

Homework2

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Q1: Go Programming

step.1 编写源码

```
package main

import (
    "fmt"
    "os"
    "strconv"
    "log"
    "math"
)

func main() {
    args_len := len(os.Args)
    if args_len == 2 { // is circle
        r, err := strconv.ParseFloat(os.Args[1], 64) // get radius

        if err != nil {
            fmt.Println("Args value ERROR")
            log.Fatal(err)
        } else {
            fmt.Println("This is a circle")
            perimeter := 2 * math.Pi * r
            area := math.Pi * math.Pow(r, 2)
            fmt.Printf("r = %.3f\nperimeter = %.3f\narea = %.3f\n", r, perimeter, area)
        }
    } else if args_len == 3 { // is rectangle
        a, err := strconv.ParseFloat(os.Args[1], 64)
        b, err := strconv.ParseFloat(os.Args[2], 64)

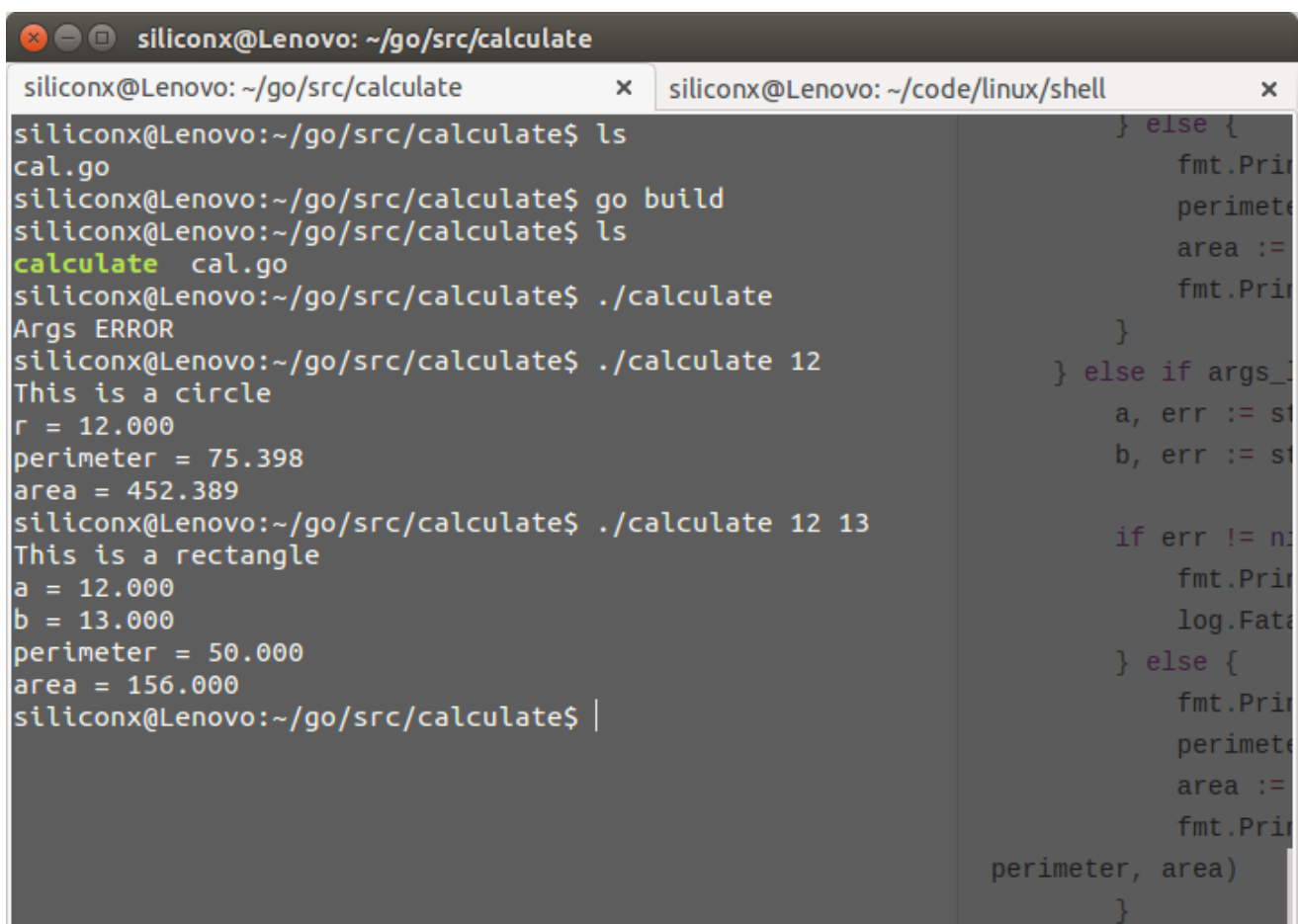
        if err != nil {
            fmt.Println("Args value ERROR")
            log.Fatal(err)
        } else {
            fmt.Println("This is a rectangle")
            perimeter := 2 * (a + b)
            area := a * b
            fmt.Printf("a = %.3f\nb = %.3f\nperimeter = %.3f\narea = %.3f\n", a, b,
            perimeter, area)
        }
    }
}
```

```
} else {  
    fmt.Println("Args ERROR")  
}  
}
```

step2. 编译

```
go build
```

step3.运行



```
siliconx@Lenovo: ~/go/src/calculate  
siliconx@Lenovo: ~/go/src/calculate x siliconx@Lenovo: ~/code/linux/shell x  
siliconx@Lenovo:~/go/src/calculate$ ls  
cal.go  
siliconx@Lenovo:~/go/src/calculate$ go build  
siliconx@Lenovo:~/go/src/calculate$ ls  
calculate cal.go  
siliconx@Lenovo:~/go/src/calculate$ ./calculate  
Args ERROR  
siliconx@Lenovo:~/go/src/calculate$ ./calculate 12  
This is a circle  
r = 12.000  
perimeter = 75.398  
area = 452.389  
siliconx@Lenovo:~/go/src/calculate$ ./calculate 12 13  
This is a rectangle  
a = 12.000  
b = 13.000  
perimeter = 50.000  
area = 156.000  
siliconx@Lenovo:~/go/src/calculate$ |  
} else {  
    fmt.Prin  
    perimete  
    area :=  
    fmt.Prin  
}  
} else if args_  
    a, err := st  
    b, err := st  
  
if err != n  
    fmt.Prin  
    log.Fata  
} else {  
    fmt.Prin  
    perimete  
    area :=  
    fmt.Prin  
    perimeter, area)  
}
```

Q2 (Bash, and Bash Hard)

step1.编写代码

```
#!/bin/sh

if [ $# = 0 ]; then
    echo "usage: $0 [-a -n N] directory"
    exit 1
fi

A="" # 参数-a
N=10 # 参数-n的值

while getopts ":an:" opt; do # 通过getopts获取参数
    case $opt in
        a)
            A="-a"
            ;;
        n)
            N=$OPTARG
            ;;
        \?)
            echo "Invalid args"
            ;;
    esac
done

# shift参数以便获取路径值
shift $((OPTIND - 1))

# 遍历路径
for var in "$@"
do
    echo "$var"
    du -h $A $var | head -n $N
done
```

step2.运行

```
siliconx@Lenovo: ~/code/linux/shell
siliconx@Lenovo: ~/code/linux/shell
siliconx@Lenovo:~/code/linux/shell$ clear
siliconx@Lenovo:~/code/linux/shell$ ls
1.sh 3.sh 5.sh 7.sh          poem1.txt  test
2.sh 4.sh 6.sh diskusage.sh    poem2.txt  words.txt
siliconx@Lenovo:~/code/linux/shell$ ./diskusage.sh
usage: ./diskusage.sh [-a -n N] directory
siliconx@Lenovo:~/code/linux/shell$ ./diskusage.sh /etc/
/etc/
4.0K /etc/avahi/services
20K  /etc/avahi
8.0K /etc/firefox/pref
16K  /etc/firefox
44K  /etc/wpa_supplicant
8.0K /etc/sudoers.d
16K  /etc/ld.so.conf.d
24K  /etc/NetworkManager/system-connections
8.0K /etc/NetworkManager/VPN
8.0K /etc/NetworkManager/dispatcher.d
siliconx@Lenovo:~/code/linux/shell$ ./diskusage.sh -n 10 /etc/
/etc/
4.0K /etc/avahi/services
20K  /etc/avahi
```

```
siliconx@Lenovo: ~/code/linux/shell
siliconx@Lenovo: ~/code/linux/shell
siliconx@Lenovo:~/code/linux/shell$ ./diskusage.sh -n 10 /etc/
/etc/
4.0K /etc/avahi/services
20K  /etc/avahi
8.0K /etc/firefox/pref
16K  /etc/firefox
44K  /etc/wpa_supplicant
8.0K /etc/sudoers.d
16K  /etc/ld.so.conf.d
24K  /etc/NetworkManager/system-connections
8.0K /etc/NetworkManager/VPN
8.0K /etc/NetworkManager/dispatcher.d
siliconx@Lenovo:~/code/linux/shell$ ./diskusage.sh -a /etc/
/etc/
4.0K /etc/avahi/services
4.0K /etc/avahi/hosts
4.0K /etc/avahi/avahi-autoipd.action
4.0K /etc/avahi/avahi-daemon.conf
20K  /etc/avahi
24K  /etc/mime.types
4.0K /etc/firefox/syspref.js
4.0K /etc/firefox/pref/apturl.js
8.0K /etc/firefox/pref
16K  /etc/firefox
siliconx@Lenovo:~/code/linux/shell$ |
```

```
siliconx@Lenovo: ~/code/linux/shell
siliconx@Lenovo: ~/code/linux/shell x siliconx@Lenovo: ~/code/linux/shell x
siliconx@Lenovo:~/code/linux/shell$ ./diskusage.sh -n 5 /etc/2 22:34:02.
/etc/
4.0K /etc/avahi/services
4.0K /etc/avahi/hosts
4.0K /etc/avahi/avahi-autoipd.action
4.0K /etc/avahi/avahi-daemon.conf
20K /etc/avahi
siliconx@Lenovo:~/code/linux/shell$ sudo su
root@Lenovo:/home/siliconx/code/linux/shell# ./diskusage.sh -n 2 /etc /var
/etc
4.0K /etc/avahi/services
20K /etc/avahi
/var
4.0K /var/mail
4.0K /var/spool/cron/crontabs
root@Lenovo:/home/siliconx/code/linux/shell# exit
exit
siliconx@Lenovo:~/code/linux/shell$ |
```

Network

- Browse Network
- Connect to Server