Python ka chilla with #baba Aamar ¶

how to use Jupyter Note Book

Basics of python

01-My first program

In [1]:
```
print(2+3)
print("Hello world")
```

```
5
Hello world
```

02-opeartor

In [2]:
```
print(2+1)
print(3-1)
print(6/2)
print(6//2)
print(3**4)
print(2**4/2-4+10*5)
```

```
3
2
3.0
3
81
54.0
```

*PEMDAS Left to right sequence followed

03_Strings

In [3]:
```
print("Hello world")
print("i'm learning python")
print('test for single quotes')
print("test for double quotes")
print( "test for triple quotes")
print("What's up")
```

```
Hello world
i'm learning python
test for single quotes
test for double quotes
test for triple quotes
What's up
```

Strings cleared:)

04_comment out

In [4]:
```
#print(2+3)
print("Hello world")
```

```
Hello world
```

```
To comment out add # or use Ctrl +/
```

05_variables

In [5]:
```
f=5 #this is numeric varaible
print(f)#now if I will run, the output will be 5 based on f value:)
y="I'm learning python form Aammar"#This is strings varaible
print(y)#Similarly it showed results in terminal,when I ran it
f=20
print(f)#Now, the terminal showed f is 20 as it runs in descending order
f=f+6
print(f)#Now result is shown to be 26 as 20+6 is 26
#Now we will check types of variables, put them in bracket under print cmd
print(type(f)) #In terminal it showed that class of f  variable is INTEGER
print(type(y)) #I terminal it showed that class of y is string
```

```
5
I'm learning python form Aammar
20
26
<class 'int'>
<class 'str'>
```

```
#RULES TO ASSIGN VARAIBLE

#The varaibles should contain letters, number, or underscores
#Don't start with numbers i.e we can't write 2y
#Spaces aren't allowed in names of variables,  not even in file names
#Don't use keywords used in functions e.g. break, test, mean, median #list of
python keyword is avaialble on google
#Name of variable should be hsort and descriptive
#Case sensitivity(Be careful about upper and lowercase letters, prefer
lowercase)
#EXAMPLES
```

In [6]:
```
fruit_basket= "Mangoes"#remember I diddn't use space in varaibles but underscore
print(fruit_basket) #Mnagoes showed in result
fruit_basket= 25
print(fruit_basket) #Now we will check type of this varaible
print(type(fruit_basket)) #It showed that it is integeri.e 25
```

```
Mangoes
25
<class 'int'>
```

06-Input varaible

In [7]:
```
#fruit_basket="Bananas"
#print(fruit_basket)
#INPUT FUNCTION SIMPLE
#fruit_basket=input("what is your favorite item?")
#print(fruit_basket) #Go in terminal add answer there after question, and enter

#INPUT FUNCTION 2ND STAGE
#name=input("what is your  name?") #Before running this comment out previous inpu
#greetings="Hello!"
#print(greetings, name)
#ANOTHER WAY OF STAGE 2 FUNCTION
#name=input("what is your name")
#print("Hello!", name)
#3RD STAGE INPUT FUNCTION, WE ADD 3 QUESTION
name=input("what is your name?")
age=input("how old are you?")
greetings="Hi!"
print(greetings, name, " ,  are you a chemist")
```

```
what is your name?sandhu
how old are you?22
Hi! sandhu  ,  are you a chemist
```

O7-conditional logistics

```
#Logic operators can either be true or fals, 0 or 1, yes or no

#These operators are as follow;

#For equal                          ==

#For not equal to                   !=

#For less than                      <

#For greater than                   >

#For less than and equal to         <=

#For greather than and equal to     >=

#NOW WE WILL CHECK THEM :)
also;
#APPLICATION OF LOGICAL OPERATORS
#ali_age=5
#age_at_school=6
#print(ali_age==age_at_school) #So, terminal showed it false that ali can't go
to school now
#INPUT FUNCTION AND LOGICALS
```

In [8]:
```
print(4==4)
print(3>2)
print(7<225)
print(3<=4)
print(4>10)
age_at_school=5
ali_age=input("how old is ali?") #input function #it is in strings, but schoo at
print(type(ali_age)) #So, it showed that class is string and we will convert it t
ali_age=int(ali_age)
print(ali_age==age_at_school) #LOGICAL OPERATOR #Now, if I run it tehterminal wil
```

```
True
True
True
True
False
how old is ali?4
<class 'str'>
False
```

08-type-conversion

In [9]:
```
a=10          #integer
b=2.5         #float
c="Hello"     #string
#Implicit type conversion
a=a+b
print(type(a)) #Now, this a is the new one 10+2.5= 12.5 which is float
print(type(b)) #Shown in terminal that it's float
print(a,"Type of a is:", type(a))
#explicit type conversion
#age=input("what is your age?")
#age=int(age) #int function applied to convert ans from string to integer or we c
#if the ans of age is in decimal i.e float then write float before conversion i.e
#print(type(age))
#Now with name
name=input("what is your name")
print(name, type(str(name)))
```

```
<class 'float'>
<class 'float'>
12.5 Type of a is: <class 'float'>
what is your namesandhu
sandhu <class 'str'>
```

09_if-else-elif

In [10]:
```
required_age_at_school=5
ali_age=2
#question: Can ali go to school
if ali_age==required_age_at_school:
    print("ali can join the school") #if the condition isn't fulfilled then ans w
elif ali_age>required_age_at_school: # it means else if,i.e no it not else and we
    print("ali should go to higher school") #if age  more than 5 he will go to hi
elif ali_age<=2:
    print("ali is baby, take care of him")
else:
    print("ali can't go to school")
```

```
ali is baby, take care of him
```

10_functions

In [11]:
```
#DEFINING A FUNCTION
#METHOD NO 1
def print_faiza():
    print("I'm learning python from baba Aamar")
    print("I'm learning python from baba Aamar")
print_faiza()
#METHOD NO 2
def print_faiza():
    text = "I'm learning it on Youtube channel codonics"
    print(text)
    print(text)
print_faiza()
#METHOD NO 3
def print_faiza(text):
    print(text)
    print(text)
    print(text)
    print(text)
print_faiza("I love this method of teaching")
#DEFINING A FUNCTION WITH IF, ELIF, AND ELSE
#MAKING A SCHOOL CALACULATOR, TAKE DATA FROM TASK 9
def school_calculator(age):
 if age==5:
  print("He can go to school")
 elif age>5:
  print("He should go to higher school")
 else:
  print("He is a baby")
school_calculator(4)
#METHOD NO 4  , Defining the function of future
def future_age(age):
    new_age=age+20
    return new_age
    print(new_age)
future_predicted_age=future_age(12)
print(future_predicted_age)
```

```
I'm learning python from baba Aamar
I'm learning python from baba Aamar
I'm learning it on Youtube channel codonics
I'm learning it on Youtube channel codonics
I love this method of teaching
I love this method of teaching
I love this method of teaching
I love this method of teaching
He is a baby
32
```

11_loops

In [12]:
```
#There are 2 types of loops as: WHILE and FOR LOOPS
#While
x=0
while (x<5):
    print(x)
    x=x+1
#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 will stop
    if (d=="Fri"):continue #skips d i.e Fri
    print(d)
```

```
0
1
2
3
4
5
6
7
8
9
Mon
Tue
Wed
Thu
Sat
Sun
```

12_import_libraries

```
#we can access already designed functions. Here we will see a few:
```

In [13]:
```
import math #This is typed to openmaths library
print("The value of pi is", math.pi)

import statistics
a=[150, 250, 350, 450]
print(statistics.mean(a))
```

```
The value of pi is 3.141592653589793
300
```

13_troubleshooting

```
#There are 3 types of errors as;
1-Syntax error

2)runtime error
```

```
3)semantic error
```

```
Syntax error refers to the problem in python langauge e.e missing commas

Runtime error refers to mathematical error taht we do

Semantic error refers to the error that we do by ourselve but python is running accurately, difficult to correct
```

In [14]:
```
print(we are learning python)   #Missing the double quotes
```

```
  File "C:\Users\FAIZAF~1\AppData\Local\Temp/ipykernel_10952/3446909980.py", li
ne 1
    print(we are learning python)   #Missing the double quotes
              ^
SyntaxError: invalid syntax
```

In [15]:
```
print(25/0)  #Being divided by 0
```

```
---------------------------------------------------------------------------
ZeroDivisionError                         Traceback (most recent call last)
C:\Users\FAIZAF~1\AppData\Local\Temp/ipykernel_10952/3777121629.py in <module>
----> 1 print(25/0)  #Being divided by 0

ZeroDivisionError: division by zero
```

In [16]:
```
name= "Sandhu"
print("Hello name") #This is wrong
print("Hello",  name) #This is right
```

```
Hello name
Hello Sandhu
```

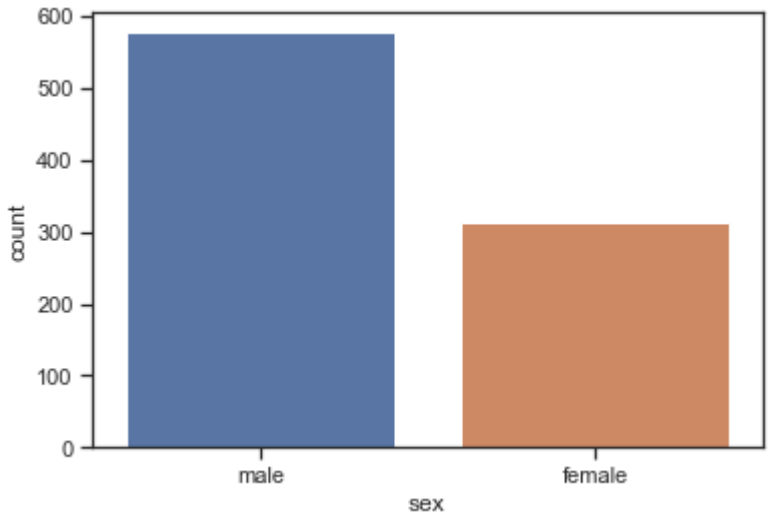
```
**14-DataVisulaisation**
```

In [3]:
```
#Steps in Data visulaization
#1) Import libraries
import seaborn as sns
import matplotlib.pyplot as plt
```

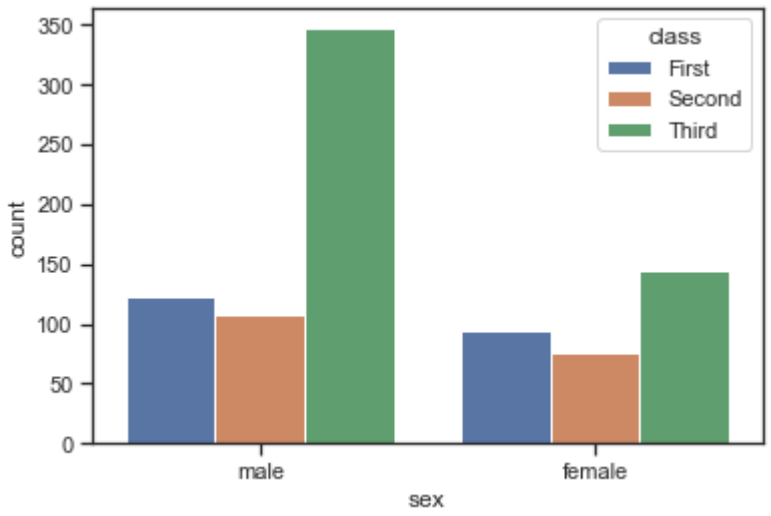
In [5]:
```
#2) SET A THEME i.e Canvas
sns.set_theme(style="ticks", color_codes=True)
#3) IMPORT DATA SET_You can also import your own data
kashti= sns.load_dataset("titanic")
print(kashti)
```

```
     survived  pclass     sex   age  sibsp  parch     fare embarked   class  \
0           0       3    male  22.0      1      0   7.2500        S   Third
1           1       1  female  38.0      1      0  71.2833        C   First
2           1       3  female  26.0      0      0   7.9250        S   Third
3           1       1  female  35.0      1      0  53.1000        S   First
4           0       3    male  35.0      0      0   8.0500        S   Third
..        ...     ...     ...   ...    ...    ...      ...      ...     ...
886         0       2    male  27.0      0      0  13.0000        S  Second
887         1       1  female  19.0      0      0  30.0000        S   First
888         0       3  female   NaN      1      2  23.4500        S   Third
889         1       1    male  26.0      0      0  30.0000        C   First
890         0       3    male  32.0      0      0   7.7500        Q   Third

       who  adult_male deck  embark_town alive  alone
0      man        True  NaN  Southampton    no  False
1    woman       False    C    Cherbourg   yes  False
2    woman       False  NaN  Southampton   yes   True
3    woman       False    C  Southampton   yes  False
4      man        True  NaN  Southampton    no   True
..     ...         ...  ...          ...   ...    ...
886    man        True  NaN  Southampton    no   True
887  woman       False    B  Southampton   yes   True
888  woman       False  NaN  Southampton    no  False
889    man        True    C    Cherbourg   yes   True
890    man        True  NaN   Queenstown    no   True

[891 rows x 15 columns]
```

In [6]:
```
#4)PLOT  BASIC GRAPH
p = sns.countplot(x = "sex", data=kashti) #we are plotting countplot, we don't ne
plt.show()
```



In [7]:
```
#5)PLOT  BASIC GRAPH_with 2 variables
p = sns.countplot(x = "sex", data=kashti, hue="class") #ticekt of class 1, 2 or 3
plt.show()
```



In [8]:
```
#6)Naming a graph
p = sns.countplot(x = "sex", data=kashti, hue="class") #ticekt of class 1, 2 or 3
p.set_title("My graph with title")
plt.show()
```