**Python Tutorial for beginners [Full Course]**

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**Intro --- comparison operators**

print("hello world")   
print("\*" \* 10) # multijplying string with 10

**output**

\*\*\*\*\*\*\*\*\*\*

**Variables:**

Temporarily stores data into computers memory

price = 10   
print(price)

**output**  : 10

price = 10   
price = 20 # update the value of price variable we have to reset it   
print(price)

**output** :20

#we check in a patient named john smith, he is 20 yrs old and is a new patient   
full\_name = 'john smith'   
age = 20   
# boolean ( which can be true or false)   
is\_new = True

**Getting input**

How to receive input from the user

name = input('what is your name? ') #by this () parenthesis we calling and excuting the func   
# we get this statment at the terminal and user can enter his/her name   
print('hi ' + name)

**output**

what is your name? abc

hi abc

# person's name and fav color then, print a msg like " abc likes blue"   
name = input('what is your name?: ')   
fav\_color = input('what is your fav color? ')   
print(name + ' likes ' + fav\_color)

**Output:**

what is your name?: abc

what is your fav color? blue

abc likes blue

**Type conversion:**

# calculate age   
birth\_year = input('birth year: ')   
age = 2019 -int( birth\_year)   
print(age)

**Output**

birth year: 1999

20

# ask a user their weight(in pounds) convert it to kg and print on the terminal   
weight\_lbs= input('weight in lbs: ')   
weight\_kg = int(weight\_lbs) \* 0.45   
print(weight\_kg )

**Output:** weight in lbs: 120

54.4

**Strings**

# multi line string   
course = '''   
hi ,

here is our first email to you.   
   
thankyou   
   
'''   
print(course)

# use [] to get a character and index in this string   
course = 'python for beginners'   
print(course[0]) # index of first character 0   
# we can also use neg index for so it will from last character

#print all the characters

another = course[:]   
print(another)

**Formatted strings:**

Use for dynamically generate some text with your variable

Use {} to dynamically insert values in string

first = 'john'   
last = 'smith'   
message = first + ' [' + last + '] is a coder'   
print(message)

**output:** john [smith] is a coder

first = 'john '   
last = 'smith'   
'   
#formated strings   
msg = f'{first} [{last}] is a coder' # {} we define holes in our string   
print(msg)

**Output**: john [smith] is a coder

**String method**

# calculate nums of character in string   
course ='python for beginners '   
print(len(course))

**Output**: 20

**Method:**

When a func is belongs to something or specific to some kind of obj we refer to that func as method.

**Function:**

Which do not belong to strings , num or other kind of object e.g len

# func for converting all the charac into upper or lower case e use .   
course ='python for beginners'   
print(course.upper())

**Output :** PYTHON FOR BEGINNERS

course = 'python for brginners'   
print(course.find('p')) # here we pass a charac this will return the index of that char

**output :** 0

course = 'python for beginners'   
print(course.replace('beginners', 'absolute beginners')) # here we repace char or sequence of char

**output:** python for absolute beginners

course = 'python for beginners'   
print('python' in course) # it return true or false

**output:** True

**Arithmetic operation:**

print(10+3) #addition sub operator   
print(10/3) #division   
print(10%3) # return remainder of a division   
print(10 \*\* 3) #this will return 10^3

x = 10   
x = x+3 # increment by 3 and store in x   
# argumented assignment operator or enhanced assignment operator   
x += 3   
print(x)

**Math functions:**

x = 2.9   
# to round this func we use built in round function   
print(round(x))

**output:** 3

x = 2.9   
# absolute func will alwways give positive num   
print(abs(-2.9))

**output:** 2.9

# math module which contain a bunch of re-useable func for performing mathematical calculations   
   
import math   
# now math is an obj like string so we can access it functions using operator   
print(math.ceil(2.9))

**Output**: 3

# math module which contain a bunch of re-useable func for performing mathematical calculations

import math   
# now math is an obj like string so we can access it functions using operator   
print(math.floor(2.9))

**Output:** 2

**If Statements:**

# make decision based on condition   
#if it is a hot drink plenty of water otherwise if it is cold wear warm clothes otherwise it is a lovely day   
   
is\_hot = False   
is\_cold = True   
   
if is\_hot:   
 print("it is a hot day")   
 print("drin plenty of water")   
elif is\_cold:   
 print("it is a cold day")   
 print("wear warm clothes")   
else:   
 print("it is a lovely day")

Output:

it is a cold day

wear warm clothes

# make decision based on condition   
#price of a house 1M$ if buyer has good credit,   
# they need to put down 10% otherwise they need to put down 20%   
#prnt the down payment

price = 1000000   
has\_good\_credit = True   
if has\_good\_credit:   
 down\_payment = 0.1 \* price   
else:   
 down\_payment = 0.2 \* price   
print(f" down payment: {down\_payment}")

**Output:** down payment: 100000.0

**Logical operators:**

We use this operator in situations where we have multipleconditions

# if applicants has high income and good credit eligible for loan   
# we will use logical or operator to combine 2 conditions   
has\_high\_income = True   
has\_good\_credit = True

if has\_high\_income and has\_good\_credit:   
 print("eligible for loan")

**Output:** eligible for loan

**Comparison operators**

#if name is less than 3 charactes lon name must be atleast 3 characters otherwise if it is more than 50 characters long name can be max of 50

characters otherwise look good

name = "js"   
if len(name) < 3:   
 print("Name must be at least 3 character")   
elif len(name)>50:   
 print("name must be a max 50 charac")   
else:   
 print("name looks good")

**Output:** Name must be at least 3 characters

**Weight converter program:**

**weight in kilograms or pounds ?**

weight = int(input('Weight: '))  
unit = input('(L)bs or (K)g: ')  
if unit.upper() == "L":  
 converted = weight \* 0.45  
 print(f"you,r weight {converted} lbs")  
else:  
 converted = weight // 0.45  
 print(f"you,r weight {converted} g")

**output:**

Weight: 84

(L)bs or (K)g: k

you,r weight 186.0 g

**While loop (**Guess game**)**

Guessed\_number=9  
count\_number = 0  
count\_limit = 3  
while count\_number < count\_limit:  
 guess = int(input('Guess: '))  
 count\_number +=1  
 if guess==Guessed\_number:  
 print(f"you won!!!!")  
 break  
else:  
 print(f"you failed :/")

**Output:**

Guess: 3

Guess: 4

Guess: 9 you won!!!!

**While loop (**car game**)**

command = ""  
started = False  
while True:  
 command = input("> ").lower()  
 if command == "start":  
 if started:  
 print("Car already started !!")  
 else:  
 started = True  
 print("car start...")  
 elif command == "stop":  
 if not started:  
 print("Car is already stopped @: ")  
 else:  
 started = False  
 print("car Stopped")  
 elif command == "quit":  
 break  
 else:  
 print("Sorry I dnt understand you!")

**output:**

**Sorry I dnt understand you!**

**> >**

**Sorry I dnt understand you!**

**> start**

**car start...**

**> start**

**Car already started!!**

**For Loop:**

number = {10}  
for x\_count in number:  
 output = ''  
 for count in range(x\_count):  
 output += 'x'  
 print(output)

x

xx

xxx

xxxx

xxxxx

xxxxxx

xxxxxxx

xxxxxxxx

xxxxxxxxx

xxxxxxxxxx

**Nested for Loop:**

for x in range(3)  
 for y in range(3)  
 print(f'({x},{y})')

**output:**

(0,0)

(0,1)

(0,2)

(1,0)

(1,1)

(1,2)

(2,0)

(2,1)

(2,2)

numbers = [5, 1, 5, 1, 5]  
for x\_count in numbers:  
 print('x' \* x\_count)

**output:**

xxxxx

x

xxxxx

x

xxxxx

**List:**

numbers = [3, 4, 5, 7, 10, 15]  
max = numbers[0]  
for number in numbers:  
 if number > max:  
 max = number  
print(max**)**

output:

15

numbers = int(input("Enter a Number: "))  
if (numbers%2==0):  
 print(numbers, "is even number")  
else:  
 print(numbers, "is odd number")

**Unpacking:**

phone = input("Phone: ")  
digits\_mapping = {  
 "1": "one"  
 "2": "Two"   
 "3": "three"  
}  
output= ""  
for ch in phone:  
 output += digits\_mapping.get(ch, "!") + ""  
 print(output)