一、循环嵌套

P1 练习题集合

打印星星矩阵

```
[root@svr7 ~]# mkdir     /root/shell/day06
[root@svr7 ~]# cd /root/shell/day06
[root@svr7 day06]# vim star.sh     #输出一行 5 个星星
#!/bin/bash
for i in {1..5}
do
    echo -n "* "
done
[root@svr7 day06]# chmod +x star.sh
[root@svr7 day06]# ./star.sh

[root@svr7 day06]# vim star.sh     #打印星星矩阵
#!/bin/bash
for i in {1..5}
do
        for j in {1..5}
        do
          echo -n "* "
        done
        echo
done
```

排列与组合（打印 1-3 的所有排列组合方式）

```
[root@svr7 day06]# vim compose.sh
#!/bin/bash
for i in {1..3}
do
        for j in {1..3}
        do
                echo ${i}${j}
        done
done
[root@svr7 day06]# chmod +x compose.sh
[root@svr7 day06]# ./compose.sh
```

打印形状（打印正的阶梯色块）

```
[root@svr7 day06]# vim sharp.sh
#!/bin/bash
for((i=1;i<=6;i++))
do
```

```
                for((j=1;j<=i;j++))
                do
                        echo -ne "\033[42m   \033[0m"
                done
                echo
done
```
[root@svr7 day06]# chmod +x sharp.sh
[root@svr7 day06]# ./sharp.sh

打印倒着的阶梯色块
[root@svr7 day06]# vim sharp.sh
```
#!/bin/bash
for((i=1;i<=6;i++))
do
        for((j=6;j>=i;j--))
        do
                echo -ne "\033[42m   \033[0m"
        done
        echo
done
```
[root@svr7 day06]# ./sharp.sh
将前面两个打印出来的色块拼接
[root@svr7 day06]# vim sharp.sh
```
#!/bin/bash
for((i=1;i<=6;i++))
do
        for((j=1;j<=i;j++))
        do
                echo -ne "\033[42m   \033[0m"
        done
        echo
done

for((i=1;i<=5;i++))
do
        for((j=5;j>=i;j--))
        do
                echo -ne "\033[42m   \033[0m"
        done
        echo
done
```
[root@svr7 day06]# ./sharp.sh

二、带菜单的脚本

P1 应用案例

```
[root@svr7 day06]# vim menu.sh
#!/bin/bash
echo "1.查看剩余内存容量."
echo "2.查看根分区剩余容量."
echo "3.查看 CPU 十五分钟负载."
echo "4.查看系统进程数量."
echo "5.查看系统账户数量."
echo "6.退出."
while :
do
    read -p "请输入选项[1-6]:" key
    case $key in
1)
    free | awk '/Mem/{print $NF}' ;;
2)
    df | awk '/\/$/{print $4}' ;;
3)
    uptime | awk '{print $NF}' ;;
4)
    ps aux | wc -l ;;
5)
    sed -n '$=' /etc/passwd ;;
6)
    exit
esac
done
[root@svr7 day06]# chmod +x menu.sh
[root@svr7 day06]# ./menu.sh
```

三、备份数据

P1 备份案例

```
[root@svr7 day06]# vim bak_log.sh
#!/bin/bash
date=`date +%Y%m%d`
if [ ! -f /tmp/log-$date.tar.gz ];then
    tar -czf /tmp/log-$date.tar.gz   /var/log/
fi
```

```
[root@svr7 day06]# chmod +x bak_log.sh
[root@svr7 day06]# ./bak_log.sh
```

备份数据库，逻辑备份（没有数据库备份（mysqladmin）的命令）

```
[root@svr7 day06]# yum -y install mariadb mariadb-server
[root@svr7 day06]# systemctl restart mariadb
[root@svr7 day06]# vim mysqldump.sh
#!/bin/bash
date=$(date +%Y%m%d)
iuser=root
ipass=
db=mysql

if [ ! -f /tmp/$db-$date.sql ];then
    mysqldump -u$iuser --password="$ipass" $db > /tmp/$db-$date.sql
fi
[root@svr7 day06]# chmod +x mysqldump.sh
[root@svr7 day06]# ./mysqldump.sh
```

物理备份

```
[root@svr7 day06]# vim bak_mysql.sh
#!/bin/bash
date=$(date +%Y%m%d)
db_dir="/var/lib/mysql"
db=mysql

[ ! -d /tmp/$db ] && mkdir /tmp/$db

for i in $(ls $db_dir/$db)
do
    tar -czf /tmp/$db/$i-$date.tar.gz    $db_dir/$db/$i
done
[root@svr7 day06]# chmod   +x bak_mysql.sh
[root@svr7 day06]# ./bak_mysql.sh
```

差异备份（Inotify+sync）

```
[root@svr7 day06]# vim insync.sh
#!/bin/bash
FROM_DIR="/var/www/html/"
RSYNC_CMD="rsync   -az   --delete   $FROM_DIR   root@192.168.4.207:/var/www/html"
while   inotifywait   -rqq   -e   modify,move,create,delete,attrib   $FROM_DIR
do
    $RSYNC_CMD
done   &
[root@svr7 day06]# ./insync.sh
```