

Experiment 2

use a editor to finishe the following shell scripts, and run them in Linux system.

1. Obtain the system time, and check whether it is in the morning, afternoon, or evening.

```
#!/bin/bash
hour = `date +%H`
case $hour in
0[1-9] | 1[01] )
echo "Good morining !!"
;;
1[234567] )
echo "Good afternoon !!"
;;
* )
echo "Good evening !! "
;;
Esac
```

```
wch@wch-VirtualBox:~$ chmod u+x 2-1.sh
wch@wch-VirtualBox:~$ ./2-1.sh
Good morining !!
wch@wch-VirtualBox:~$ date +%H
11
wch@wch-VirtualBox:~$
```

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2-1.sh
~/

```
1 #!/bin/bash
2 hour=`date +%H`
3 case $hour in
4 0[1-9] | 1[01] )
5 echo "Good morining !!"
6 ;;
7 1[234567] )
8 echo "Good afternoon !!"
9 ;;
10 * )
11 echo "Good evening !! "
12 ;;
13 esac
```

2. Input two number, check which one is greater, and output the result.

```
#!/bin/sh
echo "Enter the first integer:"
read first
echo "Enter the second integer:"
read second
if [ "$first" -gt "$second" ]
then
echo "$first is greater than $second"
elif [ "$first" -lt "$second" ]
then
echo "$FIRST is less than $second"
else
echo "$FIRST is equal to $second"
fi
```

```
wch@wch-VirtualBox:~$ chmod u+x 2-2.sh
wch@wch-VirtualBox:~$ ./2-2.sh
Enter the first integer:
10
Enter the second integer:
20
10 is less than 20
wch@wch-VirtualBox:~$ ./2-2.sh
Enter the first integer:
10
Enter the second integer:
10
10 is equal to 10
wch@wch-VirtualBox:~$ ./2-2.sh
Enter the first integer:
20
Enter the second integer:
10
20 is greater than 10
wch@wch-VirtualBox:~$
```

打开(O) ▾

2-2.sh
~/

```
1 #!/bin/sh
2 echo "Enter the first integer:"
3 read first
4 echo "Enter the second integer:"
5 read second
6 if [ "$first" -gt "$second" ]
7 then
8 echo "$first is greater than $second"
9 elif [ "$first" -lt "$second" ]
10 then
11 echo "$first is less than $second"
12 else
13 echo "$first is equal to $second"
14 fi
```

3. Find the minimal value in a given list.

```
#!/bin/bash
smallest=10000 for i in 8 2 18 0 -3 87
do
if test $i -lt $smallest
then
smallest=$i
fi
done
echo $smallest
```

```
wch@wch-VirtualBox:~$ touch 2-3.sh
wch@wch-VirtualBox:~$ chmod u+x 2-3.sh
wch@wch-VirtualBox:~$ ./2-3.sh
-3
wch@wch-VirtualBox:~$
```

打开(O) ▾



2-3.sh
~/

```
1 #!/bin/bash
2 smallest=10000
3 for i in 8 2 18 0 -3 87
4 do
5 if test $i -lt $smallest
6 then
7     smallest=$i
8 fi
9 done
10 echo $smallest
```

4. Calculate the number of executive file in the current directory.

```
#!/bin/bash
count=0
for i in *
do
if test -x $i
then
count=`expr $count + 1`
fi
done
echo Total of $count files executable
```

```
wch@wch-VirtualBox:~$ touch 2-4.sh
wch@wch-VirtualBox:~$ chmod u+x 2-4.sh
wch@wch-VirtualBox:~$ ./2-4.sh
Total of 19 files executable
wch@wch-VirtualBox:~$
```

打开(O) ▾

2-4.sh
~/

```
1 #!/bin/bash
2 count=0
3 for i in *
4 do
5 if test -x $i
6 then
7 count=`expr $count + 1`
8 fi
9 done
10 echo Total of $count files executable
```

5. Check whether a given number is a prime, you have to write a function, and call the function.

```
wch@wch-VirtualBox:~$ chmod u+x 2-5.sh
wch@wch-VirtualBox:~$ ./2-5.sh 10
10 is not a prime!
wch@wch-VirtualBox:~$ ./2-5.sh 11
11 is a prime!
wch@wch-VirtualBox:~$
```

打开(O)  2-5.sh
~/

```
1 prime( )
2 {
3     flag=1
4     j=2
5     while [ $j -le `expr $1 / 2` ]
6     do
7         if [ `expr $1 % $j` -eq 0 ]
8         then
9             flag=0
10            break
11        fi
12        j=`expr $j + 1`
13    done
14    if [ $flag -eq 1 ]
15    then
16        return 1
17    else
18        return 0
19    fi
20 }
21 prime $1
22 if [ $? -eq 1 ]
23 then
24     echo "$1 is a prime!"
25 else
26     echo "$1 is not a prime!"
27 fi
```