

Complete Data Science Notebook with Baba G Ammaar

I am Asad Baloch i am making complete notebook for my understanding and revision

OPERATORS

Addition , multiplication , division , subtraction & modulus operator , Power function

```
In [25]: ### Operators are things used in simple math functions  
### for example addition division etc  
print(2+3)  
print(2*5)  
print(2-3)  
print(3/3)  
  
# here another important Operator is moduls operator that is %  
  
print(1%2) # this gives the remainder to us  
print(6//2) # this will give integer and signle slash will give division answer
```

5
10
-1
1.0
1
3

```
In [26]: # Power function using double star  
print(3**2)
```

9

```
In [27]: ## PEMDAS , it will follow the rule of Parenthesis, exponenets, multiply, div  
print(3**2/2*3/3+6-4)  
  
## multiply or divide k darmyan or addition subtraction k darmyan sequence l
```

6.5

-----STRINGS-----

Strings are stuff in bracket within the single, double, triple quotation marks

```
In [28]: print('Test for single quotes')  
print("Test for double quotes")  
print("""Test for triple quotes""")
```

Test for single quotes
Test for double quotes
Test for triple quotes

```
In [29]: print("What's up") # ab yaha par agar single quote use kia to string ban nai jayegi
# space string se bahar nikalny ka faida nai, agar string k andar space dia to koi problem nai
```

What's up

----- Commenting -----

```
In [30]: print("How are you")
print("we are learning python with Aammar")
print(2+6)
# jab hamne koi line print na karni ho to osko hashtag kardain to run nai karayegi
```

How are you
we are learning python with Aammar
8

----- Variables -----

```
In [31]: # Variables : objects containing specific values

x = 5 # numeric variable
print(x)

y="we are learning Python with Aammar" # this is string variable
print(y)
```

5
we are learning Python with Aammar

```
In [32]: # Types or Class of variables to check type we use command type
x = 5
print(type(x)) # class yaha eske integer hy variable ke
print(type(y)) # yaha y ke class string hy
```

<class 'int'>
<class 'str'>

```
In [33]: # Rules to assign a variable
# 1- The variable should contain letters, numbers or underscores
#2- Donot start or name the variable with numbers
#3- Spaces are not allowed in variables name
#4- Do not use keywords used in functions (break, mean , median, test etc etc)
#5- variable name must be short and descriptive
#6- Case sensitivity , lower & upper case letters must be taken care for
```

```
In [34]: fruit_basket ="Mangoes , Oranges"
print(fruit_basket) # fruit basket k andar mangoes a gaya
# we can use del , to delete the variable
print(type(fruit_basket))
```

Mangoes , Oranges
<class 'str'>

----- Input Variables -----

```
In [35]: #fruit_basket = "Mangoes"
# print(fruit_basket)

# Inpurt function , user se sawal pochna ya entry karwana
fruit_basket=input("What is your favourite fruit ") # yaha pe variable input
print(fruit_basket)
```

Mango

```
In [36]: # 2nd stage input function
name = input("What is your name? ")
greetings="Hello!"

print(greetings, name)
```

Hello! Asad

```
In [37]: # another way of stage two inpurt function yaha par print me hello ko string
# opar alag alag variable bana k print karwaya
name = input("What is your name? ")
print("Hello!", name)
```

Hello! Asad

```
In [38]: # 3rd stage input function

name = input ("What is your name? ")
age = input("How old are you ? ")
greetings = " Hello ! "

print( greetings, name, age, " , You are stilll young" )
```

Hello ! Baloch 29 , You are still young

----- Conditional Logics -----

```
In [39]: # Logical operators are either true or fales or yes or no or 0,1
# Equal to ==
# Less than <
# greater than >
# less than and equal to <=
# greater than and equal to >=
# not equal to !=
# is 4 equal to 4 ?
print(4!=4)
print(4==4)
print(4>3)
print(3<6)
print(3<=5)
```

False
True
True

```
True
True
```

```
In [40]: # Application of logical operators
hamza_age=4
age_at_school=5
print(hamza_age==age_at_school)
```

```
False
```

```
In [41]: # Input operator and logicals
age_at_school=5
hamza_age=input("How old is hamza") # input function
hamza_age=int(hamza_age)
print(type(hamza_age))
print(hamza_age==age_at_school)
# yaha pe input jo hoga wo as a string consider hoga to input ko hamne float me
# CONVERT INPUT
```

```
<class 'int'>
False
```

----- Type Conversion -----

```
In [42]: x = 10          #int
y = 10.2        #float , int float se multiply hoga to wo float hojaiga
z = "Hello"     # string
print(type(y))
x = x*y
print(type(x))
# 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("Your age is :", age)
print("your age is :", age , type(int(age))) ,# yaha pe age int me convert ho
```

```
<class 'float'>
<class 'float'>
Your age is : 29
your age is : 29 <class 'int'>
```

```
Out[42]: (None,)
```

```
In [43]: # NAME
name = input("What is your name ? ")
# age = int(age)
print("Your name is :", name)
print("your age is :", name , type(str(name)))
```

```
Your name is : Asad
your age is : Asad <class 'str'>
```

----- IF ELSE ELIF STATEMENTS -----

In [44]:

```
required_age_at_school = 5
hamza_age = 1

# question: can hamza go to school

if hamza_age==required_age_at_school:
    print("Congratulations ! Hamza can join the school")
elif hamza_age> required_age_at_school:
    print("Hamza should join college")
elif hamza_age<=2:
    print("Your should take care of hamza, he is still a baby")
else:
    print("Hamza Cannot go to School ")
```

Your should take care of hamza, he is still a baby

----- Functions -----

In [45]:

```
#print("we are learning with Baba g ")
#print("we are learning with Baba g ")
#print("we are learning with Baba g ")
#print("we are learning with Baba g ")
#print("we are learning with Baba g ")
#print("we are learning with Baba g ")

# defining a functions

#def print_codanics():
#    print("we are learning with Baba g ")
#    print("we are learning with Baba g ")
#    print("we are learning with Baba g ")
#print_codanics()

# 2nd method of defining a function

#def print_codanics():
#    text = " We are learning with Baba g in codanics youtube channel"
#    print(text)
#    print(text)
#    print(text)
#print_codanics()

#3rd method

def print_codanics(text):
    print(text)
    print(text)
    print(text)

print_codanics("we are learning data science with baba g youtube channel")
```

we are learning data science with baba g youtube channel
we are learning data science with baba g youtube channel
we are learning data science with baba g youtube channel

```
In [46]: # defining a function with if, elif and else statements
def school_calculator(age ):
    if age == 5:
        print("Hamza can joining the school")
    elif age>5:
        print("Hamza should go to higher school")
    else:
        print("Hamza is still a baby")
school_calculator(2)
```

Hamza is still a baby

```
In [49]: # Defining a funcion of future
def future_age( age ):
    new_age = age+20
    return new_age

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

38

LOOPS

```
In [63]: # while lopps and for loops
         #while loops
         # loops are doing something again and again iteratively

         # x = 0
         # while (x<=5):
         #     print(x)
         #     x=x+1
         # yaha par x zero se start hoga or 5 tak jaiga or jab tak ye statment qaim rai

         # # FOR LOOP

         # for x in range(5,10):
         #     print(x)

         #ARRAY

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

         for d in days:
             # if (d=="Fri"):break # loop stop at this point
             if (d=="Fri"): continue #skips d
             print(d)
```

Mon
Tue
Wed
Thu
Sat
Sun

In []: