

南京邮电大学

# 实验报告

( 2024 / 2025 学年 第 一 学期 )

课程名称	Linux 编程			
实验名称	Experiment 2			
实验时间	2024	年	11 月	18 日
指导单位	计算机学院、软件学院、网络空间安全学院			
指导教师	王磊			

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学院(系)	计算机学院	专 业	信息安全

## 实 验 报 告

实 验 名 称	Experiment 2			指 导 教 师	王磊
实 验 类 型	上机	实验学时	4	实 验 时 间	2024.11.18

### 一、 实验目的和要求

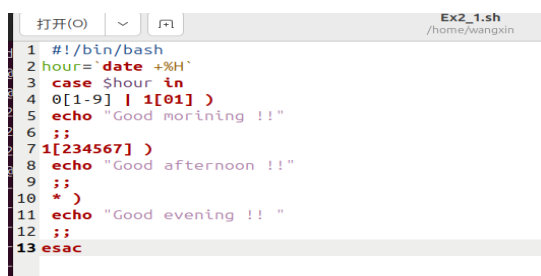
use a editor to finishe the following shell scripts, and run them in Linux system.

### 二、实验环境(实验设备)

Vm17+ubuntu

### 三、实验原理及内容

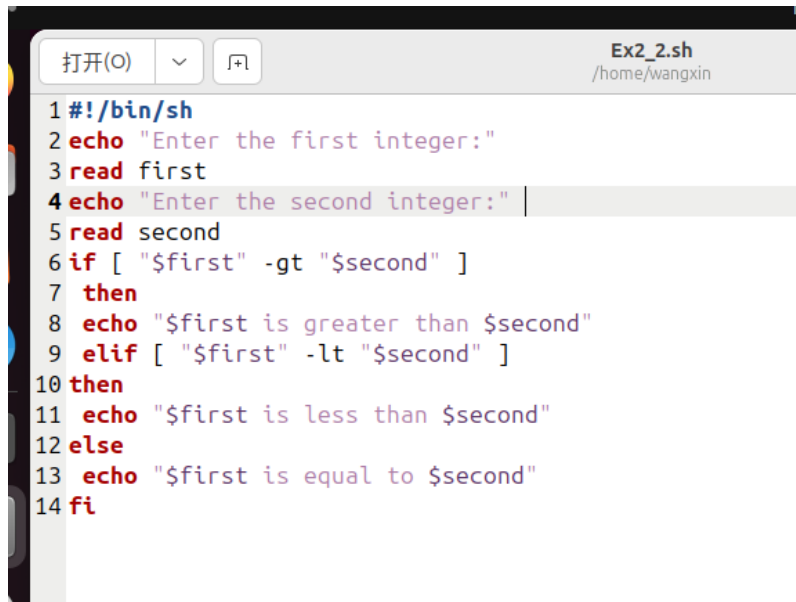
1. Obtain the system time, and check whether it is in the morning, afternoon, or evening.



```
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
```

```
连接已关闭
root@wangxin-VMware-Virtual-Platform:/home/wangxin# ./Ex2_1.sh
Good evening !!
```

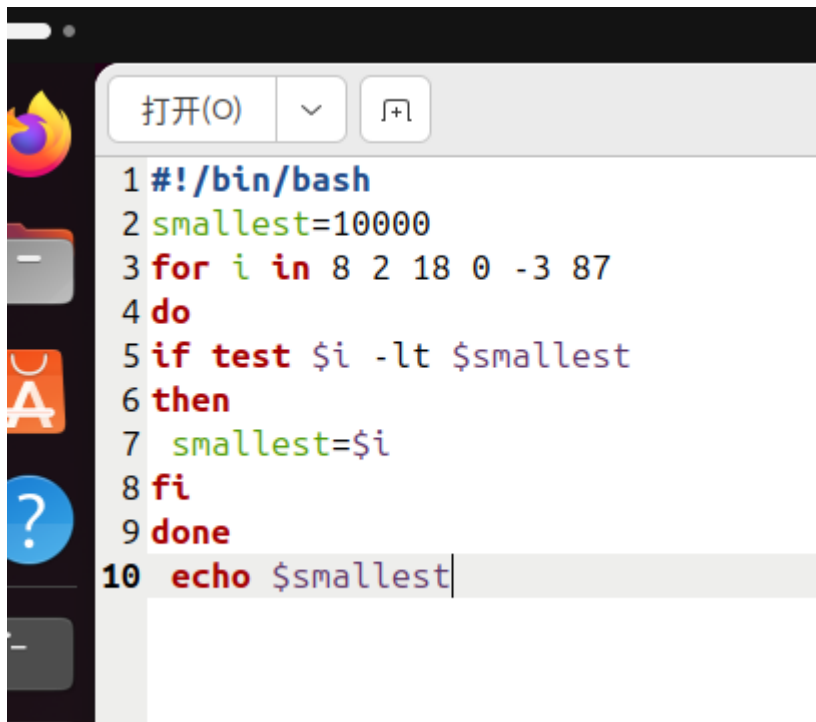
2. Input two number, check which one is greater, and output the result



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

```
root@wangxin-VMware-Virtual-Platform:/home/wangxin# ./Ex2_2.sh
Enter the first integer:
9
Enter the second integer:
5
9 is greater than 5
root@wangxin-VMware-Virtual-Platform:/home/wangxin# ./Ex2_2.sh
Enter the first integer:
6
Enter the second integer:
9
6 is less than 9
root@wangxin-VMware-Virtual-Platform:/home/wangxin# ./Ex2_2.sh
Enter the first integer:
5
Enter the second integer:
5
5 is equal to 5
```

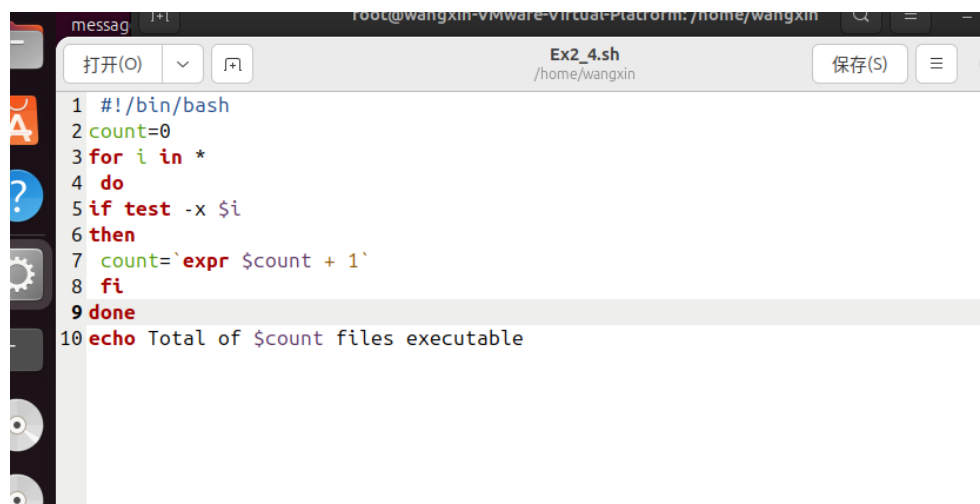
3. Find the minimal value in a given list



```
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
```

```
连接已关闭
root@wangxin-VMware-Virtual-Platform:/home/wangxin# ./Ex2_3.sh
-3
```

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



```
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
```

```
连接已关闭
root@wangxin-VMware-Virtual-Platform:/home/wangxin# chmod 777 Ex2_4.sh
root@wangxin-VMware-Virtual-Platform:/home/wangxin# ./Ex2_4.sh
Total of 32 files executable
root@wangxin-VMware-Virtual-Platform:/home/wangxin#
```

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

```
Ex2_5.sh
/home/wangxin

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
```

```
root@wangxin-VMware-Virtual-Platform:/home/wangxin# ./Ex2_5.sh 7
7 is a prime!
root@wangxin-VMware-Virtual-Platform:/home/wangxin# ./Ex2_5.sh 9
9 is not a prime!
root@wangxin-VMware-Virtual-Platform:/home/wangxin#
```

#### 四、实验小结（包括总结上机调试过程中所遇到的问题和解决方法、感想与建议等）

一开始运行文件显示没有权限，后来给文件赋予权限（`chmod 777`）后成功运行。通过此次实验我对运用 shell 脚本编写程序更加熟悉，提高了我的编程能力。

#### 五、指导教师评语

成 绩		批阅人		日 期	
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