

Python ka Chilla with Baba Ammar

Name: *Musharaf Ahsan*

Basics of Python

01- My 1st-Program

```
In [1]: print("I'm going to start python ka chilla with Baba Ammar")
        print("I'm a student of Cholistan University of veterinary and Animal Sciences Bahawalp
```

I'm going to start python ka chilla with Baba Ammar

I'm a student of Cholistan University of veterinary and Animal Sciences Bahawalpur

02- Operators

```
In [2]: print(90+88)           #Addition
        print(89-43)          #Substraction
        print(8*78)           #Multiplication
        print(90/2)           #Division
        print(64//4)          #Double Division
        print(2**3)           #Power
        print(9%2)            #Reminder
        print(68//4*9+8-10)    #Equation
```

178
46
624
45.0
16
8
1
151

PEMDAS Parenthesis, Exponents, multiply, Divide, Addition & Substraction

Left to right sequence for M D & A S

03- Strings

we can write string in single qoutes(' '), in double qoiutes(" ") and In tripple qoutes('' ''')

```
In [3]: print('Single Qoutes')
        print("Double Qoutes")
        print(''Triple Qoutes'')
```

Single Qoutes
Double Qoutes

Triple Qoutes
now what is the difference

In [4]:

```
print("What's up")
```

What's up

agr hm ise single qoutes me likhainb gy to ye consider nhi kre ga

04- Comments

The shortcut keys to comments is **(Ctrl+/)**

In [5]:

```
print("How are you?")    #press these to comment out (Ctrl+/) or use (#) before stateme
```

How are you?

05- Variables

variables: objects containing specific values.

In [6]:

```
x=10    #Numeric or Integer Variable
print(x)

y="Aj mera chotha Roza hai"    #string variable
print(y)
x=40    #Here the valuae of x is updating by 40.It works same for 'y'..Only happen in Py
print(x)
x=x+10    #Another way to update value of x....
print(x)
z='?'
print(z)
```

10

Aj mera chotha Roza hai

40

50

?

Types/Class of Variables.

A Function to Check Types of Variables.

In [7]:

```
type(x)
print(type(x))
type(y)
print(type(y))
type(z)
print(type(z))
```

<class 'int'>

<class 'str'>

<class 'str'>

Rules to Assign a Variable

- 1. The variable should contain letters, numbers or underscore..**
- 2. Do not start with numbers.**
- 3. Spaces are not allowed.**
- 4. Do not use keywords used in function like (break, mean, media, test etc..)**
- 5. Short and descriptive**
- 6. case sensitivity (lower case and uppercase letter should be used)**

```
In [8]: fruit_basket="mangoes"
        print(fruit_basket)
        print(type(fruit_basket))
```

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

06- Input Variables

Simple Input Function

```
In [9]: fruit_basket=input("what is your favourite fruit? ")
        print(fruit_basket)
```

```
what is your favourite fruit? Grapes
Grapes
```

Input Function of 2nd Stage

```
In [10]: name=input("what is your name? ")
         greeting="Hello!"
         print(greeting,name)
```

```
what is your name? Musharaf
Hello! Musharaf
```

Input Function of 3rd Stage

```
In [11]: name=input("what is your name? ")
         name=str(name)      #In this line we are changing the data type of variable
         print(type(name))
         age=input("what is your age? ")
         greeting="Hello!"
         print (greeting, name, "You are still young!")
```

```
what is your name? Ahsan
<class 'str'>
what is your age? 20
Hello! Ahsan You are still young!
```

07- Conditional Logics

Logical Operators are "TRUE/FALSE", "YES/NO" or "0/1"

1. *equal to* ==

2. *not equal to* !=

3. *less than* <

4. *greater than* >

5. *less than and equal to* <=

6. *greater than equal to* >=

is 4 equal to 4?

In [12]:

```
print(4==4)
print(4!=9)
print(4>3)
print(3<6)
print(3<=5)
print(5>=4)
```

```
True
True
True
True
True
True
```

Application of Logical Operators

In [13]:

```
ali_age=4
age_at_school=5
print(ali_age==age_at_school)
```

```
False
```

Input Function and Logical Operator

In [14]:

```
age_at_school=5
student_age=input("How old is student? ") #INPUT FUNCTION
student_age=int(student_age) #CONVERTING string INTO int DATA TYPE
print (type(student_age))
print(student_age>=age_at_school) #LOGICAL OPERATOR
```

```
How old is student? 10
<class 'int'>
True
```

08- Type Conversion

```
In [15]: x=10          #intiger
         y=10.5       #float
         z="Hello"    #string
```

Imlicit Type Conversion

```
In [16]: x=10
         y=10.5
         x=x+y
         print(x,"Data type of x is ",type(x))
```

20.5 Data type of x is <class 'float'>

Explicit Type Conversion

```
In [17]: age=input("What is your age? ")
         # age=int(age)          #1st method to convert data type
         print(age,type(int(age))) #2nd method to convert data type
         name=input("what is your name? ")
         print(name,type(name))
```

What is your age? 20
 20 <class 'int'>
 what is your name? Musharaf
 Musharaf <class 'str'>

09- if,else & elif

```
In [18]: student_age=input("How old is student? ")
         student_age=int(student_age)
         required_age_at_school=5
         if student_age==required_age_at_school:
             print("Congrats sudent can join tha school.")
         elif student_age > required_age_at_school:
             print("student should join Higher secondary school.")
         elif student_age <= 2:
             print("you shoul take care of student he/she is a still baby")
         else:
             print("student can't join the school.")
```

How old is student? 13
 student should join Higher secondary school.

10- Functions

```
print("We are learning python")
```

```
print("We are learning python")
```

```
print("We are learning python")
```

```
print("We are learning python")
```

```
print("We are learning python")
```

Defining a Function by different ways

=> 1

```
In [19]: def print_code():  
          print("We are learning python")  
          print("We are learning python")  
          print("We are learning python")  
          print_code()
```

```
We are learning python  
We are learning python  
We are learning python
```

=> 2

```
In [20]: def print_code():  
          text="We are learning python with baba ammar on youtube "  
          print(text)  
          print(text)  
          print(text)  
          print_code()
```

```
We are learning python with baba ammar on youtube  
We are learning python with baba ammar on youtube  
We are learning python with baba ammar on youtube
```

=> 3

```
In [21]: def print_code(text):  
          print(text)  
          print(text)  
          print(text)  
          print_code("we are learning python with baba ammar")
```

```
we are learning python with baba ammar  
we are learning python with baba ammar  
we are learning python with baba ammar
```

Defining Function with if, elif and else statement

=> 4

```
In [22]: def school_calculator(age):  
          if age==5:  
              print("Student can join the school")  
          elif age>5:  
              print("student shoul go higher secondary school")  
          else:
```

```
print("student is still a baby")
school_calculator(5)
```

Student can join the school

=> 5

In [23]:

```
def school_calculator(age=input("whata is the age of student? ")):    #Input from User
    age=int(age)
    if age==5:
        print("Student can join the school")
    elif age>5:
        print("student shoul go higher secondary school")
    else:
        print("student is still a baby")
school_calculator()
```

whata is the age of student? 2
student is still a baby

Defining a Function of Future

In [24]:

```
def future_age(age):
    new_age=age+20
    return new_age
    print(new_age)
future_prediction_age= future_age(18)
print(futurre_prediction_age)
```

38

11- Loops

While Loop

In [25]:

```
x=0
while (x<=10):
    print(x)
    x=x+1
```

0
1
2
3
4
5
6
7
8
9
10

For Loop

In [26]:

```
for x in range(0,10):  
    print(x)
```

0
1
2
3
4
5
6
7
8
9

Array

```
In [27]: days=["mon","tue","wed","thu","fri","sat","sun"]  
for d in days:  
    # if (d=="fri"):  
    #     break          #loop stops  
    if (d=="fri"):  
        continue        #skips d  
    print(d)
```

mon
tue
wed
thu
sat
sun

12- Import Libraries

if you want to print the value of pi

```
In [28]: import math  
print("The value of PI is ",math.pi)
```

The value of PI is 3.141592653589793

We can also calculate Mode,Mean and many other values using "statistics" library

```
In [29]: import statistics  
x=[456,345,353,353,345,889]  
print("Mode of x is ",statistics.mode(x))
```

Mode of x is 345

other important libraries are

numpy, pandas etc

13- Trouble Shooting

print(we are learning python with Ammmar) #Syntax Error missing ""

print(90/0) #ZeroDivisionError: division by zero # RUNTIME ERROR

In [30]:

```
name="Musharaf"  
# print("Hello name") # Semantic Error /Logical error  
print("Hello"+ name)  
print("Hello", name)
```

HelloMusharaf

Hello Musharaf

In []: