Python School WB4
The IF Statement

NAME:

The IF algorithm

```
1    if <expression>:
2        #write statement here
3    else:
4        #write statement here
```

IF Examples In Python

```
1    mark = int(input("What is your mark: "))
2    if mark >= 50:
3        print("Pass")
4    else:
5        print("Fail")
```

```
1    age = int(input("Enter your age: "))
2    if age >= 13:
3        print("You are old enough to have a paper round")
4    else:
5        print("You are too young to have a paper round")
```

Main Exercises

Task 1

Write a function that asks the user how old they are. Tell them if they are old enough to vote. Then extend the program tell them how many years it is until they can retire (assume at age 65).

Box to stick your code

```
def voteAgeChecker():
    voteAge = int(input("Please enter your age: "))
    if voteAge >= 18:
        print("You are old enough to vote")
    else:
        print("You are too young to vote")

def retireAgeChecker():
    age = int(input("Please enter your age: "))
    if age >= 65:
        print("You are old enough to retire")
    else:
        print("You aren't old enough to retire yet")

def main():
    print("This program will check if you're able to vote or retire")
    answer = input("Type in v to check your age for voting or type in r to check
    if answer == "v":
        voteAgeChecker()
    if answer == "r":
        retireAgeChecker()

main()
replayAnswer = input(" Do you want to ask again? Type y or n")
if replayAnswer == "y":
    main()
else:
    quit()
```

```
This program will check if you're able to vote or retire
Type in v to check your age for voting or type in r to check if you can retirev
Please enter your age: 15
You are too young to vote
 Do you want to ask again? Type y or ny
This program will check if you're able to vote or retire
Type in v to check your age for voting or type in r to check if you can retirev
Please enter your age: 26
You are old enough to vote
>>>
 RESTART: //cur-fsm/2014$/UserData/14LallyM/Year 10/Computing/Classroom Work/Pyt
hon/Python Workbook 4/Task1AgeChecker.py
This program will check if you're able to vote or retire
Type in v to check your age for voting or type in r to check if you can retirer
Please enter your age: 68
You are old enough to retire
 Do you want to ask again? Type y or ny
This program will check if you're able to vote or retire
Type in v to check your age for voting or type in r to check if you can retirer
Please enter your age: 63
You aren't old enough to retire yet
>>>
```

Task 2

Write a function named greaterNum that:
- takes 2 arguments, both numbers.
- returns whichever number is the greater (higher) number.

Call that function 2 times with different number pairs, and log the output to make sure it works (e.g. "The greater number of 5 and 10 is 10.").

Box to stick your code

```
greaterNum()
  File "//cur-fsm/2014$/UserData/14LallyM/Year
n/Python Workbook 4/Task2HigherNumber.py", lin
    replay()
NameError: name 'replay' is not defined
>>>
  RESTART: //cur-fsm/2014$/UserData/14LallyM/Ye
hon/Python Workbook 4/Task2HigherNumber.py
Please enter your first number5
Please enter your second number7
The greater number of 5 and 7 is 7
Do you want to play again? y or ny
Please enter your first number7
Please enter your second number2
The greater number of 7 and 2 is 7
Do you want to play again? y or nn
```

Kill?

Your program is still running!
Do you want to kill it?

OK   Cancel

```python
def replay():
    answer = input("Do you want to play again? y or n")
    if answer == "y":
        greaterNum()
    if answer == "n":
        quit()

def greaterNum():
    number1 = int(input("Please enter your first number"))
    number2 = int(input("Please enter your second number"))
    if number1 > number2:
        print("The greater number of", number1, "and", number2,"is", number1)
    if number2 > number1:
        print("The greater number of", number1, "and", number2, "is", number2)
    replay()

greaterNum()
```

Extension Exercises

Extension Task 1

Write a function named helloWorld that:

- takes 1 argument, a language code (e.g. "es", "de", "en")
- returns "Hello, World" for the given language, for at least 3 languages. It should default to returning English.

Box to stick your code

```
hon/Python Workbook 4/ExtensionTask1.py
Do you want English, French or German? Type in en, fr or deen
Hello world
Do you want to try again?y or ny
Do you want English, French or German? Type in en, fr or defr
Bonjour le monde
Do you want to try again?y or ny
Do you want English, French or German? Type in en, fr or dede
Hallo die Welt
>>> |
```

```python
def diffLanguages():
    language = input("Do you want English, French or German? Type in en, fr or de")
    if language == "en":
        print("Hello world")
    if language == "fr":
        print("Bonjour le monde")
    if language == "de":
        print("Hallo die Welt")
    else:
        answer = input("Do you want to try again?y or n")
        if answer == "y":
            diffLanguages()
        else:
            quit()

diffLanguages()
```

Examples

Simple IF Statements: https://repl.it/Dj14/3

IF Statement Video: https://vimeo.com/70725866