# Shell Script

## Conditional Statements

1.if statement

2.if-else statement

3.switch statement

### 1.if statement

This block will process if specified condition is true.

*Syntax:*

```
if [ expression ]
then
       statement
fi
```

### Example

```
#Initializing two variables
a=10
b=20

#Check whether they are equal
if [ $a == $b ]
then
       echo "a is equal to b"
fi

#Check whether they are not equal
```

```
if [ $a != $b ]
then
       echo "a is not equal to b"
fi
```

## 2.if-else statement

If specified condition is not true in if part then else part will be execute.

*Syntax:*

```
if [ expression ]
 then
       statement1
else
       statement2
fi
```

## Example

```
#Initializing two variables
a=20
b=20

if [ $a == $b ]
then
       #If they are equal then print this
       echo "a is equal to b"
else
       #else print this
       echo "a is not equal to b"
fi
```

## 3.switch statement

Syntax:

```
case in
```

```
       Pattern 1) Statement 1;;
       Pattern n) Statement n;;
esac
```

### Example

```
CARS="bmw"

#Pass the variable in string
case "$CARS" in
       #case 1
       "mercedes") echo "Headquarters - Affalterbach, Germany" ;;

       #case 2
       "audi") echo "Headquarters - Ingolstadt, Germany" ;;

       #case 3
       "bmw") echo "Headquarters - Chennai, Tamil Nadu, India" ;;
esac
```

# Looping Statements

1. for statement
2. while statement

### 1.for statement

### ***Syntax***:

```
for var in word1 word2 ...wordn
do
       Statement to be executed
done
```

### Example:

```
#Start of for loop
```

```
for a in 1 2 3 4 5 6 7 8 9 10
do
	# if a is equal to 5 break the loop
	if [ $a == 5 ]
	then
		break
	fi
	# Print the value
	echo "Iteration no $a"
done
```

## 2.while statement

Here command is evaluated and based on the result loop will executed, if command raise to false then loop will be terminated

### *Syntax*

```
while command
do
	Statement to be executed
done
```

### Example:

```
a=0
# -lt is less than operator

#Iterate the loop until a less than 10
while [ $a -lt 10 ]
do
	# Print the values
	echo $a

	# increment the value
	a=`expr $a + 1`
done
```

# Function Statements

### syntax:

```
function_name  () {
       list of commands
}
```

### Example:

```
#!/bin/sh

# Define your function here
Hello () {
  echo "Hello World"
}

# Invoke your function
Hello
```

# Problem set

1. Password check with  if-else statement

```
#!/bin/bash
read -p "Enter a password" pass
if test "$pass" = "jerry"
then
     echo "Password verified."
else
     echo "Access denied."
fi
```

2.positive/ negative number check with if-else statement

```
#!/bin/bash
read -p "Enter number : " n
if test $n -ge 0
then
        echo "$n is positive number."
else
```

```
        echo "$n number is negative number."
fi
```

## 3.pattern check with if statement

```
echo 'Hello'
if [[ $1 == 'awesome' ]];
 then
  echo 'You are awesome'
fi
echo 'Bye'

#N.B- please save this file as file1.sh
#and run as: ./file1.sh awesome
```

## 4.pattern check with if-else statement

```
echo 'Hello'
if [[ $1 == 'awesome' ]];
 then
  echo 'You are awesome'
else
  echo 'You are...OK'
fi
echo 'Bye'

#N.B- please save this file as file1.sh
#and run as: ./file1.sh awesome
```

## 5.It will ask you to enter Linux distro name and tell you either it is based on Debian or not(switch case problem)

```
#!/bin/bash

echo -n "Enter the Linux distro name: "
read DISTRO

case $DISTRO in

  Ubuntu)
    echo -n "Yes, it is based on Debian."
    ;;

  "Linux Mint" | "Elementory OS")
    echo -n "Yes, it is based on Debian."
    ;;

  CentOS | Fedora | RHEL)
    echo -n "No, its not based on Debian"
    ;;

  *)
    echo -n "Can find distro information"
```

```
    ;;
esac
```

## 6. simple for loop problem

```
for i in {1..3}
do
   echo "Welcome $i times"
done
```

## 7. while loop practice

```
#!/bin/sh
while :
do
  echo "Please type something in (^C to quit)"
  read INPUT_STRING
  echo "You typed: $INPUT_STRING"
done
```

## 8. week show by for loop

```
#!/bin/bash
  for day in Sunday Saturday Monday Tuesday Wednesday Thursday Friday
  do
     echo "Welcome $day day"
  done
```

## 9. Reading odd and even number

```
for (( n=1; n<=15; n++ ))
do
  if (( $n%2==0 ))
  then
    echo "$n is even"
  else
    echo "$n is odd"
  fi
done
```

## 10. function problem

```
#! /bin/bash
 myfunction()
 {
 echo “First argument is as $1”
 echo “Second argument is as $2”
 }
 myfunction “Hello” “World”
 echo $1
 echo $2
```

Rahaman, Md.Nayemur
Teaching Assistant
Operating System[I]