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Operating System Concepts & Applications –ICT2213
Laboratory Assignment 5

Exercise 1
1)

```
ict_level2@ewis-EWISPro5700:~$ ./ex1.sh
Please enter your age: 24
That makes you over 8760 days old!
ict_level2@ewis-EWISPro5700:~$
```

Open

```
read -p "Please enter your age: " age
days=$[ $age * 365 ]
echo "That makes you over $days days old! "
```

Exercise 2
1)a)

```
ict_level2@ewis-EWISPro5700:~$ ./ex21a.sh
Have you ever visited Alabama?
Have you ever visited Alaska?
Have you ever visited Arizona?
Have you ever visited Arkansas?
Have you ever visited Colorado?
ict_level2@ewis-EWISPro5700:~$
```

ex21a.sh (~/) - gedit

Open

ex1.sh

```
list="Alabama Alaska Arizona Arkansas Colorado"
for state in $list
do
        echo "Have you ever visited $state?"
done
```

b)

```
ict_level2@ewis-EWISPro5700:~/pawan$ ./ex21b.sh
Visit beautiful Alabama
Visit beautiful Alaska
Visit beautiful Arizona
Visit beautiful Arkansas
Visit beautiful Colorado
Visit beautiful Connecticut
Visit beautiful Delaware
Visit beautiful Florida
Visit beautiful Georgia
ict_level2@ewis-EWISPro5700:~/pawan$
```

ex21b.sh (~/pawan) - gedit

Open

ex1.sh | ex21a.sh

```
file="states.txt"
#   can change the field separator using IFS=$'\n'
for state in $(cat $file)
do
        echo "Visit beautiful $state"
done
```

c)

```
ict_level2@ewis-EWISPro5700:~/pawan$ ./ex21c.sh
The next number is 1
The next number is 2
The next number is 3
The next number is 4
The next number is 5
The next number is 6
The next number is 7
The next number is 8
The next number is 9
The next number is 10
ict_level2@ewis-EWISPro5700:~/pawan$
```

ex21b.sh

```
for (( i=1; i <= 10; i++ ))
do
        echo "The next number is $i"
done
```

2)

```
ict_level2@ewis-EWISPro5700:~/pawan$ ./ex22.sh
100
75
50
25
ict_level2@ewis-EWISPro5700:~/pawan$
```

ex21b.sh

```
var1=100
until [ $var1 -eq 0 ]
do
        echo $var1
        var1=$[ $var1 -25 ]
done
```

3)

```
ict_level2@ewis-EWISPro5700:~/pawan$ ./ex23.sh
52
56
60
64
68
72
76
80
84
88
92
96
100
ict_level2@ewis-EWISPro5700:~/pawan$
```

ex24.sh

```
var1=50
while [ $var1 -le 100 ]
do
        if [ $[ $var1 % 4 ] -eq 0 ]
        then
                echo $var1
        fi
        var1=$[ $var1 + 1 ]
done
```

4)

```
ict_level2@ewis-EWISPro5700:~/pawan$ ./ex24.sh
The command is finished.
ict_level2@ewis-EWISPro5700:~/pawan$
```

ex24.sh

```
Outer loop: 3
 Inner loop: 3 / 1 = 3.0000
 Inner loop: 3 / 2 = 1.5000
 Inner loop: 3 / 3 = 1.0000
 Inner loop: 3 / 4 = .7500
Outer loop: 2
 Inner loop: 2 / 1 = 2.0000
 Inner loop: 2 / 2 = 1.0000
 Inner loop: 2 / 3 = .6666
 Inner loop: 2 / 4 = .5000
Outer loop: 1
 Inner loop: 1 / 1 = 1.0000
 Inner loop: 1 / 2 = .5000
 Inner loop: 1 / 3 = .3333
 Inner loop: 1 / 4 = .2500
```

5)

```
ict_level2@ewis-EWISPro5700:~/pawan$ ./ex25.sh
Outer loop: 3
Inner loop: 3 / 1 = 3.0000
Inner loop: 3 / 2 = 1.5000
Inner loop: 3 / 3 = 1.0000
Inner loop: 3 / 4 = .7500
Outer loop: 2
Inner loop: 2 / 1 = 2.0000
Inner loop: 2 / 2 = 1.0000
Inner loop: 2 / 3 = .6666
Inner loop: 2 / 4 = .5000
Outer loop: 1
Inner loop: 1 / 1 = 1.0000
Inner loop: 1 / 2 = .5000
Inner loop: 1 / 3 = .3333
Inner loop: 1 / 4 = .2500
ict_level2@ewis-EWISPro5700:~/pawan$
```

Open

ex24.sh × ex23.sh ×

```
while read line
 do
echo "$line"
done <test.txt
```

6)

```
ict_level2@ewis-EWISPro5700:~/pawan$ ./ex26.sh
Outer loop: 1
 Inner loop: 1
 Inner loop: 2
 Inner loop: 3
 Inner loop: 4
Outer loop: 2
 Inner loop: 1
 Inner loop: 2
 Inner loop: 3
 Inner loop: 4
Outer loop: 3
 Inner loop: 1
 Inner loop: 2
 Inner loop: 3
 Inner loop: 4
ict_level2@ewis-EWISPro5700:~/pawan$
```

Open

exe5a.sh ×

```
for (( a = 1; a < 4; a++ ))
do
        echo "Outer loop: $a"
        for (( b = 1; b < 100; b++ ))
        do
                if [ $b -gt 4 ]
                then
                        break
                fi
                echo " Inner loop: $b"
        done
done
```

Exercise 3

1)

```
ict_level2@ewis-EWISPro5700:~/pawan$ ./ex3.sh 1 2 3 4 5 6 7 8 9 10 11 12
./ex3.sh is script name
1 is first argument
The ninth argumentis 9
The tenth argumentis 10
The eleventh argumentis 11
Total number of command line argument are 12
All arguments are 1 2 3 4 5 6 7 8 9 10 11 12
All arguments are 1 2 3 4 5 6 7 8 9 10 11 12
The total is 110
ict_level2@ewis-EWISPro5700:~/pawan$
```

Open

exe5a.sh × ex25.sh × ex26.sh

```
echo "$0 is script name"
echo "$1 is first argument"
echo "The ninth argumentis $9"
echo "The tenth argumentis ${10}"
echo "The eleventh argumentis ${11}"
echo "Total number of command line argument are $#"
echo "All arguments are $*"
echo "All arguments are $@"
total=$[ ${10} * ${11} ]
echo The total is $total
```

Exercise 4

1)

```
ict_level2@ewis-EWISPro5700:~/pawan$ ./ex41.sh
This line comes before the function definition
This is an example of a function
This is an example of a function
This is an example of a function
This is an example of a function
This is an example of a function
This is the end of the loop
This is an example of a function
Now this is the end of the script
ict_level2@ewis-EWISPro5700:~/pawan$
```

exe5a.sh × ex25.sh × ex26.sh

```
count=1
echo "This line comes before the function definition"
function func1 {
        echo "This is an example of a function"
}

while [ $count -le 5 ]
do
        func1
        count=$[ $count + 1 ]
done

echo "This is the end of the loop"

function func2 {
        echo "This is an example of a function"
}
func2
echo "Now this is the end of the script"
```

2)