```
In [ ]:
#  1 What is python

Python is a popular programming language. It was created by Guido van Rossum, and releas
ed in 1991.

It is used for:

web development (server-side),
software development,
mathematics,
system scripting.
data analytics
```

2 Software requirement

Anaconda Navigator Jupiter notebook or you can use Google collab instead

3 Creating Variables, Operators

Python has no command for declaring a variable.

A variable is created the moment you first assign a value to it.

4 Python Data Types

In programming, data type is an important concept.

Variables can store data of different types, and different types can do different things.

Python has the following data types built-in by default, in these categories:

Text Type: str Numeric Types: int, float, complex Sequence Types: list, tuple, range Mapping Type: dict Set Types: set, frozenset Boolean Type: bool Binary Types: bytes, bytearray, memoryview

You can get the data type of any object by using the type() function:

5 Python If ... Else, For loop , While loop

Python supports the usual logical conditions from mathematics:

Equals: a == b Not Equals: a != b Less than: a < b Less than or equal to: a <= b Greater than: a > b Greater than or equal to: a >= b

A for loop is used for iterating over a sequence (that is either a list, a tuple, a dictionary, a set, or a string).

With the while loop we can execute a set of statements as long as a condition is true.

6 Python Functions

A function is a block of code which only runs when it is called.

Creating a Function In Python a function is defined using the def keyword:

7 Python Lists

Lists are used to store multiple items in a single variable.

Lists are created using square brackets:

8 Some smart tricks using python

date,random Math, Creating emoji

Creating variabels

In [1]:

```
x =  5
x
```

Out[1]:

5

In [2]:

```
x = 5
print(x)
```

5

In [4]:

```
x= 5
y = "smith"
print(x , y)
```

5 smith

In [7]:

```
x= 5
y = "smith"
z = 3.5
print(type(x))
print(type(y))
print(type(z))
```

```
<class 'int'>
<class 'str'>
<class 'float'>
```

In [4]:

```
x,y,z = (2,4.7,"john")
print(x,y,z)
```

2 4.7 john

global variables

In [17]:

```
x = "water"
def myfunc():
    print("tasteless substance is " + x)
myfunc()
```

tasteless substance is water

In [ ]:

In [ ]:

In [ ]:

In [ ]:

operators

In [12]:

```
5+5
```

Out[12]:

```
10
```

indentation

In [11]:

```python
if 7>2:
    print("hello")
```

```
hello
```

data types

In [21]:

```python
x = ("1,2,3,4,5,6,7,8,9")
print(type(x))
```

```
<class 'str'>
```

if else

In [28]:

```python
a = 55
b = 70
if a > b:
    print("this is correct")
else:
    print("by by")
```

```
by by
```

elif

In [33]:

```python
a = 77
b = 90
```

```
if b > a:
    print("b ig greater")
elif a==b:
    print("both a and b are equal")
```

b ig greater

Else

In [37]:

```
a = 20
b = 200
if b>a:
    print("hello")
elif a == b:
    print(" both values are equal")
else:
    print("a is greater than b")
```

hello

While loop

In [6]:

```
i = 5
while i <15:
    print(i)
    i+= 5
```

5
10

break ststement

In [2]:

```
i = 1
while i<6:
    print(i)
    if 1== 5:
        break
    i+=1
```

1
2
3
4
5

continue ststement

In [2]:

```
i = 1
while i<6:
    print(i)
    if 1== 5:
        break
    i+=1
```

1
2
3

```
4
5
```

```python
i = 0
while i < 6:
    i+= 1
    if i == 5:
        continue
    print(i)
```

```
1
2
3
4
6
```

For loop

```python
sports = ["Cricket", "basketball", "football"]
for x in sports:
    print(x)
```

```
Cricket
baskeball
football
```

```python
for x in "mangoes":
    print(x)
```

```
m
a
n
g
o
e
s
```

break

```python
sports = ["Cricket", "basketball", "football"]
for x in sports:
    print(x)
    if x == "basketball":
        break
```

```
Cricket
basketball
```

continue

```python
sports = ["Cricket", "basketball", "football"]
for x in sports:
    if x == "basketball":
        continue
    print(x)
```

```
Cricket
```

```
cricket
football
```

range

```python
for x in range(20):
    print(x)
```

```
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
```

```python
for x in range(2,100,10):
    print(x)
```

```
2
12
22
32
42
52
62
72
82
92
```

creating function

```python
def my_function():
    print("summer is very hot season")
my_function()
```

```
summer is very hot season
```

```python
def my_function(fname):
    print(fname +" are sweet")
my_function("mangoes")
my_function("watermelon")
my_function("bananas")
```

```
mangoes are sweet
watermelon are sweet
bananas are sweet
```

lists in python

```python
mylist = ["sports", "movies", "Study"]
mylist
```

```
['sports', 'movies', 'Study']
```

```python
mylist = ["sports", "movies", "Study"]
print(type(mylist))
```

```
<class 'list'>
```

```python
list1 = ["sports", "movies", "Study"]
list2 = [1,2,3,4,8,5,6]
list3  = ['mangoes,banana, tree, true, false']
print(list1)
print(list2)
print(list3)
```

```
['sports', 'movies', 'Study']
[1, 2, 3, 4, 8, 5, 6]
['mangoes,banana, tree, true, false']
```

Tricks

```python
import calendar
print(calendar.month(2021,3))
```

```
     March 2021
Mo Tu We Th Fr Sa Su
 1  2  3  4  5  6  7
 8  9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31
```

```python
import calendar
print(calendar.calendar(9999999999))
```

```
                           9999999999

       January                February                March
Mo Tu We Th Fr Sa Su    Mo Tu We Th Fr Sa Su    Mo Tu We Th Fr Sa Su
          1  2  3        1  2  3  4  5  6  7        1  2  3  4  5  6  7
 4  5  6  7  8  9 10     8  9 10 11 12 13 14     8  9 10 11 12 13 14
11 12 13 14 15 16 17    15 16 17 18 19 20 21    15 16 17 18 19 20 21
18 19 20 21 22 23 24    22 23 24 25 26 27 28    22 23 24 25 26 27 28
25 26 27 28 29 30 31                            29 30 31

        April                   May                    June
Mo Tu We Th Fr Sa Su    Mo Tu We Th Fr Sa Su    Mo Tu We Th Fr Sa Su
          1  2  3  4              1  2              1  2  3  4  5  6
 5  6  7  8  9 10 11     3  4  5  6  7  8  9     7  8  9 10 11 12 13
12 13 14 15 16 17 18    10 11 12 13 14 15 16    14 15 16 17 18 19 20
19 20 21 22 23 24 25    17 18 19 20 21 22 23    21 22 23 24 25 26 27
26 27 28 29 30          24 25 26 27 28 29 30    28 29 30
```

```
                            31

          July                    August                  September
Mo Tu We Th Fr Sa Su     Mo Tu We Th Fr Sa Su     Mo Tu We Th Fr Sa Su
          1  2  3  4                        1            1  2  3  4  5
 5  6  7  8  9 10 11      2  3  4  5  6  7  8      6  7  8  9 10 11 12
12 13 14 15 16 17 18      9 10 11 12 13 14 15     13 14 15 16 17 18 19
19 20 21 22 23 24 25     16 17 18 19 20 21 22     20 21 22 23 24 25 26
26 27 28 29 30 31        23 24 25 26 27 28 29     27 28 29 30
                         30 31

         October                 November                 December
Mo Tu We Th Fr Sa Su     Mo Tu We Th Fr Sa Su     Mo Tu We Th Fr Sa Su
             1  2  3      1  2  3  4  5  6  7            1  2  3  4  5
 4  5  6  7  8  9 10      8  9 10 11 12 13 14      6  7  8  9 10 11 12
11 12 13 14 15 16 17     15 16 17 18 19 20 21     13 14 15 16 17 18 19
18 19 20 21 22 23 24     22 23 24 25 26 27 28     20 21 22 23 24 25 26
25 26 27 28 29 30 31     29 30                    27 28 29 30 31
```

Creating emojies

In [11]:

```python
print("\U0001f600 smile")
```

😀 smile

In [19]:

```python
print("\U0001f600 smile")
print("\U0001F606 laugh")
print("\U0001F923 cry laugh")
print("\U0001F618 fly kiss")
print("\U0001F917 hug")
print("\U0001F62A tired")
```

😀 smile
😆 laugh
☐ cry laugh
😘 fly kiss
☐ hug
😪 tired

datetime

In [21]:

```python
import datetime
x = datetime.datetime.now()
print (x)
```

2021-06-02 13:40:52.373779

In [23]:

```python
import datetime

x = datetime.datetime.now()
print(x.year)
print(x.strftime('%A'))
```

2021
Wednesday

random

In [32]:

```python
import random

random.seed(7000)
print(random.random())
```

0.32245340231603203

In [ ]: