Markdown Basics

Heading 2

Heading 3

Heading 4

Heading 5

Heading 6

- **Bold**
- *Italic*
- ***Bold and Italic***
- Normal Text
  - Sublist 1
  - Sublist 2

1. Ordered List element 1
2. Ordered List element 2

- [ ] Option 1
- [ ] Option 2
- [x] Option 3

Jupytor-Logo (Jupyterlogo.png)

I get 10 times more trafiic from [Google] 1 (http://google.com/) than from [Yahoo] 2 (http://yahoo.com/) or [MSN] 3 (http://msn.com/)

```
printf("Hello Markdown")
```

Python Basics

Python Version 3.7

- Scripting
- Object Oriented
- Functional

In [35]:
```
#Python comments

print("Good Afternoon","!") #Basic output
print("Hello Python",end=" ") #Ends with space and adds the next string
print("ECE")
```

```
Good Afternoon !
Hello Python ECE
```

Assignment

In [36]:
```
n1=123456            #single variable Assignment
n1              # which prints n1 value ...It will work only in Jupyter
print(n1)       # Command to print n1 value in Python
n2=n3=n4=n1    # Multi variable Assignment of the same value

# Multi variable assignment with different values
a,b,c=122,23,454
a,b,c
```

```
123456
```

Out[36]:
```
(122, 23, 454)
```

Data Types & Conversions

- int
- float
- string

In [37]:
```
type(a)
s1="Python"
type(s1)

f1= 3.14
f1
type(f1)
int(f1) #converts float to int
float(str(int(f1))) #converts float into integer and again integer into string a
```

Out[37]:
```
3.0
```

Arithmetic Operations

- +
- -
- /
- %
- **

In [38]:
```
n1 % 11   # there is a link between all the cells...n1 is in previous cell Eventh
n3 = n2 ** 1234
type(n3)   # retunrs data type
len(str(n3)) #return length or number of digits
```

Out[38]:
```
6283
```

Conditionals

In [39]:
```
atoms=10**82
atoms<10**79
if atoms<10**83:
    print("True")
else:
    print("False")
```

```
True
```

In [40]:
```
# Check if a number is even or odd
n=123;
if n % 2==0:
    print("Even")
else:
    print("Odd")
```

```
Odd
```

In [41]:
```
# Find the greatest of 3 numbers
n1=int(input("enter the first number")) ## in python when we don't declare any d
n2=int(input("enter the second number"))
n3=int(input("enter the third number"))
if n1>n2 and n1>n3:
    print("Greatest is",n1)
elif n2>n3:
    print("Greatest is",n2)
else:
    print("Grestest is",n3)
```

```
enter the first number

---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-41-e25a010696ab> in <module>
      1 # Find the greatest of 3 numbers
----> 2 n1=int(input("enter the first number")) ## in python when we don't decl
are any datatype,it will take it as string
      3 n2=int(input("enter the second number"))
      4 n3=int(input("enter the third number"))
      5 if n1>n2 and n1>n3:

ValueError: invalid literal for int() with base 10: ''
```

In [42]:
```
# check a given year is leap year or not
year=int(input("enter a year"))
if year%400==0 or (year%100!=0 and year%4==0):
    print(year,"is a leap year")
else:
    print(year,"is not a leap year")
```

```
enter a year

---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-42-cfac08338643> in <module>
      1 # check a given year is leap year or not
----> 2 year=int(input("enter a year"))
      3 if year%400==0 or (year%100!=0 and year%4==0):
      4     print(year,"is a leap year")
      5 else:

ValueError: invalid literal for int() with base 10: ''
```

In [43]:
```
# check if a number exists in a given range(inclusive)
num=int(input("enter a number"))
lb=int(input("enter lower bound"))
ub=int(input("enter upper bound"))
if num>=lb and num<=ub:
    print(num,"is in the given range")
else:
    print(num,"is not in given range")
```

```
enter a number

---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-43-b31961590839> in <module>
      1 # check if a number exists in a given range(inclusive)
----> 2 num=int(input("enter a number"))
      3 lb=int(input("enter lower bound"))
      4 ub=int(input("enter upper bound"))
      5 if num>=lb and num<=ub:

ValueError: invalid literal for int() with base 10: ''
```

In [1]:
```
#calculate the number of digits in a number
num=int(input("enter a number"))
print(len(str(num)))
```

```
enter a number16
2
```

In [2]:
```
# check if a number is multiple of 10
num=int(input("enter a number"))
if num%10==0:
    print(num,"is multiple of 10")
else:
    print(num,"is not multiple of 10")
```

```
enter a number1234503
1234503 is not multiple of 10
```

In [46]:
```
# check if a number is factor of 1000
num=int(input("enter a number"))
if 1000%num==0:
    print(num,"is a factor of 1000")
else:
    print(num,"is not a factor of 1000")
```

```
enter a number500
500 is a factor of 1000
```

In [30]:
```
# check if given string is equal to a number
num=int(input("enter a number"))
string=input("enter a string")
if str(num)==string:
    print("Equal")
else:
    print("Not Equal")
```

```
enter a number123
enter a string123
Equal
```

In [31]:
```
# calculate the square root of a number without functions

num=int(input("enter a number"))
print("square root of",num,"is",num**(1/2))
```

```
enter a number1234
square root of 1234 is 35.12833614050059
```

In [34]:
```
# calculate the number of nano seconds in a given year(considering leap year log
year=int(input("enter a year"))
if year%400==0 or(year%100!=0 and year%4==0):
    ns=366*24*60*60*(10**(9))
    print(ns)
else:
    ns=365*24*60*60*(10**(9))
    print(ns)
```

```
enter a year2012
31622400000000000
```

In [ ]:
```

```