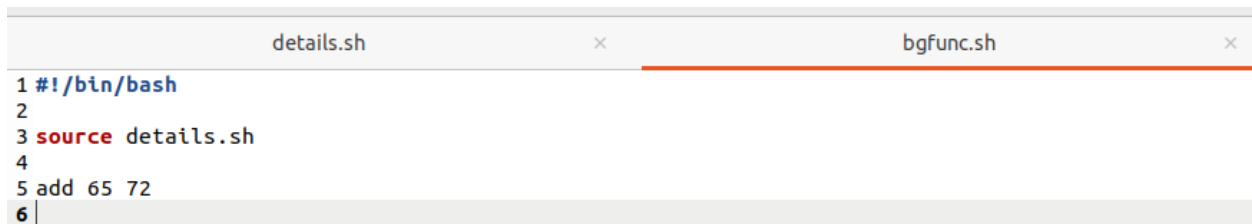
Advance topics in a function

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



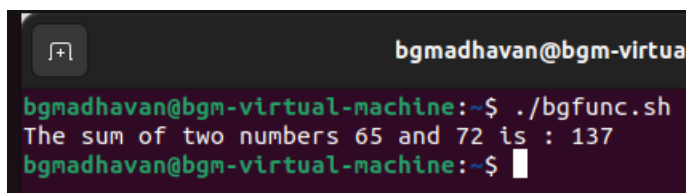
A screenshot of a code editor window titled 'details.sh' with a file icon and a close button. The editor shows the following code:

```
1 #!/bin/bash
2
3 add()
4 {
5     echo "The sum of two numbers $1 and $2 is : $((($1 + $2)))"
6 }
```



A screenshot of a code editor window titled 'bgfunc.sh' with a file icon and a close button. The editor shows the following code:

```
1 #!/bin/bash
2
3 source details.sh
4
5 add 65 72
6
```



A screenshot of a terminal window with the prompt 'bgmadhavan@bgm-virtua'. The user has entered the command './bgfunc.sh' and the output is 'The sum of two numbers 65 and 72 is : 137'.

```
bgmadhavan@bgm-virtua:~$ ./bgfunc.sh
The sum of two numbers 65 and 72 is : 137
bgmadhavan@bgm-virtua:~$
```

Recursive function

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

```
Open  numbers.sh
1 #!/bin/bash
2
3 sum_num()
4 {
5     x=$1
6     if [ $x -eq 1 ]; then
7         echo "1"
8     else
9         d=$((x-1))
10        d=$(sum_num $d)
11        d=$((d + x))
12        echo $d
13    fi
14 }
15
16 read -p "Enter the number : " n
17 echo "The sum of first $n natural numbers is : $(sum_num $n)"
18
```

```
bgmadhavan@bgm-virtual-machine:~$ ./numbers.sh
Enter the number : 10
The sum of first 10 natural numbers is : 55
```

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  redirection.sh
1 #!/bin/bash
2
3 for ((i=1;i<=10;i++)); do
4     echo "$i" >> output.txt
5 done
```

```
bgmadhavan@bgm-virtual-machine:~$ ./redirection.sh
bgmadhavan@bgm-virtual-machine:~$ cat output.txt
1
2
3
4
5
6
7
8
9
10
bgmadhavan@bgm-virtual-machine:~$
```

- 3) Create a text file with some content like your name, address.
- 4) Redirect the content to a new file.

```
sample.txt ×
1 gokula madhavan
2 34,Valliammal street, kanniyappa Nagar, kanchipuram-631502.
3
```

```
redirect.sh ×
1 #!/bin/bash
2
3 cat sample.txt > redirect_sample.txt
```

```
bgmadhavan@bgm-virtual-machine: ~
bgmadhavan@bgm-virtual-machine:~$ gedit sample.txt &
[2] 3902
bgmadhavan@bgm-virtual-machine:~$ gedit redirect.sh &
[3] 3926
[2] Done gedit sample.txt
bgmadhavan@bgm-virtual-machine:~$ chmod +x redirect.sh
[3]+ Done gedit redirect.sh
bgmadhavan@bgm-virtual-machine:~$ ./redirect.sh
bgmadhavan@bgm-virtual-machine:~$ cat redirect_sample.txt
gokula madhavan
34,Valliammal street, kanniyappa Nagar, kanchipuram-631502.
bgmadhavan@bgm-virtual-machine:~$
```

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

```
more_redirect.sh ~/
1 #!/bin/bash
2
3 cat input.txt output.txt &> more_redirect.txt

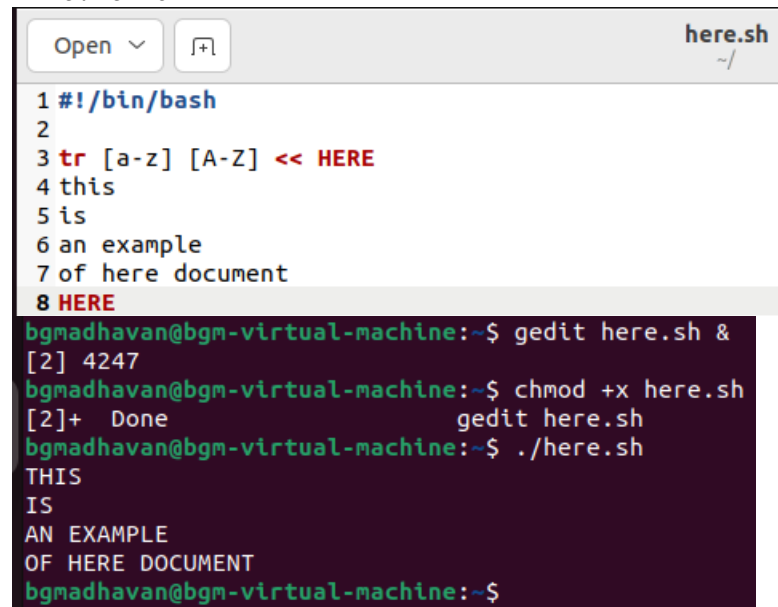
bgmadhavan@bgm-virtual-machine:~$ gedit more_redirect.sh &
[1] 4022
bgmadhavan@bgm-virtual-machine:~$ chmod +x more_redirect.sh
bgmadhavan@bgm-virtual-machine:~$ ./more_redirect.sh
bgmadhavan@bgm-virtual-machine:~$ cat more_redirect.txt
cat: input.txt: No such file or directory
1
2
3
4
5
6
7
8
9
10
bgmadhavan@bgm-virtual-machine:~$
```

Here document and Here string

1) Convert a string to uppercase using:

- a) Here document
- b) Here string

Hint: `tr a-z A-Z`



```
Open  [icon] here.sh ~/
1 #!/bin/bash
2
3 tr [a-z] [A-Z] << HERE
4 this
5 is
6 an example
7 of here document
8 HERE
bgmadhavan@bgm-virtual-machine:~$ gedit here.sh &
[2] 4247
bgmadhavan@bgm-virtual-machine:~$ chmod +x here.sh
[2]+  Done                  gedit here.sh
bgmadhavan@bgm-virtual-machine:~$ ./here.sh
THIS
IS
AN EXAMPLE
OF HERE DOCUMENT
bgmadhavan@bgm-virtual-machine:~$
```