Type *Markdown* and LaTeX: α^2

In [ ]:

Notebook Basics

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Markdown Basic

- **Bold**
- *italic*
- ***IB***
- normal text
  - sublist1
  - sublist2

> 1. oredered list elements 1
> 2. Oredered list elements 2

- [x] option1
- [x] option2
- [x] option3

jupyter (jupyter.jpg)

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

printf("Hello Markdown")

https://google.com/ (https://google.com/)

sireesha130276@gmail.com (mailto:sireesha130276@gmail.com)

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Python Basics

python version 3.7

- Scripting language
- Object oriented
- functions

In [1]:
```
# python comments symbol
print("Hello Sir Good Afternoon",'!')
print("Hello Sir Good Afternoon",'!',end=" ")
print("Hello Sir Good Afternoon",'!',end="||") #Basic Output
print('Hello python')
```

```
Hello Sir Good Afternoon !
Hello Sir Good Afternoon ! Hello Sir Good Afternoon !||Hello python
```

In [ ]:
```

```

Assignment

In [2]:
```
n1 = 123456 #Single variable assignment
n2 = n3 = n4 =n1           #Multi variable assignment of the same values
n3
#Multi Variable Assignment with different values
a ,b, c = 123, 234, 345
n1 #n1 prints the output value since it is in jupyter notebook it can directly pr
a
b
c # c value only print because it at last
print(a,b,c)
print(b)
print(c)
```

```
123 234 345
234
345
```

In [ ]:

Data Types

- int
- float
- string
- double

In [58]:
```
type(a)
s1 = 'Python'
type(s1)
f1 = 12.345
type(f1)
int(f1)
str(int(f1))
float(str(int(f1)))
#int(str(str(s1)))
```

Out[58]: 12.0

Arithmetic Operations

- +
- -
- *
- %
- **
- /

In [68]:
```
n1 % 11 #we got output as 3 since we didnt get output as '0' then it is not a fac

n3 = n2 ** 123456

type(n3)  #it can return its type(int) in this python int have so many digits til
#len(str(n3))  #output here is 627 it has that many interger in its output
#n3 #its give long interger
atoms = 10 ** 82
len(str(atoms))
type(str(atoms))
#atoms

#122321.45455 ** 99 #Error Result too large
121.6 ** 9 #output is 5.813024781898188e+18
```

Out[68]: 5.813024781898188e+18

In [ ]:

Conditionals

In [75]:
```
if atoms < 10 ** 9:
    print("TRUE")
else:
    print("FALSE")

# True is default keyword
#False is a default keyword
```

```
FALSE
```

In [77]:
```
a=int(input("Enter value"))
b=int(input("Enter another value"))
if (a%b==0):
    print("a is even number")
else:
    print("it is not even")
```

```
Enter value5
Enter another value2
it is not even
```

In [78]:
```
# Check if a number is even
n = 123
if n % 2 == 0:
    print("Even")
else:
    print("Odd")
```

```
Odd
```

In [6]:
```
# Find the greatest of 3 numbers
n1 = int(input("Enter the first number"))
n2 = int(input("Enter the second number"))
n3 = int(input("Enter the third number"))

if n1 > n2 and n1 > n3:
    print(n1, "is the greatest")
elif n2 >  n3:
    print(n2, "is the greatest")
else:
    print(n3, "is the greatest")
```

```
Enter the first number-1
Enter the second number-3
Enter the third number-100
-1 is the greatest
```

In [ ]:
```
# check if a year is a Leap Year
y1 = int(input("Enter an year to check leap year"))
if y1%400==0 or y1%100!=0 and y1%4==0:
    print("y1 is Leap year")
else:
    print("y1 is not a leap year")
```

In [ ]:
```
# Check if a number in a given range(inclusive range)
n1 = eval(input("Enter number to check in given range"))
lb = eval(input("Enter lower bound"))
up = eval(input("Enter upper bound"))
if n1 >= lb and n1 <= ub:
    print("it is in range")
else:
          print("does not exit ")
```

In [6]:
```
#Calculate the number of digits in a number
s = 1333
type(s)
print(len(str(s)))
```

```
4
```

In [8]:
```
#Check if a number is a multiple of 10
a = int(input("Enter a number"))
if a%10==0:
    print("a is multiple of 10")
else:
    print(" a not a multiple of 10")
```

```
Enter a number1000
a is multiple of 10
```

In [5]:
```
#Check if given string is equal to a number
s1 = "123456"
n1 = 123456
if str(n1) == s1:
    print(n1, "is equal to",s1)
else:
    print(n1, "is not equal to",s1)
```

```
123496 is not equal to 123456
```

In [10]:
```
#Caculate the Sqare root of a number without functions
n1 = 10
n1 ** 0.5
```

Out[10]:
```
3.1622776601683795
```

In [2]:
```
#nano seconds
year = 2019
if year%400==0 or year%100!=0 and year%4==0:
    print(366 * 24 * 60 * 60 * (10**9))
else:
    print(365 * 24 * 60 * 60 *(10**9))
```

```
31536000000000000
```

In [7]:
```
# Check if a number is factor of 1000
n1=12
if 1000 % n1 == 0:
    print("n1 is factor of 1000")
else:
    print("not a factor of 1000")
```

```
not a factor of 1000
```

In [ ]:
```

```