Python ka Chilla

How to use jupyter notebook

Basis of python

01_first_program

```
In [1]:  print("M Riaz")
         print("Hello Wold")
         print(2+3)
         print("I Am Hina Riaz")
```

```
M Riaz
Hello Wold
5
I Am Hina Riaz
```

02_Operators

```
In [2]:  print(2+2)
         print(3-2)
         print(3*3)
         print(6/2)
         print(6//2)
         print(13%2)
         print(2**3)
         print(2**3/4*8+9-10)
```

```
4
1
9
3.0
3
1
8
15.0
```

03_Strings

```
In [3]:  print("Hello Wold")
         print("I Am Hina Riaz")
         print('Test for single quote')
         print("test for double quote")
         print('''test for triple quore''')
         print("What's up ?")
```

```
Hello Wold
I Am Hina Riaz
Test for single quote
test for double quote
test for triple quore
What's up ?
```

4_Comments

In [4]:
```python
# print("How are you?")                    # Press Ctrl+/ to comment out and same to
print("We are learning python with Hina")      #print a string
print(2+3)                                      #print a operator function with num
```

```
We are learning python with Hina
5
```

05_Variables

In [6]:
```python
#Variables: Objests containg specific values
x=5     #ye aik variable ban gya (numeric or integer variable)
print(x)
#agr aik string ko y k = rakhy to
y= "We are laerning python with Hina"
print(y)
x=20
print(x)
x=x+5
print(x)
# Types/calss of variables
type(x)
print(type(x))
print(type(y))

# #Rules to assign a variable/ object in variable
# 1- The variabale should contain number, letters or underscores
# 2- Do not start with numbers
# 3-Spaces are not allowed
# 4-Do not use keywords in function (Brek, mean,medain,test) Key words not used in
# 5- Short and descriptive variable name
# 6- Case senstivity (Uppercase, lowercase . Letters) Lowercase lettres

fruit_busket="Mangos"
print(fruit_busket)
fruit_busket="Mangos, Oranges"
print(fruit_busket)
print(type(fruit_busket))
fruit_busket=8
print(type(fruit_busket))
fruit_busket=8
fruit_busket="Mangoes"
print(fruit_busket)
print(type(fruit_busket))
```

```
5
We are laerning python with Hina
20
25
<class 'int'>
<class 'str'>
Mangos
Mangos, Oranges
<class 'str'>
<class 'int'>
Mangoes
<class 'str'>
```

06_Input_Variables

In [7]:
```python
fruit_basket="Mangoes"
print(fruit_basket)

# Input_function simple
fruit_basket=input("What is your favourit Fruit?     ")
print(fruit_basket)

# Input_function of 2nd stage
name=input("What is your name?    ")
greetings="Hello"
print(greetings,name)

#Another way of stage 2 input_function
name=input("What is your name?    ")
print("Hello",name)

#3rd stage input_function

name=input("What is your name?  ")
age=input("How old are you?  ")
greetings="Hello"
print(greetings,name,"You are still young")
```

```
Mangoes
What is your favourit Fruit?     Apple
Apple
What is your name?    Hina Riaz
Hello Hina Riaz
What is your name?    Hina Riaz
Hello Hina Riaz
What is your name?  Hina Riaz
How old are you?  24
Hello Hina Riaz You are still young
```

07_Contional_logics

In [9]:
```python
# logical operators are either true or false/ yes or no/ 0 or 1
# equal to                        ==
# not equal to                   !=
```

```python
# less than                          <
# greater than                       >
# less than and equal to             <=
# greater than and equal to          >=


print(4==4)
print(4!=3)
print(3<5)
print(5>3)
print(2<=3)
print(5>=1)



# application of logicak operators

Hamad_age=4
age_at_school=5
print('Hammad_age'==age_at_school)

arslan_age=24
age_to_go_university=33
print(arslan_age==age_to_go_university)


#input function and logical operators

# Hamad_age=4
# age_at_school=5
# print('Hammad_age'==age_at_school)


age_at_school=5
hammad_age=input("How_old_is_hammad?      ")
hammad_age=int(hammad_age)
print(type(hammad_age))
print(hammad_age==age_at_school)
```

```
True
True
True
True
True
True
False
False
How_old_is_hammad?      5
<class 'int'>
True
```

08_Type_Conversion

```python
In [10]:  x=4               #Ingeter
          y=10.5            #float
```

```python
z="Hello"            #string


# x=x*y          #Float
# x=x+y          #float
# x=y/x          #float


#implicit_type_conversion

x=x+y
print(x,"type_of_x_is;",type(x))

#explicit_type_conversion

age=input("What_is_your_age?     ")
age=int(age)
print(type(age))                #other way (without step 2)
print(type(int(age)))           #integer
print(age,type(int(age)))       #if we pet age=14.5      answer will b invalid (floa
print(age,type(float(age)))     #float
print(age,type(str(age)))          #string



name=input("what_is_your_name?     ")
print(name,type(str(name)))
```

```
14.5 type_of_x_is; <class 'float'>
What_is_your_age?     24
<class 'int'>
<class 'int'>
24 <class 'int'>
24 <class 'float'>
24 <class 'str'>
what_is_your_name?     Hina Riaz
Hina Riaz <class 'str'>
```

09_If_else_elif

In [11]:
```python
requird_age_at_school=5
hammad_age=4

#can hammad go to school

if hammad_age==requird_age_at_school:   #if this statement is true then print this
    print("hammad can join the school")

#This is a false statement    hammad_age=4,,, required_age_at_school=5


requird_age_at_school=5
hammad_age=5

#can hammad go to school
```

```python
if hammad_age==requird_age_at_school:
    print("hammad can join the school")

#if we write if statement then agr wo condition pori ni hoti to kuch or ha(else) to

requird_age_at_school=5
hammad_age=4

#can hammad go to school          ages are not equal

if hammad_age==requird_age_at_school:
    print("hammad can join the school")

else:
    print("hammad can't go to school")


#2nd example


requird_age_at_school=5
hammad_age= 10

#can hammad go to school

if hammad_age==requird_age_at_school:
    print("hammad can join the school")

else:
    print("hammad can't go to school  or should join higher classes ")


#elif(else_if)

hammad_age=9
requird_age_at_school=5
if hammad_age==requird_age_at_school:
    print("Congragulations! haammad can join school.")

elif hammad_age > requird_age_at_school:
    print("hammad should join higher classes")
else:
    print("hammad can not go to school")

#uper 3 condtions ha...if we change age according to conditions then results will d
#we can add elif statement according to our need or desire

hammad_age=2
requird_age_at_school=5
if hammad_age==requird_age_at_school:
    print("Congragulations! haammad can join school.")

elif hammad_age > requird_age_at_school:
    print("hammad should join higher classes")
elif hammad_age== 2:
```

```
        print("You shoul take care of hammad, He is baby now")
else:
        print("hammad can not go to school")
```

```
hammad can join the school
hammad can't go to school
hammad can't go to school  or should join higher classes
hammad should join higher classes
You shoul take care of hammad, He is baby now
```

10_Function

```
In [12]: print("We are learing with Hina")
         print("We are learing with Hina")
         print("We are learing with Hina")
         print("We are learing with Hina")
         print("We are learing with Hina")

         # # #if i want to print this 100 or 1000 time then to solve this we can do a simple

         # #Defining a Function      Hina=Name of function
         # #1

         def print_Hina():
             print("We are learing with Hina")
             print("We are learing with Hina")
             print("We are learing with Hina")

         print_Hina()


         # #2

         def print_Hina():
            text="We are learing with Hina"
            print(text)
            print(text)
            print(text)

         print_Hina()


         def print_Hina():
            text="We are learing with Hina on youtube channel"    #The whole text change
            print(text)
            print(text)
            print(text)

         print_Hina()

         # # 3

         def print_Hina(text):
            print(text)
            print(text)
```

```python
        print(text)

print_Hina()      #if we run this they asked for text we can add here

def print_Hina(text):
    print(text)
    print(text)
    print(text)

print_Hina("We are learning python with Hina")

# if_elif_else

def School_calculator(age,text):
    if age==2:
        print("Hammad can join the school")
    elif age>5:
        print("Hammad should join highr classes")
    else:
        print("Hammad is still a baby")

School_calculator(5, "Hammad")

# define function by operator
# defining a function of future

def future_age(age):
    new_age=age+20
    return new_age
    print(new_age)

future_predicted_age=future_age(18)
print(future_predicted_age)
```

```
We are learing with Hina
We are learing with Hina
We are learing with Hina
We are learing with Hina
We are learing with Hina
We are learing with Hina
We are learing with Hina
We are learing with Hina
We are learing with Hina
We are learing with Hina
We are learing with Hina
We are learing with Hina on youtube channel
We are learing with Hina on youtube channel
We are learing with Hina on youtube channel
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[12], line 46
     43     print(text)
     44     print(text)
---> 46 print_Hina()      #if we run this they asked for text we can add here
     48 def print_Hina(text):
     49     print(text)

TypeError: print_Hina() missing 1 required positional argument: 'text'
```

11_Loops

```
In [13]:  #while and for loops

          #while loops

          # x=0
          # while(x<5):
          #     print(x)
          #     x=x+1

          # x=0
          # while(x<=5):
          #     print(x)
          #     x=x+1

          #for loop

          # for x in range(4,11):
          #     print(x)

          #array

          # days = ["Mon", "Tues", "Thu", "Fri",  "sat", "Sun"]

          # for d in days:
          #     print(d)

          #use if else

          days = ["Mon", "Tues", "Thu", "Fri",  "sat", "Sun"]

          for d in days:
              # if(d=="Fri"):break #loop
              if(d=="fri"):continue #skips d
              print(d)
```

```
Mon
Tues
Thu
Fri
sat
Sun
```

12_Import_Libararies

In [14]:
```python
# if u want to print the value of pi
# need to import library

import math
print("The value of pi is ", math.pi)

import statistics
x=[3,5,4,2,2,6]
print(statistics.mean(x))

#numpy,pandas
```

```
The value of pi is  3.141592653589793
3.6666666666666665
```

13_Trouble_shooting

In [15]:
```python
# print(we are learning python with Hina) #syntaxError ""

# print(25/0) #runtime erroe (Mathematical erroe)0 division error

#Both these error are easy to trouble shoot
# 3rd one is tough

name= "Ammar"

print("Hello , name")

# in result is shows Hello, name instead of Hello Ammar


name= "Ammar"

print("Hello" , name)
# problem is solved Hello Ammar

name= "Ammar"

print("Hello" + name) # by putting + the space is removed HelloAmmar
```

```
Hello , name
Hello Ammar
HelloAmmar
```

```
In [ ]:
```