Learn jupyter with Muhammad Abul Hassan

Learn python

First Program

In [24]:
```
# Learn jupyter with Muhammad Abul Hassan
## First Program

print(2+3)
print('My_name_is_Abulhassan')
print(2+3)
print('My_name_is_Abulhassan')
print(2+3)
print('My_name_is_Abulhassan')
print(30+30)
```

```
5
My_name_is_Abulhassan
5
My_name_is_Abulhassan
5
My_name_is_Abulhassan
60
```

Second Program

Operators

In [25]:
```
print('2+3')
print('My_name_is_Abulhassan')

print('if we want to perform any arithematic operation then we use these function')
#print(10+10)
#print(1+1)
#print(10+10)
#print(10-10)
#print(10**10)
#print(10/10)
print(10+10-5/2)
print('color= green ')


print("ali")
print(23/34,(29*2),8+3)

#PEMDAS

# for multiple line commenting data
# ctrl+/
```

```
2+3
My_name_is_Abulhassan
if we want to perform any arithematic operation then we use these function
17.5
color= green
ali
0.6764705882352942 58 11
```

3rd program

variables

In [26]:
```
# variables: objects containing specific values
x=10
print(x)

y='My name is muhammad Abulhassan'
print(y)


# how to check type of variables

print(type(x))         #this is int type
print(type(y))         #this is string type


# Rules to assign variables
# 1- The variable can be a number,letter or underscores
# 2- Don't start with number
# 3- Spaces are not allowed in programming
# 4- Don't use keywords as they are specific (like true,false,means,median,break,excep
# 5- Python  variables should be short and descriptive
# 6- Case sensitive (this is a case sensitive language so use not always lower case as


fruit_basket='Orange'
print(fruit_basket)

print(type(fruit_basket))

print(type(fruit_basket))



fruit_basket='Orange'     #if we use the same variable again then its value will be ov
print(fruit_basket)

del fruit_basket

#43 minutes
```

```
10
My name is muhammad Abulhassan
<class 'int'>
<class 'str'>
Orange
<class 'str'>
<class 'str'>
Orange
```

Fourth Program

input variables

In [28]:
```
#input your value

fruit_basket=input("what is your favorite fruit ?      ")
print(fruit_basket)


greetings='hello!'
intro=input("what's your name ?   ")
print(greetings , intro)


# another way of stage 2 input function

intro=input("what's your name ?   ")
print("hello" , intro)


# stage 3 of input functions

greetings="Hello!"
name=input("what's your name ?")
age= input("how old are you? ")

print(greetings , name, " , you are still young")

print("Muhammad Abul Hassan")
```

```
what is your favorite fruit ?

what's your name ?   Hassan
hello! Hassan
what's your name ?   hassan
hello hassan
what's your name ?hassan
how old are you? 23
Hello! hassan  , you are still young
Muhammad Abul Hassan
```

5th program

conditional logics

In [30]:
```
#logical operators are either "true or false or yes or no  or 0 or 1"
# equal to                    ==
# less than                   <
# greater than                >
# not equal to                !
# greater than or equal to    >=
# less than or equal to       <=


#Is 4 equal to 4?
print(4==4)
print(2<=1)
print(4>4)
print(10<=19)

#application of logical operators
hamad_age=7
age_at_school=7

print(hamad_age==age_at_school)

#input function AND logical operators


age_at_school=7

hamad_age=input("what is the age of hammad  ?")
print(type(hamad_age))
hamad_age=int(hamad_age)

print(hamad_age==age_at_school)
```

```
True
False
False
True
True
what is the age of hammad  ?10
<class 'str'>
False
```

6th program

type conversion

In [31]:
```
x=10              #int
y=20.4            #float
z="hello"         #string

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

print(x+y)


# implicit type conversion
```

```
# x=x+y
# print(x,"type of x:, type(x)")


# explicit type conversion

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


ali_age=input("what is ali's age  ?")
print(ali_age, type(int(ali_age)))
```

```
<class 'int'>
<class 'float'>
<class 'str'>
30.4
what is your age ?23
23 <class 'int'>
what is ali's age  ?12
12 <class 'int'>
```

7th program

if_elif_else

In [32]:

```
age_of_ali=3
school_going_age=8

if age_of_ali==school_going_age:
    print("Ali can go to school")

elif age_of_ali > school_going_age:
    print("Ali should go for higher studies")

elif age_of_ali == school_going_age:
    print("Ali can go to school")

elif age_of_ali == 3:
    print(" He is a baby can't go to school ")

else:
    print("Ali can not go to school")



# order of statement to keep in mind

# if    elif     else
```

```
 He is a baby can't go to school
```

8th program

functions

In [36]:
```
print("My name is Abulhasan")
print("My name is Abulhasan")
print("My name is Abulhasan")
print("My name is Abulhasan")
print("My name is Abulhasan")

# if we use a specific value again and again then we need it to make a function
# so we can easily use that function,when needed
# by using this we  can avoid big mistakes in the code


#defining a function

#1

def print_about_ali():
    print("My name is Abulhasan")
    print("My name is Abulhasan")
    print("My name is Abulhasan")

print_about_ali()         # this is a function call

#2

#we use def command for function

def print_tech():
    a="This is a large tech firm"
    print(a)
    print(a)
    print(a)


#print_tech()           # this is a function call

#defining a function with if , elif, else statements

def school_calculator(age_of_ali, school_going_age):

    if age_of_ali==school_going_age:
       print("Ali can go to school")

    elif age_of_ali > school_going_age:
       print("Ali should go for higher studies")

    elif age_of_ali == school_going_age:
       print("Ali can go to school")

    elif age_of_ali == 3:
       print(" He is a baby can't go to school ")

    else:
```

```
        print("Ali can not go to school")


# school_calculator(3,9)


# defining a future function

# small machine learning code example for age prediction

# def future_age(age):
#     new_age=age+20;
#     return new_age
#     print(new_age)
# future_predicted_age=future_age(18)
# print(future_predicted_age)


# Import required modules
# import cv2 as cv
# import math
# import time
# from google.colab.patches import cv2_imshow

# input = cv.imread("2.jpg")
# output = age_gender_detector(input)
# cv2_imshow(output)


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

```
My name is Abulhasan
My name is Abulhasan
My name is Abulhasan
My name is Abulhasan
My name is Abulhasan
My name is Abulhasan
My name is Abulhasan
My name is Abulhasan
3.141592653589793 value of pi is
```

9th program

Loops

In [37]:

```
#while and for loops

#while loops

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

# x=0
# while(x<10):
```

```
#     print(x)
#     x=x+1

#for loop

# x=0
# for x in range (1,9):
#     print(x)


#arrays

days=["Monday", "Tuesday", "Wednesday","Thursday","Friday","Saturday","Sunday"]

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

```
Monday
Tuesday
Wednesday
Thursday
Friday
Sunday
```

10th program

import libraries

In [38]:

```
#if we want to print the value of any already defined entity like value of "pi" ,"e" m
#we use libraries or take code of already defined values

#let say

import math
print("the value of pi",math.pi)

import statistics
X=[203,30,24,45,45,32]
print(statistics.mean(X))

import statistics
print(statistics.median)


#some important libraries
#math
#statistics
# numpy,pandas ,TensorFlow.
# Scikit-Learn.
# Numpy.
# Keras.
# PyTorch.
# LightGBM.
# Eli5.
# SciPy
```

```
# import numpy
# X=[203,30,24,45,45,32]
# print(numpy.)
```

```
the value of pi 3.141592653589793
63.166666666666664
<function median at 0x000001604A9DBB80>
```

11th program

trouble shooting

In [39]:
```
#print(my name is muhammad abulhassan)   SyntaxError

#print(20/0)   Runtime error

name="hassan"
print("hello",name)   #symantic error
```

```
hello hassan
```