

Pythton Basic Classes

1-Hello World

In [25]:

```
print("Hello World")

print("I'm learning Python in Million Coders")
```

```
Hello World
I am Million Coder
```

2-Operators

In [4]:

```
print(2 + 3)    # addition
print(10 - 6)   # subtraction
print(4 * 5)    # multilplication
print(18 / 3)   # division
print(3 ** 4)   # exponents
print(8 // 2)   # division without . values
print(23 % 5)   # remainder/modulus
```

```
5
4
20
6.0
81
4
3
```

3-Strings

We can define strings in different quotes 1- single quote ' string ' 2- double quote " string "
3- triple quote ''' string '''

In [42]:

```
print('I am learning pyhton with Million Coders')

print("My name is xyz and I'm a student of Million Coders")

print('''I want to be a "Grand Master" in Pakistan ''')
```

```
I am learning pyhton with Million Coders
My name is xyz and I'm a student of Million Coders
I want to be a "Grand Master" in Pakistan
```

4-Comments

In []:

```
# print("I am commenting this line by using # character")
# we can also use this command to add comments command/ctrl + /
```

5-Variables

Rules to assign variables

1- should contain letters, numbers or underscore 2- do not start with numbers 3- spaces are not allowed 4- do not use keywords used in functions(mean, break, media, test etc) 5- short and descriptive 6- case sensitive (UPPERCASE, lowercase, should use lower case mostly)

Use type() function to know the type/class of variable (int, float, bool, str etc)

```
In [8]: name = "Million Coders" # string variable
print(type(name))
print (name)

number = 10 # int variable
print(type(number))
print(number)

decimals = 22.6 # float variable
print(type(decimals))
print(decimals)
```

```
<class 'str'>
Million Coders
<class 'int'>
10
<class 'float'>
22.6
```

6-Input functions/variables

To take input from the user

```
In [12]: name = input("What is you name? ")
print(name)

age = input("What is your age : ")
text = "My age is :"
print(text, age)

profession = input("What do you do? ")
print("I am a ", profession)
```

```
What is you name? Ubaid
Ubaid
What is your age : 26
My age is : 26
What do you do? Trainer
I am a  Trainer
```

7-Conditional Operators

equal to == not equal to != less than < greater than. > less than equal to <= greater than equal to >=

```
In [26]: print(4 == 4) # is 4 equal to 4?           True
print(4 == 3) # is 4 equal to 3?           False
print(4 != 4) # is 4 not equal to 4 ?      False
print(6 != 4) # is 4 not equal to 4 ?      True
print(10 > 7) # is 10 greater than 7?      True
print(10 < 7) # is 10 less than 7?         False
print(20 >= 12) # is 10 greater than or equal to 7? True
print(10 <= 7) # is 10 less than or equal to 7? False
```

```
# Application of logical operator

institute_language = "Python"
student_language = "PHP"

print(student_language==institute_language) # False

student_language2 = input("What language do you want to learn? ")

print("I got Admission : ",student_language2==institute_language)
```

```
True
False
False
True
True
False
True
False
False
What language do you want to learn? Java
I got Admission : False
```

8-Type Conversions

To convert the type of variables

1- Implicit (Automatic) 2- Explicit (Forced)

In [33]:

```
x = 8
y = 4.5
z = "Million Coders"

# implicit type conversion

x = x+y
print(x," The type of x is : ",type(x)) # float

# explicit type conversion

age = input("What is your age? ")
print("before conversion : ",type(age))
print("After conversion : ",type(int(age)) ) # converting into int
```

```
12.5 The type of x is : <class 'float'>
What is your age? 9
before conversion : <class 'str'>
After conversion : <class 'int'>
```

9-If else elif

To run specific block of code on any condition matched

In [41]:

```
institute_attendance = 80
student_attendance = 90

# Can student can continue in Million Coders
```

```

if student_attendance==institute_attendance :
    print("Student can continue in Million Coders")

elif student_attendance > institute_attendance :
    print("Student is punctual and good")

else :
    print("Student can not continue in Million Coders")

```

Student is punctual and good

10-Functions

To run set of code by calling its name

We use def keyword to define a function in python

In [48]:

```

# 1 way to define
def million_coders():
    print("We are learning in Million Coders")
    print("We are learning in Million Coders")
    print("We are learning in Million Coders")

million_coders()

# 2 way to define
def learn_python():
    text = "I am learning python"
    print(text)
    print(text)
    print(text)

learn_python()

# 3 way to define
def my_age(age):
    print(age)

my_age(26)

# 4 way to define function
def student_attendance(student_attendance):
    institute_attendance = 80

    if student_attendance==institute_attendance :
        print("Student can continue in Million Coders")

    elif student_attendance > institute_attendance :
        print("Student is punctual and good")

    else :
        print("Student can not continue in Million Coders")

student_attendance(80)

```

```
We are learning in Million Coders
We are learning in Million Coders
We are learning in Million Coders
I am learning python
I am learning python
I am learning python
26
Student can continue in Million Coders
```

11-Loops

To run specific block of code multiple times

while loop for loop

In [55]:

```
x=0

while (x<=5): # it will run till x's values reaches to 5
    print(x)
    x=x+1

for x in range(5,20): # it will start from 5 and it will end to 20
    print(x)
    x=x+1

days = ["Mon", "Tue", "Wed", "Thu", "Fri", "Sat", "Sun"]

for d in days:

    if(d=="Fri"):
        #break # it will run only till "Fri"
        continue # it will skip the "Fri"

    print(d)
```

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

Sat
Sun

12-Libraries

To import libraries and use them into our code

we use import keyword to import any library in python

In [60]:

```
import math
import statistics

print("The value of Pi is : ", math.pi) # from math library

x = [300,330,100,270]

print("The mean value of x is : ", statistics.mean(x))
```

The value of Pi is : 3.141592653589793

The mean value of x is : 250