Week1_Code_[Preforming Opperations]

October 8, 2018

0.1 Preforming Opperations

In [10]:
```
"""
We Can do arethmatic Opperations in python!
    +---+------------+
    | + | Adds       |
    +---+------------+
    | - | Subtracts  |
    +---+------------+
    | * | Multiply   |
    +---+------------+
    | / | Devides    |
    +---+------------+
"""

pluss = "{} pluss {} equals {}" # The string we want to use for summing number
devide = "{} devided by {} equals {}" # The string we want to use if we are deviding
multiply = "{} times {} equals {}" # The string we want to use when do multiplication
minus = "{} minus {} equals {}" # The string we want to use if we subtract


"""First we do 1+1"""
print(pluss.format(1,1, 1+1)) #format allows us to replace {} with a value

"""Then we do 2-1"""
print(minus.format(2,1, 2-1)) #format allows us to replace {} with a value

"""After we do 10/2"""
print(devide.format(10,2, 10/2))#format allows us to replace {} with a value

"""Lastly 5*2"""
print(multiply.format(5,2, 5*2))#format allows us to replace {} with a value
```

```
1 pluss 1 equals 2
2 minus 1 equals 1
10 devided by 2 equals 5.0
5 times 2 equals 10
```

0.1.1 Formula for the circumference of a ball:

$c = 2\pi * r$

In [13]:
```
"""
Lets Calculate the sercomference of a circle, the diameter is 12 cm!

.. warning:: The diameter needs to be devided by 2 to get the radian.
"""
d = 12 # The diameter
r = d/2 # The radian

pi = 3.14 # PI

c = (2*pi)*r #The formula as python code

print("Circumference is {} when the diameter is {}".format(c,d))
```

```
Circumference is 37.68 when the diameter is 12
```

In [31]:
```
"""
Modulo is the remenider after we devide.
It can be visualized as a clock based rotation.
There is 12 houers in a clock rotation.
15 % 12 therfore becomes 3.
15/12 becomes 1 with 3 as a remeinder.
"""

print(15 % 12) # is 3

print("-"*100)#------------------------------

"""
We can use this to make rotational programming.
This simple reminder App, uses %12 to simulate an analog clock.
"""

r = 1

for i in range(24):
    i = i+1

    print("Its {}".format(i % 12))
    if i % 12 == 7:
        if r == 1:
            print("Its time to wake up!")

    if i % 12 == 4:
```

```
                if r == 2:
                    print("Its Dinner time!")

            if i % 12 == 11:
                if r == 2:
                    print("Its time to go to Bed!")

            if i % 12 == 0:
                if r == 1:
                    r += 1
                else:
                    r=1
```

```
3
--------------------------------------------------------------------------------------------------------
Its 1
Its 2
Its 3
Its 4
Its 5
Its 6
Its 7
Its time to wake up!
Its 8
Its 9
Its 10
Its 11
Its 0
Its 1
Its 2
Its 3
Its 4
Its Dinner time!
Its 5
Its 6
Its 7
Its 8
Its 9
Its 10
Its 11
Its time to go to Bed!
Its 0
```

```
In [33]: """
         We can use opperators to assign values to variables.
             +-----+------------------+
             | +=  | Adds and assigns |
```

```
    +-----+-----------------+
    | -=  | Subs and assigns |
    +-----+-----------------+
    | *=  | Mult and assign  |
    +-----+-----------------+
    | /=  | Dev and assign   |
    +-----+-----------------+
"""
ten = 5
print("Ten is {}".format(ten))

ten *= 2 # Takes the value form 10 multiply it by to and put the result in ten
print("After assignment {}".format(ten))
```

```
Ten is 5
After assignment 10
```

In [2]:
```
"""
We can also Compare values.
    +--------+---------------------------+
    |  ==    | The non assignment equals |
    +--------+---------------------------+
    |  !=    | Not equal.                |
    +--------+---------------------------+
    | x > y  | x Greater than y          |
    +--------+---------------------------+
    | x < y  | x Less than y             |
    +--------+---------------------------+
    | x <= y | x Less than or equal y    |
    +--------+---------------------------+
    | x >= y | x Greater than or equal y |
    +--------+---------------------------+

"""
x,y = 1,2

print("Returns True or False")

print(x == y)
print(x < y)
print(x != y)
```

```
Returns True or False
False
True
True
```

In [22]:
```
"""
Logic Opperators.
    +---------+---------+
    |   AND   | x AND Y |
    +---------+---------+
    |   OR    | x OR y  |
    +---------+---------+
    |   NOT   | x NOY t |
    +---------+---------+
"""
x,y = 1,5

print("Returns True or False")

print(x == 5 and y == 5)
print(x == 5 or y == 5)
print(x is not y)

print("-"*20)

a,b,c = True,True,True

print(not a)
print(a or b)
print(a and b)
print(not a and not b)
print(not not a and not not b)
print(not not a and not not b or not not c)
```

```
Returns True or False
False
True
True
--------------------
False
True
True
False
True
True
```

In [23]:
```
"""
If statement
    Anyting returning a bool kan be used with a condition
    We wil look at it in depth later on.
"""
```

```
        if(not not a and not not b):
            print("Lol")
```

```
Lol
```