DAY-07

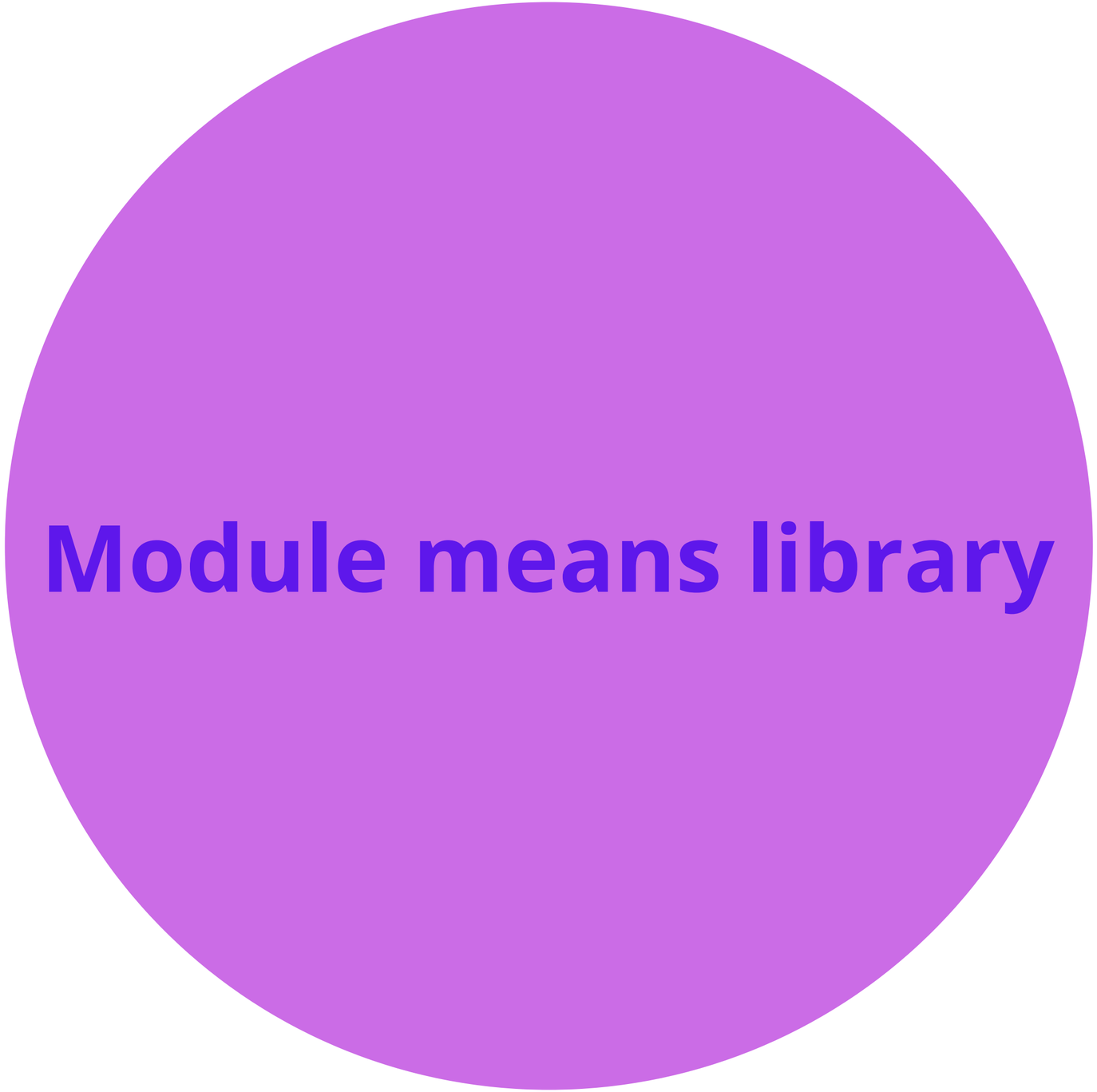
Python Turtle Intro

Let's create a few simple shapes and figures

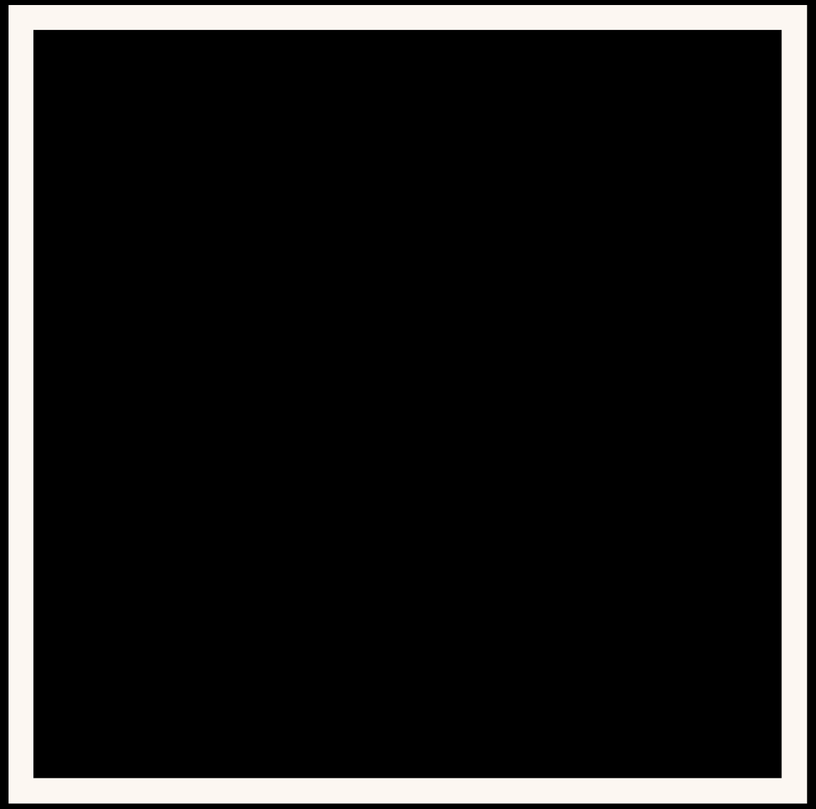
What is 'turtle' in python?

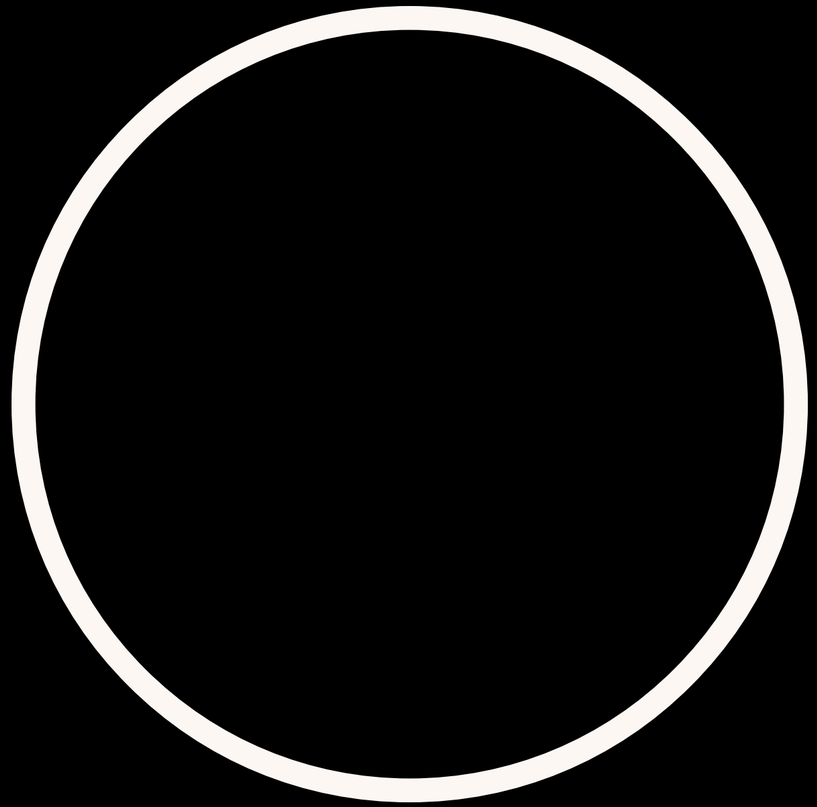
Module

What is module?


Module means library

A collection of prewritten classes and objects to help programmers in development without the need to write everything from scratch





akashmaji946 / Day 04

Run ▶

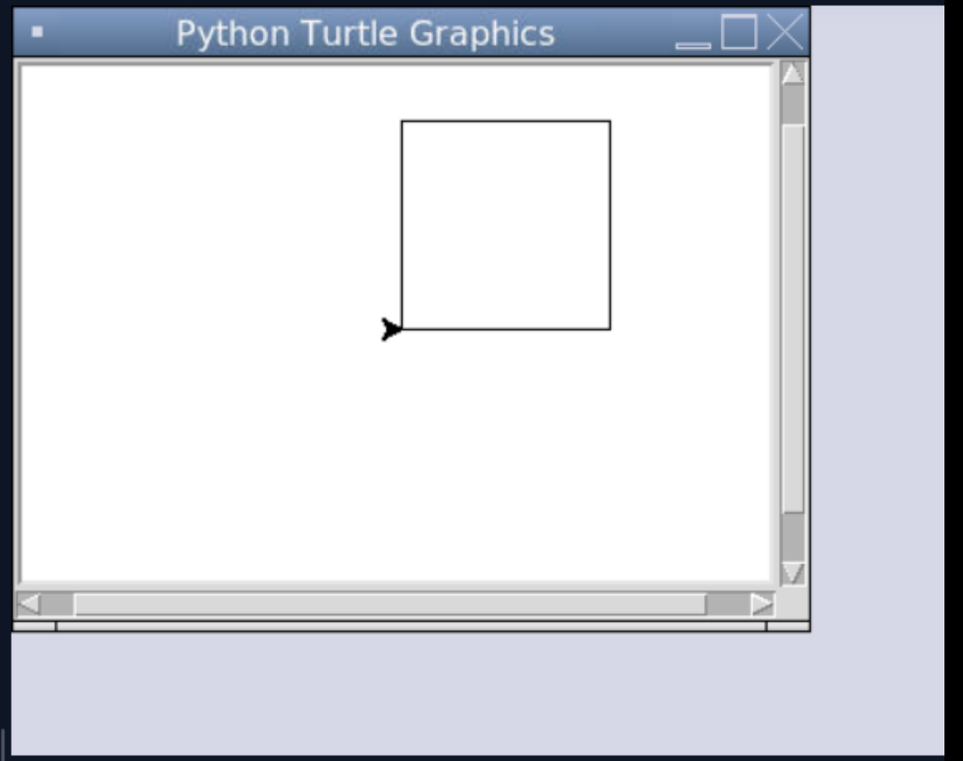
Files

main.py

example.draw

main.py

```python

# draw square in Python Turtle
import turtle

t = turtle.Turtle()

s = 100

# drawing first side
t.forward(s) # Forward turtle by s units
t.left(90) # Turn turtle by 90 degree

# drawing second side
t.forward(s) # Forward turtle by s units
t.left(90) # Turn turtle by 90 degree

# drawing third side
t.forward(s) # Forward turtle by s units
t.left(90) # Turn turtle by 90 degree

# drawing fourth side
t.forward(s) # Forward turtle by s units
t.left(90) # Turn turtle by 90 degree

```



Console Shell

Conditional Statements

Helps you to make decisions and change the flow of the program

What are Conditional Statements in Python?

Conditional Statement in Python perform different computations or actions depending on whether a specific Boolean constraint evaluates to true or false.

if <condition>:

IF AGE >= 18 THEN VOTE

else:

IF AGE >= 18 THEN VOTE
ELSE GO HOME

What are Conditional Statements in Python?

Conditional Statement in Python perform different computations or actions depending on whether a specific Boolean constraint evaluates to true or false.

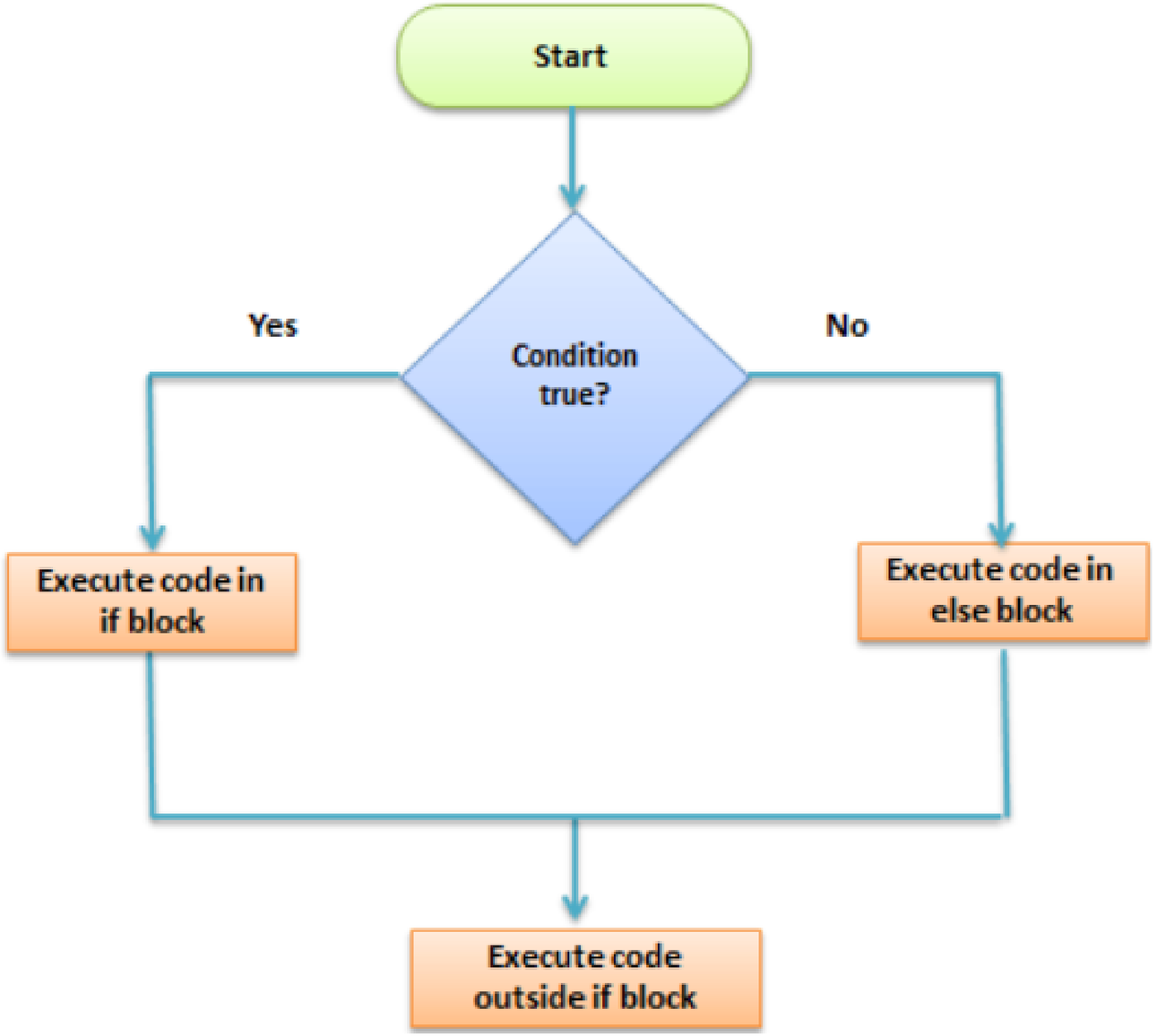
Conditional statements are handled by IF statements in Python.

When you want to justify one condition while the other condition is not true, then you use Python if else statement.

Python if Statement Syntax:

```
if expression:
    Statement 1
else:
    Statement 2
```

Python if...else Flowchart



GUESS

output

IF ELSE EXERCISE

```
x,y = 13, 18

if(x < y):
    st= "x is less than y"
else:
    st= "x is greater than y"

print(st)
```

```
x,y =8,8

if(x < y):
    st= "x is less than y"
else:
    st= "x is greater than y"

print(st)
```

DID YOU FIND ANY ERROR ?

```
x,y =8, 8

if(x < y):
    st= "x is less than y"
else:
    st= "x is greater than y"

print(st)
```

Output:

x is greater than y (This is not true)

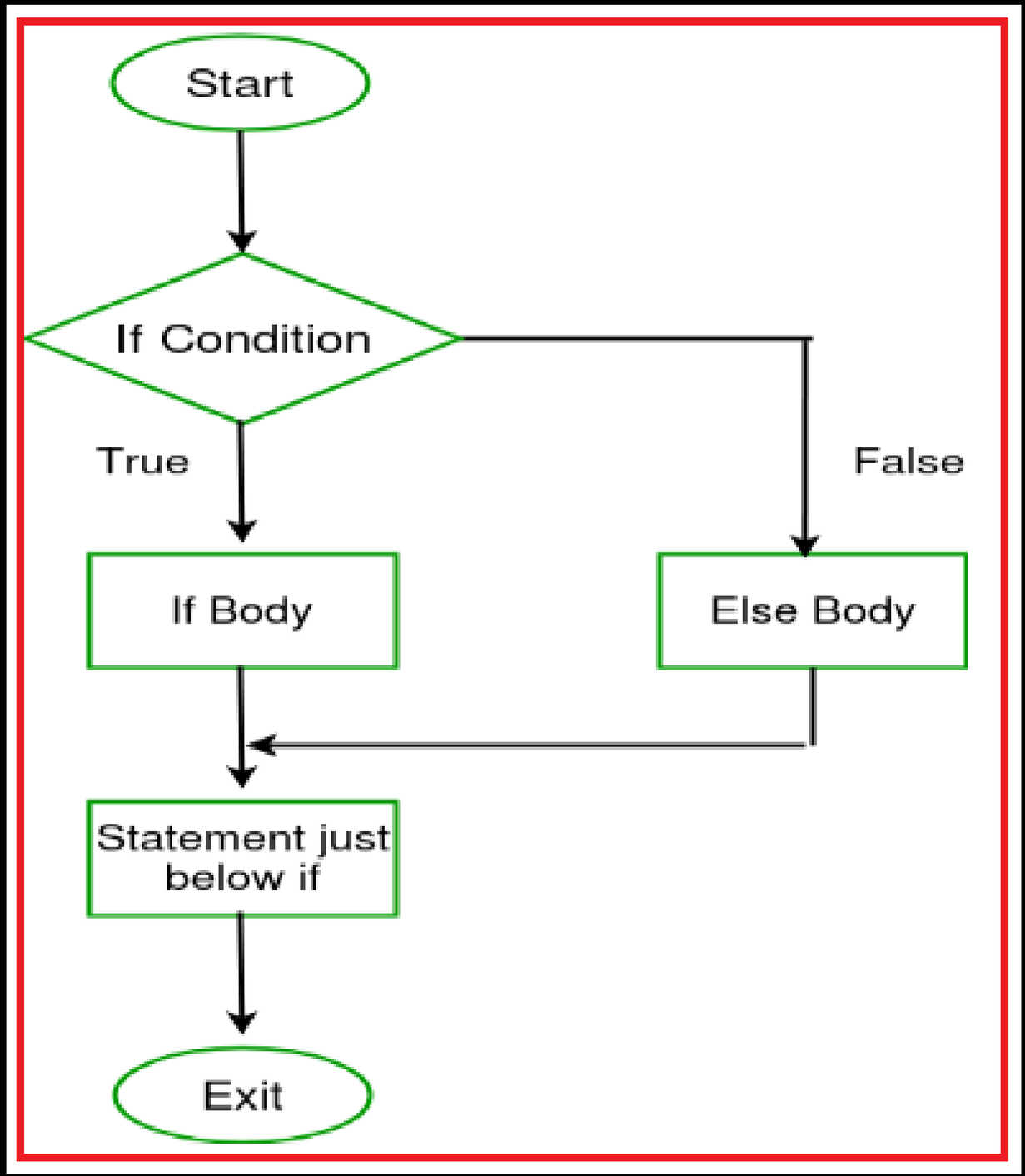
elif

gives more options to choose from

elif <conition>:

IF AGE >= 65 THEN "RETIRE"
ELIF AGE >= 22 THEN "WORK & EARN"
ELSE "GET A JOB"

```
x,y =8,8

if(x < y):
    st= "x is less than y"

elif (x == y):
    st= "x is same as y"

else:
    st="x is greater than y"

print(st)
```



KEYWORDS
RESERVED WORDS

KEYWORDS

```
help> keywords

Here is a list of the Python keywords.  Enter any keyword to get more help.

False               def                 if                  raise
None                del                 import              return
True                elif                in                  try
and                 else                is                  while
as                  except              lambda              with
assert              finally             nonlocal            yield
break               for                 not
class               from                or
continue            global              pass

help>
```

Python Keywords

Keywords are the reserved words in Python.

Python Keywords

Keywords are the reserved words in Python.

We cannot use a keyword as a variable name, function name or any other identifier. They are used to define the syntax and structure of the Python language.

```
>>> import keyword
>>> print(keyword.kwlist)
['False', 'None', 'True', 'and', 'as', 'assert', 'async', 'await', 'break', 'class', 'contir
```

None

ABSENSE OF VALUE

None

None is a special constant in Python that represents the absence of a value or a null value.

It is an object of its own datatype, the NoneType. We cannot create multiple None objects but can assign it to variables. These variables will be equal to one another.

We must take special care that None does not imply False, 0 or any empty list, dictionary,

Exercises

Program #1

Program #2

FACTORS OF A NUMBER

Program #3

PRIME NUMBER

Program #4

Program #5

TABLE OF ANY NUMBER

Lets discuss about

MATH

important module

1. math.pow()
2. math.sqrt()
3. math.prod()
4. math.log2()
5. math.gcd()

Constant	Description
math.e	Returns Euler's number (2.7182...)
math.inf	Returns a floating-point positive infinity
math.nan	Returns a floating-point NaN (Not a Number) value
math.pi	Returns PI (3.1415...)
math.tau	Returns tau (6.2831...)

some constants