南昌大学实验报告

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专业班级：__*计算机科学与技术153*__

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课程名称：__**Linux程序设计实验**__

实验项目名称

Bash Programming

实验目的

1.编写shell脚本解决实际问题

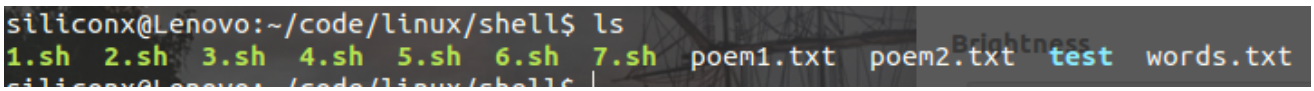
2.通过系统调用实现一些Liunx的实用工具

实验基础

shell脚本的使用

实验步骤

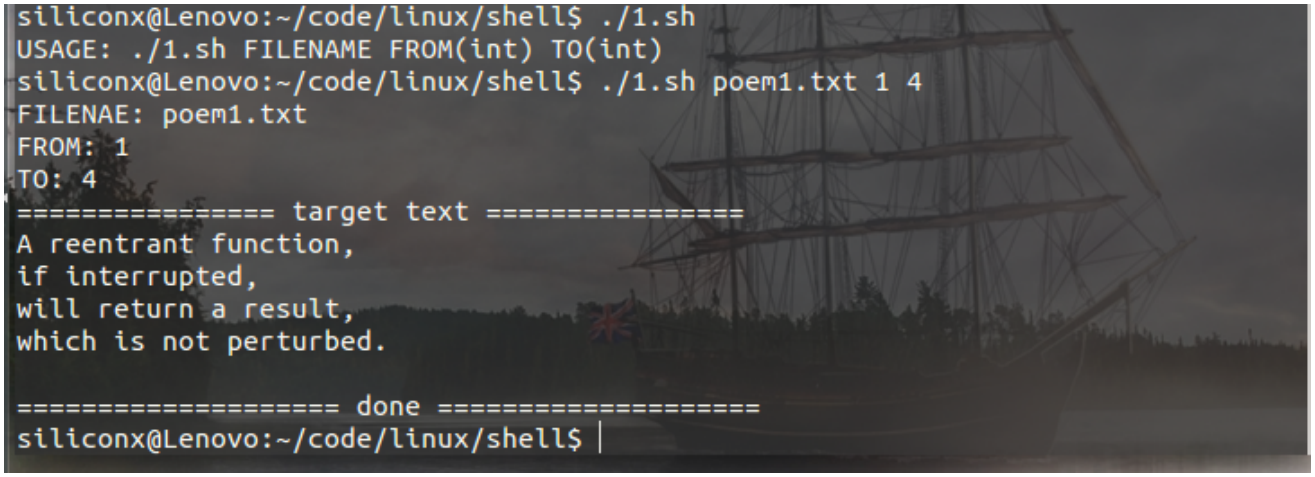
目录结构



T1

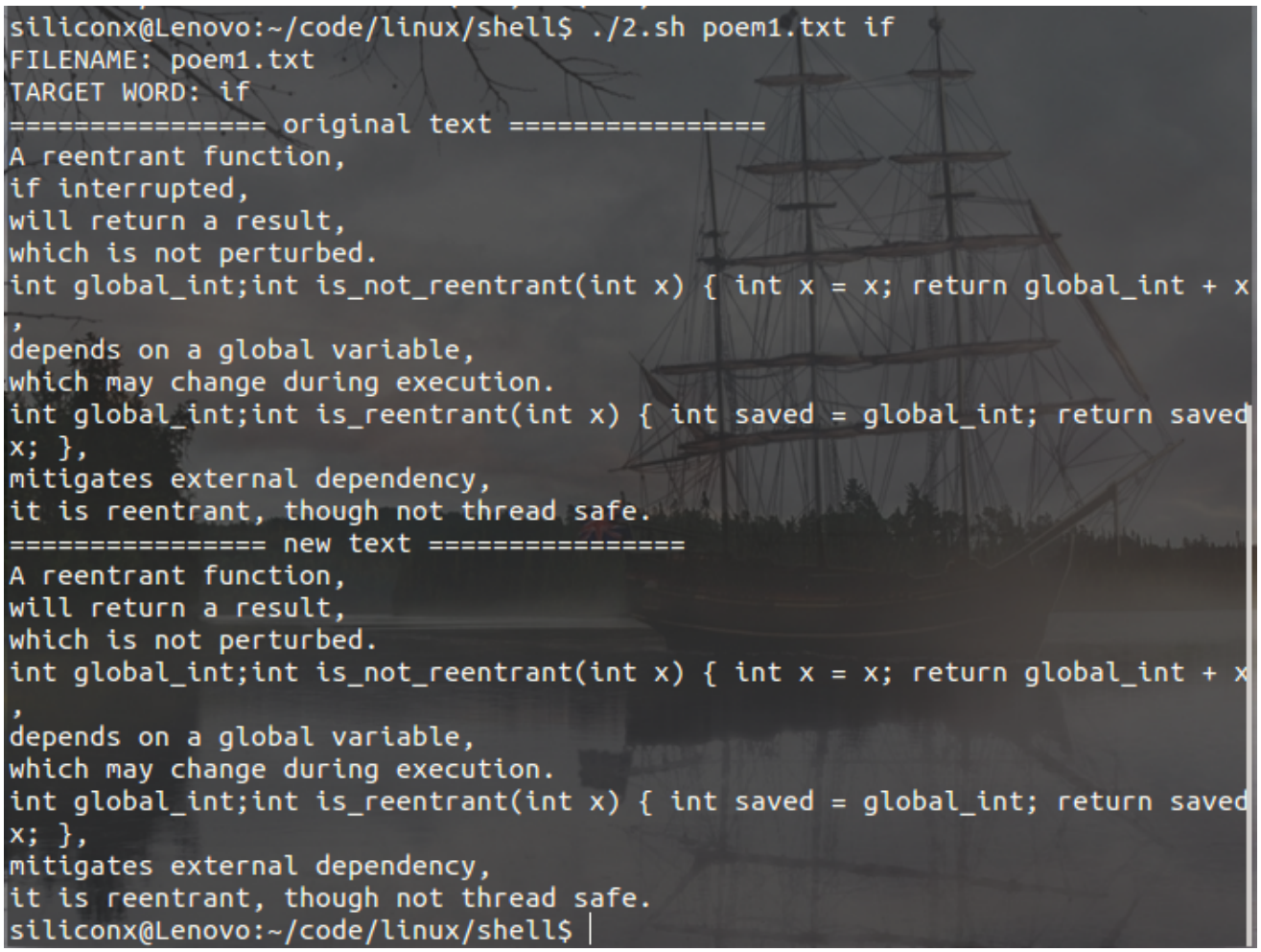
```
#!/bin/sh

if [ $# != 3 ]; then
    echo "USAGE: $0 FILENAME FROM(int) TO(int)"
    exit 1
fi

echo "FILENAE: $1"
echo "FROM: $2"
echo "TO: $3"

echo "================ target text ================"
cat $1 | head -n $3 | tail -n +$2
```

```
echo "\n==================== done ===================="
```



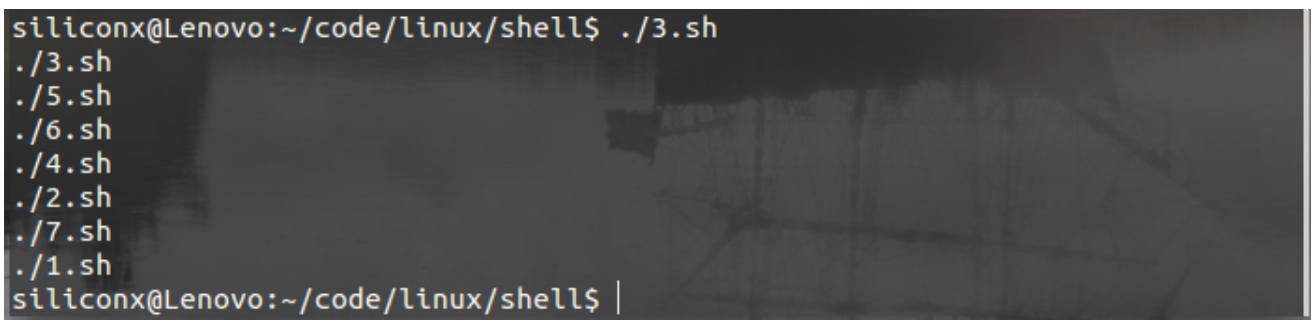
T2

```
#!/bin/sh

if [ $# != 2 ]; then
    echo "ARGS ERROR"
    echo "USAGE: $0 FILENAME TARGET_WORD"
    exit 1
fi

echo "FILENAME: $1"
echo "TARGET WORD: $2"

echo "================ original text ================"
more $1

echo "================ new text ================"
sed -e "/$2/d" $1 > $1.witout-$2
more $1.witout-$2
```



T3

```
#!/bin/sh

# reference https://blog.csdn.net/beyondlpf/article/details/46426513
find -type f -perm -700
```



T4

```
#!/bin/sh

for i in $@; do
    if [ -f $i ]; then
        # wc -- get the number of lines of a file
        echo $i 'is a FILE, LINES:' `wc -l < $i`
```

```
    elif [ -d $i ]; then
        echo $i 'is a DIR'

    else
        echo $i 'NOTFOUND'
    fi
done
```

```
siliconx@Lenovo:~/code/linux/shell$ ./4.sh poem1.txt test 1.sh 2.sh abcdd
poem1.txt is a FILE, LINES: 9
test is a DIR
1.sh is a FILE, LINES: 15
2.sh is a FILE, LINES: 18
abcdd NOTFOUND
siliconx@Lenovo:~/code/linux/shell$
```

T5

```
#!/bin/bash

# present the result in a form of matrix
# ROW: each file
# COL: occurrence of each word

printf "WORD \ FILE"
for i in $@; do
    printf "%11s" $i
done
echo

for word in $(<$1); do  # read words_file word by word
    printf "%11s" $word

    for i in $@; do  # counting
      printf "%11s" `grep -w "$word" $i | wc -l`
    done
    echo
done
```

```
siliconx@Lenovo:~/code/linux/shell$ ./5.sh words.txt poem1.txt poem2.txt
WORD \ FILE  words.txt  poem1.txt  poem2.txt
         if          1          1          1
         an          1          0          3
        and          1          0          4
        not          1          2          0
        who          1          0          0
       what          1          0          2
      which          1          2          0
siliconx@Lenovo:~/code/linux/shell$
```

T6

```
#!/bin/bash

ls -d */  # list dir only
```

```
siliconx@Lenovo:~/code/linux/shell$ ./6.sh
test/
siliconx@Lenovo:~/code/linux/shell$
```

T7

```
#!/bin/bash

# `seq` gen expression, `bc` calculating
seq -s "*" $1 | bc
```

```
siliconx@Lenovo: ~/code/linux/shell
siliconx@Lenovo:~/code/linux/shell$ ./7.sh 3
3! = 6
siliconx@Lenovo:~/code/linux/shell$ ./7.sh 4
4! = 24
siliconx@Lenovo:~/code/linux/shell$
```

实验思考

1.需要多练习Linux命令

2.注意命令参数匹配

参考资料

《Linux程序设计》