Python ka Chilla with #baba_aammar

How to use Jupyter Note Book

Basics of Python

01 - My first program

In [ ]:

```
print(2+3)
print("Hello world")
print("We are learning Python with Ammar")
```

```
5
Hello world
We are learning Python with Ammar
```

02 - opterators

In [ ]:

```
print(3+2)
print(8-12)
print(600/12)
print(25*3)
print(131%2)
print(600//12)
print(25**3)
print(5**2/58*2/4+10-7)
```

```
5
-4
50.0
75
1
50
15625
3.2155172413793096
```

PEMDAS: Parenthesis Exponents Multiplication Division Addition Subtraction

03 - strings

In [ ]:

```
print("Hello world")
print("We are learning 40days of Data Science!!")
print('Test for single quotes')
print("test for double quotes")
print('''test for tripple quotes''')
print("How's that?")
```

```
Hello world
We are learning 40days of Data Science!!
Test for single quotes
test for double quotes
test for tripple quotes
How's that?
```

04 - comments

In [ ]:

```
print("How is the weather for today?") # press these to comment out (Ctrl+/)
print("We are learning python with Ammar") # print a string
print(27+8) # print operators function with numbers
```

```
How is the weather for today?
We are learning python with Ammar
35
```

05 - variables

In [ ]:

```
# Variables: objects containing specific values
x = 5 # numeric or integer variable
print(x)

y = "40days of learning!!" # string variable
print(y)

x = x+25 # or x=30
print(x)

# types/class of variables
type(x)
print(type(x))
print(type(y))

# Rules to assign a variable:
# 1- The variable should contain letters, numbers or underscores
# 2- Do not start with numbers
# 3- Spaces are not allowed
# 4- Do not use keywords used in functions (break, mean, media, test etc.)
# 5- Short and descriptive
# 6- Case sensitivity (lowercase and uppercase letters, should use lowercase always)

fruit_basket = 5
fruit_basket = "Apple"
print(type(fruit_basket))
print(fruit_basket)
```

```
5
40days of learning!!
30
<class 'int'>
<class 'str'>
<class 'str'>
Apple
```

06 - input_variables

In [ ]:

```
fruit_basket = "Apple"
print(fruit_basket)

# Input function simple
fruit_basket = input("What is your favourite fruit? ")
print(fruit_basket)

# Input function of 2nd stage
name = input("What is your name? ")
greetings = "Hello!"
print(greetings, name)

# Another way of stage 2 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")
```

```
Apple
What is your favourite fruit? Orange
Orange
What is your name? Awon
Hello! Awon
What is your name? Awon
Hello! Awon
What is your name? Awon
How old are you? 35
Hello! Awon, You are still young
```

07 - conditional_logics

In [ ]:

```
# Logical operators are either "true or false" or "yes or no" or "0 or 1"
# equal to                         ==
# not equal to                     !=
# less than                        <
# greater than                     >
# less than and equal to           <=
# greater than and equal to        >=

# Is 4 equal to 4?
print(4==4)
print(4!=4)
print(4>3)
print(3>6)
print(3<=5)
print(5>=4)

# Application of logical operators
ahsan_age = 4
age_at_School = 5
print(ahsan_age==age_at_School)

# Input function and logical operator
age_at_School = 5
ahsan_age = input("How old is ahsan? ") # input function
ahsan_age = int(ahsan_age)
print(type(ahsan_age))
print(ahsan_age==age_at_School) # logical operator
```

```
True
False
True
False
True
True
False
How old is ahsan? 2
<class 'int'>
False
```

08 - type_conversion

In [ ]:

```
x = 25 # integer
y = 1.85 # float
z = "Hello" # string

# 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(age, type(int(age)))

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

```
46.25 Type of x is: <class 'float'>
What is your age? 35
35 <class 'int'>
What is your name? Awon
Awon <class 'str'>
```

09 - if_else_elif

In [ ]:

```
ahsan_age = 1
required_age_at_school = 5

# Question: can ahsan go to school?
if ahsan_age == required_age_at_school:
    print("Congratulations! Ahsan can join the school.")
elif ahsan_age > required_age_at_school:
    print("Ahsan should join higher secondary school.")
elif ahsan_age <= 2:
    print("You should take care of Ahsan, he is still a baby!")
else:
    print("Ahsan can not go to school.")
```

```
You should take care of Ahsan, he is still a baby!
```

10 - functions

In [ ]:

```
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")
print("We are learning with Aammar")


# Defining a function
# 1
def print_codanics():
    print("We are learning with Aammar")
    print("We are learning with Aammar")
    print("We are learning with Aammar")

print_codanics()


# 2
def print_codanics():
    text = "We are learning with Aammar in Codanic youtube channel"
    print(text)
    print(text)
    print(text)

print_codanics()


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

print_codanics("We are learning with Aammar in Codanic youtube channel")


# Defining a function with if, elif and else statments
def school_calculator(age):
    if age==5:
        print("Ahsan can join the school")
    elif age>5:
        print("Ahsan should go to higher school")
    else:
        print("Ahsan is still a baby")

school_calculator(2)


# Defining a function of future
def future_age(age):
    new_age = age + 20
    return new_age

future_predicted_age = future_age(5)
print(future_predicted_age)
```

```
We are learning with Aammar
We are learning with Aammar
We are learning with Aammar
We are learning with Aammar
We are learning with Aammar
We are learning with Aammar
We are learning with Aammar
We are learning with Aammar
We are learning with Aammar
We are learning with Aammar in Codanic youtube channel
We are learning with Aammar in Codanic youtube channel
We are learning with Aammar in Codanic youtube channel
We are learning with Aammar in Codanic youtube channel
We are learning with Aammar in Codanic youtube channel
We are learning with Aammar in Codanic youtube channel
Ahsan is still a baby
25
```

11 - loops

In [ ]:

```
# while and for loops

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

# for loop
for x in range(4, 14):
    print(x)

# Array
days = ["Mon", "Tue", "Wed", "Thu", "Fri", "Sat", "Sun"]
for d in days:
    # if (d=="Fri"): break # loop stops
    if (d=="Fri"): continue # skips d
    print(d)
```

```
0
1
2
3
4
5
4
5
6
7
8
9
10
11
12
13
Mon
Tue
Wed
Thu
Sat
Sun
```

12 - import_libraries

In [ ]:

```
# If you want to print the value of pi
import math
print("The value of pi is ", math.pi)

import statistics
x = [982, 258, 159, 357]
print(statistics.mean(x))
```

```
The value of pi is  3.141592653589793
439
```

Few important libraries: NumPy, Pandas

13 - trouble_shooting

In [ ]:

```
# Syntax error
print(We are learning python with Aammar)
```

```
  File "C:\Users\awon\AppData\Local\Temp/ipykernel_4836/1369700461.py", line 2
    print(We are learning python with Aammar)
             ^
SyntaxError: invalid syntax
```

In [ ]:

```
# Runtime error
print(25/0)
```

```
---------------------------------------------------------------------------
ZeroDivisionError                         Traceback (most recent call last)
~\AppData\Local\Temp/ipykernel_4836/882998340.py in <module>
      1 # Runtime error
----> 2 print(25/0)

ZeroDivisionError: division by zero
```

In [ ]:

```
# Semantic error
name = "Awon"
print("Hello Awon")
```

```
Hello Awon
```

We have completed this jupyter notebook tutorial saved as html