

python ka chilla with #baba Aammar

how to use jupyter notebook

basics of python

01_First programe

In [1]:

```
print("Hello world")
print("we are learning python with Aammar")
```

```
Hello world
we are learning python with Aammar
```

02_operators

In [2]:

```
print(2+1)
print(3-1)
print(6/2)
print(2*3)
print(13%2)
print(6//2)
print(2**3)
print("a"+"b")
```

```
3
2
3.0
6
1
3
8
ab
```

python runs code with PEMDAS sequence. Parentheses, Exponents, Multiplication and Division addition subtraction... Seq of resolve is left to right for MDAS

03_Strings

In [3]:

```
print("Hello world")
print("we are learning python with aammar")
print('we are learning python with aammar')
print('''we are learning python with aammar''')
print("what's up    ?")
print("what's up    ?" )
```

```
Hello world
we are learning python with aammar
we are learning python with aammar
we are learning python with aammar
what's up    ?
what's up    ?
```

***text with single and double comma ' "" or 3 qutation marks''' "" all 3 have same meaning Space outside these qutation marks will not be visible in output but inside it will.**

what we will write in quotation marks it will be in output without any change.*

04_comments

In [4]:

```
print("we are learning python with aammar")
print("how are you")
```

```
we are learning python with aammar
how are you
```

***1st way of commentout use # to comment out things**

2nd way is to click ctrl+ /

3rd way if we remove # then normal code will be back. or if we click again ctrl+ / Comments are used to know the cause of code. above print was used to print operator function with numbers*

05_variables

In [5]:

```
fruit_basket = "mangoes", "oranges"
print(fruit_basket)
fruit_basket = 8
print(fruit_basket)
print(type(fruit_basket))
del(fruit_basket)
```

```
('mangoes', 'oranges')
8
<class 'int'>
```

Rules\ 1: - No space in programming..spaces are not allowed even not in variable names and in numbers of file name.\ 2: - Keywords;do not use keywords used in python functionas(breaks,mean,median,test etc) keywords are available on google\ 3: - Names;use short and descriptive variable names\ 4: - Case sensitive (lower case and upper case sensitive) use lower case letters cause no need to click shift and caps\ 5: - del is used to nullify the functions.\ 6: - Variables are updated from uside to down with change in line numbers

06_input-variables

In [6]:

```
#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")
```

```
what is your name? aammar
hello aammar
what is your name? aammar
how old are you? 18
hello! aammar , you are still young
```

07_conditional_logics

In [7]:

```
print(4==4)
```

```

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

#Application of logical operators
azeem_age=4
age_at_school=5
print(azeem_age==age_at_school) # false output

#input function and logics operator
age_at_school=5
hammad_age=input("How old is hammad?") #Input function
hammad_age=int(hammad_age)
print(hammad_age==age_at_school) #logical operator ans false because...#shows str class
it should be numeric or integar
print(type(hammad_age))

```

```

True
False
True
False
True
True
False
How old is hammad?5
True
<class 'int'>

```

logical operator are either "true or false" or "yes or no" or "0 or 1" Operator of equal to == not equal to != less then < greater then > less then and equal to <= greater then and equal to >= is 4 equal to 4? ==always use.... not single=.

08_type_conversion

In [8]:

```

x=10
y=10.2
z="hello"
print(type(x)) #int
print(type(y)) #float
print(type(z)) #str
x=x*y
print(type(x)) #number multiply with float num then class will become float

#implicit type conversion .....
#implicit means andruni tor pe us ko hm ne multiplication ya kisi bi dusre tareke se kar
dia
x=x+y
print(x,"type of x:",type(x))

#explicit type conversion
age=input("what is your age? ")
age=int(age)
print(type(age))
print(age,type(int(age)))

#float
age=input("what is your age? ")
print(type(age))
print(age,type(float(age))) #int dont count float numbers so give command float

#string if you want to write 18 as string then
age=input("what is your age.? ")
print(type(age))
print(age,type(str(age)))

```

```
#name (str)
name=input("what is your name? ")
print(name, type(str(name)))

#name if int
# name=input("what is your name? ")
# print(name, type(int(name))) #to wo khta h invalid literal for int()
#if we say 18 as name in output then it will convert in int..to y python ko ni pata kon s
a question puchna h
#ap us ko bata rahe hn question kia h ar us ka literal meaning kia h. k int ar string apn
i sahi jaga pe ap ko pata chale.
```

```
<class 'int'>
<class 'float'>
<class 'str'>
<class 'float'>
112.2 type of x: <class 'float'>
what is your age? 18
<class 'int'>
18 <class 'int'>
what is your age? 18
<class 'str'>
18 <class 'float'>
what is your age.? 18.5
<class 'str'>
18.5 <class 'str'>
what is your name? 18
18 <class 'str'>
```

09_if_elseelif

In [12]:

```
hammad_age=4
required_age_at_school=5

#question can hammad go to school?
#Statement to check above question
#if hammad_age==required_age_at_school: # if means .. if this statement is true then prin
t below
    #print("hammad can join the school") # no output cause statemt is wrong 4 is not equal
to 5..

#right statement

hammad_age=5
required_age_at_school=5
if hammad_age==required_age_at_school:
    print("hammad can join the school")

#agar hammad ki age 4 year h.run karny se tb kuch ni aya..is ka matlab jb ap if statement
likhty hn
#to us k bd agar y condition hammad_age==required_age_at_school ) puri nahi ho to ap ko y
bi batana
#chaye k agar y ni pura ho raha to ap kuch ar ya y print kar dain forexample
#agar hammad ki age equal ni to ap y likhain

hammad_age=4
required_age_at_school=5
#question can hammad go to school
if hammad_age==required_age_at_school:
    print("hammad can join the school")
else:
    print("hammad can not go to school")

#if we replace 4 with 5 here
hammad_age=5
required_age_at_school=5
#question can hammad go to school
```

```

if hammad_age==required_age_at_school:
    print("hammad can join the school")
else:
    print("hammad can not go to school")

#if we replace 4 with 10 here

hammad_age=10
required_age_at_school=5
#question can hammad go to school?
if hammad_age==required_age_at_school:
    print("hammad can join the school")
else:
    print("hammad can not go to school or should join higher class")

#elf 3rd condition else if
hammad_age=10
required_age_at_school=5
#question can hammad go to school
if hammad_age==required_age_at_school:
    print("congratulations! hammad can join the school.")
elif hammad_age > required_age_at_school:
    print("hammad should join higher secondary school")
else:
    print("hammad can not go to school")

# age equi 3
hammad_age=3
required_age_at_school=5
#question can hammad go to school
if hammad_age==required_age_at_school:
    print("congratulations! hammad can join the school.")
elif hammad_age > required_age_at_school:
    print("hammad should join higher secondary school")
else:
    print("hammad can not go to school")

#you can put as much as you want elif statements
hammad_age=2
required_age_at_school=5
#question can hammad go to school
if hammad_age==required_age_at_school:
    print("congratulations! hammad can join the school.")
elif hammad_age > required_age_at_school:
    print("hammad should join higher secondary school")
elif hammad_age == 2:
    print("you should take care of hammad, he is still a baby!")
else:
    print("hammad can not go to school")

#if age is 2 or less then 2 year
hammad_age=1
required_age_at_school=5
#question can hammad go to school
if hammad_age==required_age_at_school:
    print("congratulations! hammad can join the school.")
elif hammad_age > required_age_at_school:
    print("hammad should join higher secondary school")
elif hammad_age <= 2:
    print("you should take care of hammad, he is still a baby!!")
else:
    print("hammad can not go to school")

```

File "<tokenize>", line 41

```
hammad_age=10
```

^

IndentationError: unindent does not match any outer indentation level

In []:

```
**10_functions**
```

In []:

```
#print used before was a function
#function ka matlab jo chez ap write karain wo ak maqsad k teht output mai ap ko show ho
jay
print("we are learning with aammar? ") #print is a function or call kar raha h output mai
y wali string ko
print("we are learning with aammar? ")
print("we are learning with aammar? ")
print("we are learning with aammar? ")
print("we are learning with aammar? ")
print("we are learning with aammar? ")

#defining a function

def # python command used to define a function
def print_codanics # give any name to function eg print_codanics
def print_codanics() #use parenthesis to define function

#1st way

def print_codanics():
    print("we are learning with aammar? ")
    print("we are learning with aammar? ")
    print("we are learning with aammar? ")

print_codanics()

#2nd way
def print_codanics():
    text = "we are learning with aammar..? "
    print(text)
    print(text)
    print(text)
print_codanics()

#aik line mai change karainge to sari lines ,mai changes ho jae gi eg ammar k bd youtube
agar add karain
def print_codanics():
    text = "we are learning with aammar youtube ..? "
    print(text)
    print(text)
    print(text)
print_codanics()

#3rd way
def print_codanics(text):
    print(text)
    print(text)
    print(text)

print_codanics("we are ")

#defining a function with if,elif, else stament
#hm ne school education ka aik calculator banana h
def school_calculator(age,text):
    if age==5:
        print("hammad can join the school.")
    elif age>5:
        print("hammad should go to higher school")
    else:
        print("hammad is still a baby!")
school_calculator(5,"hammad")

#if age 15 then
def school_calculator(age,text):
    if age==5:
        print("hammad can join the school.")
    elif age>5:
```

```

        print("hammad should go to higher school")
    else:
        print("hammad is still a baby!")
school_calculator(15,"hammad")

#if age 2 year
def school_calculator(age,text):
    if age==5:
        print("hammad can join the school.")
    elif age>5:
        print("hammad should go to higher school")
    else:
        print("hammad is still a baby!")
school_calculator(2,"hammad")

#agar sirf age likhain ar text na likhain
def school_calculator(age):
    if age==5:
        print("hammad can join the school.")
    elif age>5:
        print("hammad should go to higher school")
    else:
        print("hammad is still a baby....!")
school_calculator(2)

#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)

```

In []:

```
**11_loops**
```

In []:

```

#loops k through things ko define karte hn they have 2 types (a) while (b)for loops
#while loops ..define koi bi chez 5 se 10 year k bachy ko rozana us ki maa school k lye t
yar karti h
#to wo loop mai kam karti hn unless wo khud karny k qabil ho jae

while #it's a function
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(5,10): #in between this range value of x is changing again and again
    print(x)
for x in range(4,11): #in between this range value of x is changing again and again
    print(x)

# is ko aik program mai kese use karte hn eg we will make an array or data set
    days #give name to array as days then merge different days like monday, tues,..
days = ["mon", "tue","wed","fri","sat","sun"]
for d in days: #d ki jaga I bi likh sakte hn. I mean jo entity hn yani mon", "tue"...
    # print(d)

# yaha pe hm logical operator ko bi use kar sakte hn eg
days = ["mon", "tue","wed","fri","sat","sun"]
for d in days:
    if (d=="fri"):break #we can break loop here

```

```
print(d)

#another example of loop break
days = ["mon", "tue", "wed", "fri", "sat", "sun"]
for d in days:
    if (d=="fri"):continue #skip d here
    print(d)
```

In []:

```
**11_import_libraries**
```

In []:

```
#if you want to print value of pi
import math
print("the value of pi is ", math.pi)
import statistics
x= [150,250,350,450]
print(statistics.mean(x))
statistics.
numpy,pandas #important libraries name
```

In []:

```
**13_trouble_shooting
```

In []:

```
#1st error
print(we are learning python with aammar) #SyntaxError Perhaps you forgot a comma?
print("we are learning python with aammar") #simply put comma to solve error

#2nd error
print(25/0) #in output it says eroDivisionError: division by zero but very often error in
math is called runtime error

#3 semantic error
#hard to slove as compair to other
name= "aammar"
print("hello, name") #output #hello, name but it should be hello ammar so its error.
name= "aammar"
print("hello", name) #output #hello aammar so no error now

#if no space required then put +plus
name= "aammar"
print("hello"+name) #output #helloaammar and no error now
```