

Hệ điều hành mã nguồn mở

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awk

- 🍏 Bài tập 1
- 🍏 Bài tập 2
- 🍏 Bài tập 3
- 🍏 Bài tập 4



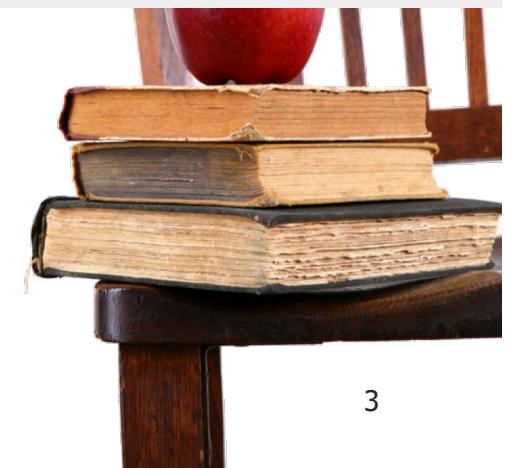
Bài tập 1

❶ Cách 1

```
$ cat bookdetails.txt
1 Linux-programming 2 450
2 Advanced-Linux 3 300
3 Computer-Networks 4 400
4 OOAD&UML 3 450
5 Java2 5 200
```

```
$ cat book-calculation.awk
BEGIN {
    total=0;
}
{
    itemno=$1;
    book=$2;
    bookamount=$3*$4;
    total=total+bookamount;
    print itemno, " ", book, "\t", "$"bookamount;
}
END {
    print "Total Amount = $"total;
}
```

```
$ awk -f book-calculation.awk bookdetails.txt
1 Linux-programming $900
2 Advanced-Linux $900
3 Computer-Networks $1600
4 OOAD&UML $1350
5 Java2 $1000
Total Amount = $5750
```



Bài tập 1

🍏 Cách 2

```
#!/bin/bash
total=0
while read line
do
    itemno=`echo $line | awk '{print $1}'`
    book=`echo $line | awk '{print $2}'`
    quatity=`echo $line | awk '{print $3}'`
    price=`echo $line | awk '{print $4}'`
    let bookamount=$quatity*$price
    let total=$total+$bookamount
    echo "$itemno $book $bookamount"
done <bookdetail.txt

echo "total: $total"
```



Bài tập 2

🍎 Cách 1

```
$ cat student-marks.txt
Jones 2143 78 84 77
Gondrol 2321 56 58 45
RinRao 2122 38 37 65
Edwin 2537 78 67 45
Dayan 2415 30 47 20
```

```
[root@localhost student]# awk -f student-mark.awk student-mark.txt
Name      RollNo   Average Score
Hang      0001     5.66667
Nga       0002     8.33333
Mai       0003     6.66667
Lan       0004     5.33333
Cuc       0005     7
Average of test1: 6.8
Average of test2: 6.4
Average of test3: 6.6
```

```
$cat student.awk
BEGIN {
    test1=0;
    test2=0;
    test3=0;
    print "Name\tRollNo\t Average Score";
}

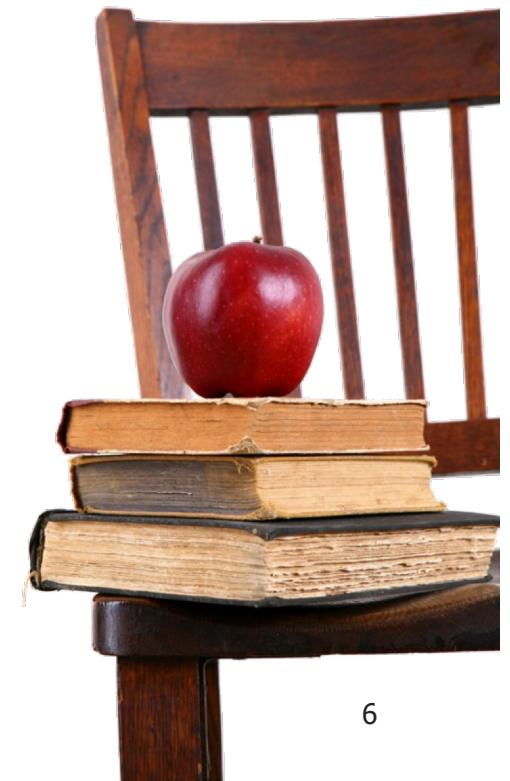
{
    total=$3+$4+$5;
    test1=test1+$3;
    test2=test2+$4;
    test3=test3+$5;
    print $1"\t"$2"\t",total/3;
}

END{
    print "Average of Test1="test1/NR;
    print "Average of Test2="test2/NR;
    print "Average of Test3="test3/NR;
}
```

Bài tập 2

🍏 Cách 2

```
#!/bin/bash
lineTotal=0
while read line
do
    name=`echo $line | awk '{print $1}'`
    rollno=`echo $line | awk '{print $2}'`
    test1=`echo $line | awk '{print $3}'`
    test2=`echo $line | awk '{print $4}'`
    test3=`echo $line | awk '{print $5}'`
    let total=$test1+$test2+$test3
    averageTotal=`expr $total/3 | bc -l`
    let lineTotal=$lineTotal+1
    let sumTest1=$sumTest1+test1
    let sumTest2=$sumTest2+test2
    let sumTest3=$sumTest3+test3
    echo "$name $rollno $averageTotal"
done <student-mark.txt
averageTest1=`expr $sumTest1/$lineTotal | bc -l`
averageTest2=`expr $sumTest2/$lineTotal | bc -l`
averageTest3=`expr $sumTest3/$lineTotal | bc -l`
echo "Average of test1: $averageTest1"
echo "Average of test2: $averageTest2"
echo "Average of test3: $averageTest3"
```

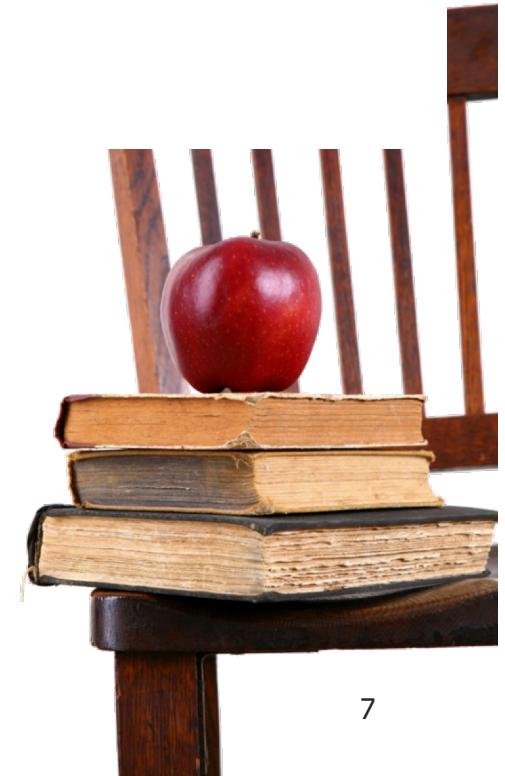


Bài tập 3

- 🍎 **Cách 1:** In tất cả các user trong file /etc/passwd ở dòng chẵn và có UID=GID

```
BEGIN {  
    FS=":";  
    print "Nhung user o hang chan va co UID=GID:"  
}  
{  
}  
if (NR%2 == 0 && $3==$4)  
    print $1"\t"$3"\t"$4;  
}  
END {  
}
```

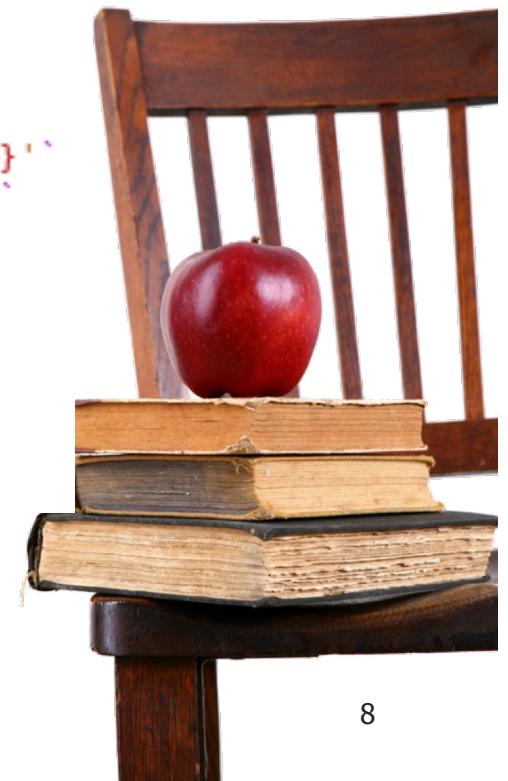
```
[root@localhost user]# awk -f user.awk /etc/passwd  
Nhung user o hang chan va co UID=GID:  
bin      1      1  
nobody   99     99  
dbus     81     81  
mailnull 47     47  
nscd     28     28  
haldaemon 68     68  
rpcuser   29     29  
sshd     74     74  
ntp      38     38  
apache   48     48  
sabayon  86     86  
test1    501    501
```



Bài tập 3

🍏 Cách 2:

```
#!/bin/bash
lineno=0
while read line
do
    let lineno=$lineno+1
    let check=$lineno%2
    if [ $check -eq 0 ]
    then
        username=`echo $line | awk 'BEGIN {FS=":"}{print $1}'`
        UserID=`echo $line | awk 'BEGIN {FS=":"}{print $3}'`
        GID=`echo $line | awk 'BEGIN {FS=":"}{print $4}'`
        if [ $UserID==$GID ]
        then
            echo "$username $UserID $GID"
        fi
    fi
done </etc/passwd
```



Bài tập 4: Kết hợp

```
[root@localhost dic]# cat dic.txt
father
cha
mother
me
brother
anh
sister
chi
daughter
con-gai
son
con-trai
```

```
[root@localhost dic]# cat dic.awk
BEGIN{
    ORS=""
}
{
    if(NR%2!=0)
        print $1"\n"
}
END{}
```

```
[root@localhost dic]# cat dic.sh
#!/bin/bash
echo "Chuong trinh tu dien: 1) Anh-Viet \n 2) Viet-Anh \n 3)Thoat"
read option
case $option in
    1) echo "In cac tu tieng anh"
       awk -f dic.awk dic.txt;;
    2) echo "In cac tu tieng viet";;
    3) exit 0;
esac
```

