Cmpe 150 Lab 4: If-Else

Last Week

- We learned about for loops, yet our code always starts from the beginning and executes each instruction in all cases.

- Our focus for today: Run some parts of our code only if some conditions that we define are satisfied.

If Statement

- The syntax for if (Again be careful with indentation)
- if <logical expression>:

    code line 1

    code line 2

    code line 3

Condition is True

```
number = 10
if number > 0:
    # code

# code after if
```

Condition is False

```
number = -5
if number > 0:
    # code

# code after if
```

Remember:
Very Commonly Used Logical Operators

- == (Is equal)
- != (Is not equal)
- > (Is greater than)
- >= (Is greater than or equal)
- < (Is less than)
- <= (Is less than or equal)
- Also we can connect them using “and”, “or”, “not”
- For instance, number plate (plaka)
    - (number_plate < 82) and (number_plate > 0) and (not number_plate ==34)

Example

- number = int(input())
- if number < 0:

    print('You entered a negative number, be careful')

If-Else Statement

- if <logical expression>:

    code line 1

    code line 2

  else:

    code line 3

    code line 4

Condition is True

```
number = 10
if number > 0:
    # code

else:
    # code

# code after if
```

Condition is False

```
number = -5
if number > 0:
    # code

else:
    # code

# code after if
```

Example

- number = int(input())
- if number % 2 == 1:

    print('You entered an odd number')

  else:

    print('You entered an even number')

Else If-> Elif Statement

- if <logical expression>:

    code line 1

  elif <logical expression>:

    code line 2

  else:

    code line 3

Example: We can use multiple Elif’s

- time_as_hour = int(input())
- if time_as_hour < 11:

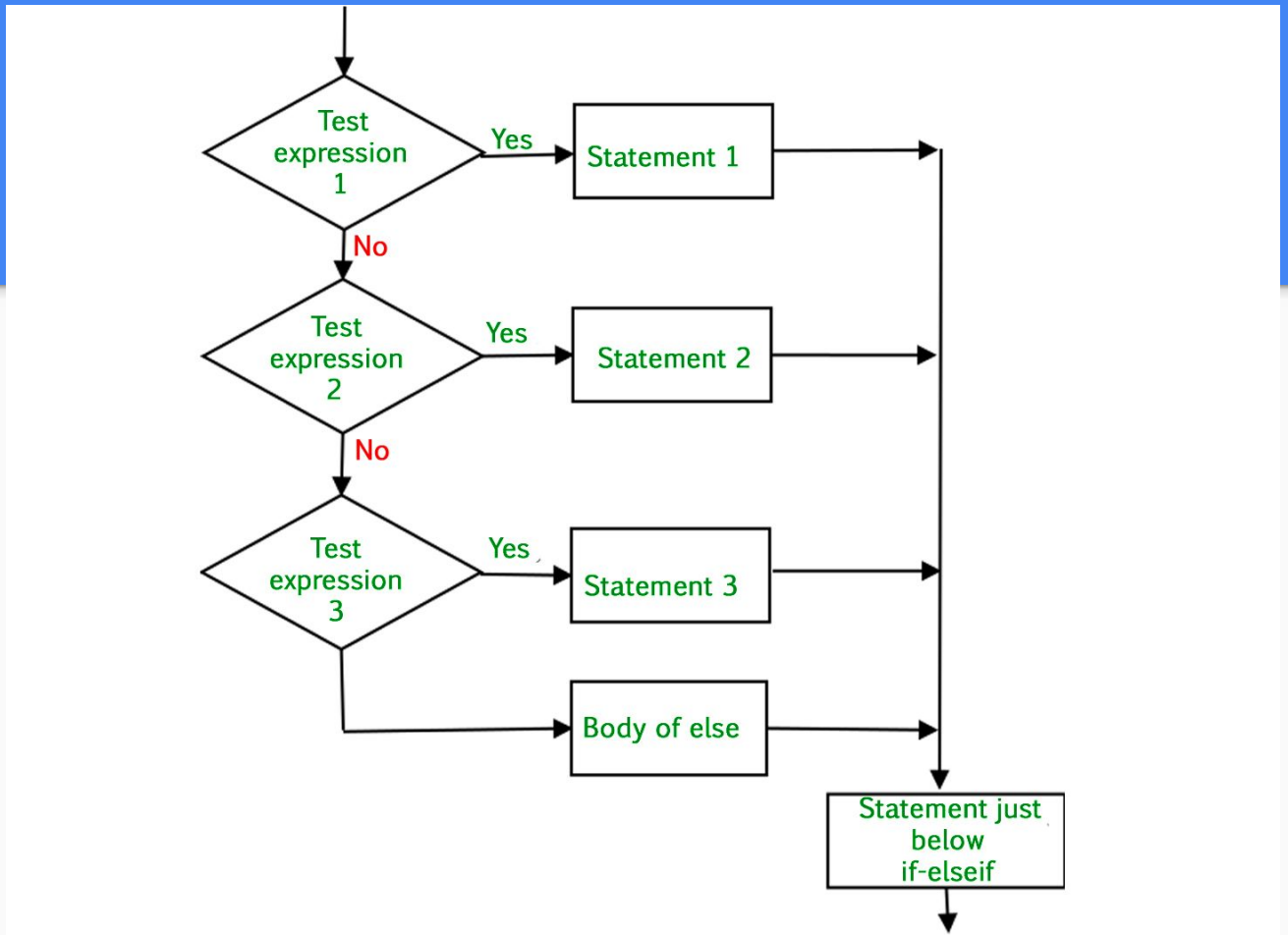
        print('Good morning')

  elif time_as_hour < 17:

        print('Good afternoon)

  elif time_as_hour < 24:

        print('Good evening)


Test expression 1
Yes
Statement 1
No
Test expression 2
Yes
Statement 2
No
Test expression 3
Yes
Statement 3
Body of else
Statement just below if-elseif

Nested If Statements

- It is also possible to use if-elif-else inside another if-elif-else just like nested for loops.
- if a > b:

```
    if a > c:
        print(a)
    else:
        print(c)
```

Thanks

Any questions?

References

1. https://www.programiz.com/python-programming/if-elif-else#google_vignette
2. https://www.geeksforgeeks.org/python-if-else/