If Statements

A simple **if statement** essentially states, if a particular test is true, then perform a specified set of actions. If it's not true, don't take those acts.

```
if [ <some test> ]
then
  <commands>
fi
```

```
#!/bin/bash
read -p "Input a number" number

if [ $number -gt 50 ]
then
 echo "The number is big."
fi
```

Output:

```
$./if-statement.sh
Input a number: 55
The number is big.
```

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Relational Operators

Operator	Description
-eq	equal
-ne	-ne
-gt	greater than
-lt	less than
-ge	greater than or equal
-le	less than or equal

```
#!/bin/bash
read -p "Input a number" number

if [ $number -gt 50 ]
then
 echo "The number is big."
fi
```

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String Operators

Operator	Description
=	equal
!=	not equal
-z	Empty string
-n	Not empty string

```
#!/bin/bash

if [ "a" = "a" ]
then
 echo "They are same"
fi

if [ "a" != "b" ]
then
 echo "They are not same"
fi

if [ -z "" ]
then
 echo "It is empty"
fi

if [ -n "text" ]
then
 echo "It is not empty"
fi
```

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File Test Operators

Operator	Description
-d file	directory
-e file	exists
-f file	ordinary file
-r file	readable
-s file	size is > 0 bytes
-w file	writable
-x FILE	executable

```
#!/bin/bash

if [ -d folder ]
then
 echo "folder is a directory"
fi

if [ -f file ]
then
 echo "file is an ordinary file"
fi

if [ -w file ]
then
 echo "file is a writable file"
fi

if [ -s file ]
then
 echo "file is > 0 bytes"
fi
```

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If Else Statements

If Else Statements execute a block of code if a statement is true, or another block of code if it is false.

```
if [ <some test> ]
then
  <commands>
else
  <other commands>
fi
```

```
#!/bin/bash
read -p "Input a number: " number

if [ $number -ge 10 ]
then
 echo "The number is bigger than or
equal to 10."
else
 echo "The number is smaller than
10"
fi
```

Output:

```
$./ifelse-statement.sh
Input a number: 27
The number is bigger than or
equal to 10.
$
$./ifelse-statement.sh
Input a number: 5
The number is smaller than 10
```

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If Elif Else Statements

```
if [ <some test> ]
then
  <commands>
elif [ <some test> ]
then
  <different commands>
else
  <other commands>
fi
```

```
#!/bin/bash
read -p "Input a number: " number

if [ $number -eq 10 ]
then
 echo "The number is equal to
10."
elif [ $number -gt 10 ]
then
 echo "The number is bigger than
10"
else
 echo "The number is smaller than
10"
fi
```

Output:

```
$./elif-statement.sh
Input a number: 15
The number is bigger than 10
$
$./elif-statement.sh
Input a number: 5
The number is smaller than
10
$
$./elif-statement.sh
Input a number: 10
The number is equal to 10
```

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Nested If Statements

```
#!/bin/bash

read -p "Input a number: " number

if [ $number -gt 10 ]
then
 echo "Number is bigger than 10"

 if (( $number % 2 == 1 ))
 then
   echo "And is an odd number."
 else
   echo "And is an even number"
 fi
else
 echo "It is not bigger than 10"
fi
```

Output:

```
$./nested-if-statement.sh
Input a number: 40
Number is bigger than 10
And is an even number
$
$./nested-if-statement.sh
Input a number: 27
Number is bigger than 10
And is an odd number.
$
$./nested-if-statement.sh
Input a number: 5
It is not bigger than 10
```

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Exercise 1

1. Ask user to enter his/her **name**.
2. Ask user to enter his/her **age**.
3. Ask user **average life expectancy (ale)**.
4. Print user name with one of these messages regarding his/her **age**:
   a. age<18 :
      "Student"
      "At least **X** years to become a worker." # (X = 18 - age)
   b. 18<=age<65 :
      "Worker"
      "X years to retire." # (X = 65 - age)
   c. age>=65 :
      if age less than **ale**:
         "Retired"
         "X years to die." # (X = ale - age)
      else:
         # beep sound # echo -ne '\007'
         "!!! Already died !!!"
         # wait 1 sec.
         "!!! Already died !!!"
         # wait 2 secs.
         "!!! Already died !!!"

Students, write your response!

Pear Deck Interactive Slide
Do not remove this bar

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