Python

How to use Jupiter Note Book

Basics of python

01-First Program

In [1]:
```
print(2+3)
print("hello world")
print('hi')
print("nonno")
print("Shahram")
print("my kid")
print("we")
print(2*34-4/2)
```

```
5
hello world
hi
nonno
Shahram
my kid
we
66.0
```

02-Operators

In [2]:
```
print(2/3)
print(9%2)
print(7/2)
print(7//2)
print(2**3)
print("my age is")
print(5%2)

print(2*3/4+6-4**2)
```

```
0.6666666666666666
1
3.5
3
8
my age is
1
-8.5
```

pamdas

03-Strings

In [3]:
```
print("hello world")
print("hi")
print("nonno")
print('test for single')
print("test for double")
print("'test for triple'")
print('''test triple''')
```

```
hello world
hi
nonno
test for single
test for double
'test for triple'
test triple
```

04-Comments

In [4]:
```
print('how are you?') #for comment press ctl+/
print("we are learning python") #srings
print(2+3) #print operators
# for interpretre press ctrl+shift+p
```

```
how are you?
we are learning python
5
```

05-varibles

In [5]:
```
# #variables: object contaning specific value
x= 5 # numeric varible
print(x)

y="we are learning python" #string variable
print(y)

x=32.5
print(x)

#types of variable
type(x)
print(type(x))
print(type(y))

# rules to sign a varibles
# 1- the varibles should contain letters, numbers or underscore
# 2- Do not start with number
# 3- Spaces are not allowed
# 4- do not use key words in function(eg break, median, test)
# 5- short and descriptive
# 6- case sensitivity (lower and upercase)


fruit_basket=8
fruit_basket= "mangoes"

print(fruit_basket)
```

```
print(type(fruit_basket))
```

```
5
we are learning python
32.5
<class 'float'>
<class 'str'>
mangoes
<class 'str'>
```

06-Input_varibles

In [6]:

```
fruit_basket="mangoes"
print(fruit_basket)

#input function use
fruit_basket=input("which is your favourit fruit?")
print(fruit_basket)

#input function second stage
name=input("what is your name? ")
greetings="Hello"

print(greetings, name)

#anotherway of stage 2 input function
name=input("what is your name? ")

print("Hello", name)

#3rd Stage input finction
name=input("what is yur name?  ")
age=input("how old are yuo?  ")
greetings="hello"

print(greetings, name, "you are young")
x=5
y="my age is"
print(y,x)
```

```
mangoes
which is your favourit fruit?Mangoes
Mangoes
what is your name? Faseeh
Hello Faseeh
what is your name? Faseeh
Hello Faseeh
what is yur name?  Fseeh
how old are yuo?  19
hello Fseeh you are young
my age is 5
```

07-Conditional-Logics

In [7]:

```
# logical operators are either true or false or yes
# equal to      ==
# not equal t   !=
```

```
# less than     <
# # grater than   >
# # less than and equal to <=
# # greater than and equa to >=

#is 6 equal to 6?
print(6==6)
print(6==4)
print(4!=4)
print(3<6)
print(4>8)
print(2<=4)
print(5>=9)


# application of logical operators
Sabeeh_age=6
age_at_school=5
print(Sabeeh_age>=age_at_school)

Sabeeh_age=input("how old are you  ")
Sabeeh_age=int(Sabeeh_age)
age_at_school=5
print(Sabeeh_age>=age_at_school) #logical operator
```

```
True
False
False
True
False
True
False
True
how old are you  19
True
```

08-Type-Conversion

In [8]:

```
x=10
y=10.2
z= "hello"
print(type(x))

#implicit type conversion
x=x*y
print(x)
print(type(x))

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

```
<class 'int'>
102.0
<class 'float'>
what is your age  19
19 <class 'int'>
```

09-if-else-elif

In [9]:
```
required_age_at_school =5
Shahram_age= 4

#can Shahram go to school

if Shahram_age==required_age_at_school:
    print("Shahram can go to school")
elif Shahram_age > required_age_at_school:
    print("Shshram should go to high school")
else:
    print("Shahram cannot go to school")
```

```
Shahram cannot go to school
```

10-Function

In [10]:
```
#1
# defining a function
def print_faseeh():
    print("how ar you?  ")
    print("how ar you?  ")
    print("how ar you?  ")
print_faseeh()

# #2
def print_faseeh():
    text ="how ar you?  "
    print(text)
    print(text)
    print(text)
    print(text)
print_faseeh()

#3
def this(text):
    print(text)
    print(text)
    print(text)
    print(text)
this("number")


# defining a function with if =, elif. else ststement
def school_age_calculator(age):
    if age==5:
        print("Shahram can go to school")
    elif age>5:
        print("Sharam should go to high school.com")
    else:
        print("Shahram is still young")

school_age_calculator(5)


# defining a future function
```

```
def age(age):
    new_age=age+40
    return (new_age)
new_age=age(2)
print(new_age)
```

```
how ar you?
how ar you?
how ar you?
how ar you?
how ar you?
how ar you?
how ar you?
number
number
number
number
Shahram can go to school
42
```

11- Loops

In [11]:

```
# while and for loops
# while loops


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", "Thru", "Fri", "Sat", "Sun")
for i in days:
    # if (i=="Fri"):break #Sopts at friday
    if (i=="Fri"): continue #Skips Fri day
    print(i)
```

```
0
1
2
3
4
5
5
6
7
8
9
Mon
Tue
Wed
Thru
```

```
Sat
Sun
```

12-Import_Libraries

In [12]:

```
#if you want to print value of pi

import math

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

import statistics

x=(150,350.350,250,450,550,400)
print(statistics.mean(x))
print(statistics.median(x))
print(statistics.mode(x))

#numpy, pandas,
```

```
The value of pi is 3.141592653589793
358.39166666666665
375.175
150
```

12-Trouble-Shooting

In [13]:

```
#trouble shooting of error
# print('we are learing python') #sytax error
#print(25/0) #run time error


name= "Faseeh"
print("hello"+name)
print("hello", name)
```

```
helloFaseeh
hello Faseeh
```