

Chapter 5

Practices

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Practice 1

2

- Read following shell script and write output

```
$cat > mul.sh
result=1
args=$@
for arg in $args
do
    result=`expr $result \* $arg`
done

echo $result
```

```
$./ mul.sh 2 3
```

Output: 6

Function: Multiply the given numbers passed as command line arguments

Practice 2

3

- Finding Errors

- Correct a shell script which is used to generate the first 20 Fibonacci numbers

- ✦ 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144,

- ✦ $F_n = F_{n-1} + F_{n-2}$,

- with seed values

- $F_0 = 0$ and $F_1 = 1$.

Practice 2

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//Java program

```
public class prac_2{
public static void main(String[] args){
    int f0=0,f1=1;
    System.out.print(f0+" "+f1);
    int fn=0;
    int i=0;
    while( i < 20 ){
        fn=f0+f1;
        System.out.print(" "+fn);
        f0=f1;
        f1=fn;
        i++;
    }
    System.out.println();
}
}
```

**$F_n = F_{n-1} + F_{n-2}$,
with seed values
 $F_0 = 0$ and $F_1 = 1$.**

Practice 2

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`#!/bin/bash`

Remember to put ! after #

`f0= 0 # int f0=0`

Be careful about spaces

`f1= 1 # int f1=1`

`echo -n f0 f1 #System.out.print(f0+" "+f1);`

Change it to \$fo \$f1

`fn=0 # int fn=0`

`i=0 # int i=0`

`while [$i -less 18] # while(i<18)`

Change it to -le

`do`

`fn= `expr $f0 + $f1``

Be careful about spaces

`echo " " $fn # System.out.print(" "+fn);`

`f0=$f1 # f0=f1;`

`f1=$fn # f1=f0;`

`i=`expr i + 1` # i++;`

`done`

Change it \$i

Practice 2

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- Corrected version

```
#!/bin/bash
f0=0  # int f0=0
f1=1  # int f1=1
echo -n $f0 $f1 #System.out.print(f0+" "+f1);
fn=0  # int fn=0
i=0   # int i=0
while [ $i -lt 18 ]           # while(i<18)
do
    fn=`expr $f0 + $f1`      # fn=f0+f1;
    echo -n " " $fn          # System.out.print(" "+fn);
    f0=$f1                   # f0=f1;
    f1=$fn                   # f1=f0;
    i=`expr $i + 1`          # i++;
done
```

Practice 3

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- Write a menu
 - Press “1” - Display current working directory **pwd**
 - Press “2” - Show who is logged on **who**
 - Press “3” - Display disk space usage **df**
 - Press “4” - Display free memory **free**
 - Press “0” - exit program **exit**

Practice 3

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- While loop
 - Display menu
 - Read user's choice
 - Perform the task according to user's choice

Practice 3

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- While loop
 - choice=1
 - until [\$choice -eq 0]; do
 - #Display menu
 - #Read user's choice
 - #Perform a task according to user's choice
 - done

Practice 3

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- **Display menu**

```
echo "PROGEAM MENU"
```

```
echo "1 - Display current working directory"
```

```
echo "2 - Show who is logged on"
```

```
echo "3 - Display disk space usage"
```

```
echo "4 - Display free memory"
```

```
echo "0 - Quit"
```

```
echo
```

```
echo "Enter your choice:"
```

Practice 3

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- Read user's choice
read choice

Practice 3

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- Perform a task

```
case $choice in
```

```
    1) pwd ;;
```

```
    2) who ;;
```

```
    3) df ;;
```

```
    4) free ;;
```

```
    0) exit ;;
```

```
    *) echo "Error! Please enter 1,2,3,4, or 0"
```

```
esac
```

Practice 3

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```
$cat > menu.sh
#!/bin/bash
choice=1
until [ $choice -eq 0 ]; do
    echo "PROGEAM MENU"
    echo "1 - Display current
working directory"
    echo "2 - Show who is logged
on"
    echo "3 - Display disk space
usage"
    echo "4 - Display free memory"
    echo "0 - Quit"
    echo
    echo "Enter your choice:"
    read choice
```

```
echo
case $choice in
    1) pwd ;;
    2) who ;;
    3) df ;;
    4) free ;;
    0) exit ;;
    *) echo "Error! Please
enter 1,2,3,4, or 0"
esac
```

done

**I want “Press any key to continue.....”
Hot to implement this?**

Practice 3

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```
$cat > menu2.sh
#!/bin/bash
choice=1
until [ $choice -eq 0 ]; do
    echo "PROGEAM MENU"
    echo "1 - Display current
working directory"
    echo "2 - Show who is logged
on"
    echo "3 - Display disk space
usage"
    echo "4 - Display free memory"
    echo "0 - Quit"
    echo
    echo "Enter your choice:"
    read choice
    echo
```

```
case $choice in
    1 ) pwd ;;
    2 ) who ;;
    3 ) df ;;
    4 ) free
        echo "Press any key to
continue"
        read
        clear ;;
    0 ) exit ;;
    * ) echo "Error! Please
enter 1,2,3,4, or 0"
esac

done
```

Practice 3

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```
case $choice in
  1 ) pwd
    echo "Press any key to
continue"
    read
    clear ;;

  2 ) who
    echo "Press any key to
continue"
    read
    clear ;;

  3 ) df
    echo "Press any key to
continue"
```

```
read
clear ;;
4 ) free
  echo "Press any key to
continue"
  read
  clear ;;
0 ) exit ;;
* ) echo "Error! Please
enter 1,2,3,4, or 0"
esac
```



**Write a function
to simplify it?**

Practice 4

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- Read following shell script and write output or describe function

```
$cat    diskAlert.sh
Max=95
Email=$1
Use=`df -h | grep sda1 | awk ' {print $5} ' | cut -d'%' -
f1`
if [ $Use -gt $Max ]; then
echo "Percent used: $Use" | mail -s "Running out of disk
space" $Email
fi
```

`$/diskAlert.sh ylong4@gsu.edu`

Check Disk Space and Sends an Email Alert