

Python Basic Syntax

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Outline

- Hello World
 - print
 - Text Styles
 - Variables
 - String
 - Conditional Statements
 - Loops
 - Drawing Patterns (Example)
 - Reverse an integer (Example)
-

Hello World!

In [44]:

```
# Single line comment
'''
    Multiline Comments
'''

print("Hello, World!")
```

Hello, World!

In [19]:

```
print(2+2) # Addition
```

4

In [20]:

```
print('2'+ '2') # String concatenation
```

22

In [22]:

```
print('2' * 3) # n times string repeat
```

222

In [23]:

```
print(5/2) # Float division
```

2.5

In [24]:

```
print(5//2) # Integer division rule
```

2

In [25]:

```
print(2**2) # Square
```

4

In [134]:

```
'''

Color codes

Red = '\033[91m'
Green = '\033[92m'
Blue = '\033[94m'
Cyan = '\033[96m'
White = '\033[97m'
Yellow = '\033[93m'
Magenta = '\033[95m'
Grey = '\033[90m'
Black = '\033[90m'
Default = '\033[99m'

'''

print("\033[91m I am in red", end = "\n\n")

# Tip

class color:
    PURPLE = '\033[95m'
    CYAN = '\033[96m'
    DARKCYAN = '\033[36m'
    BLUE = '\033[94m'
    GREEN = '\033[92m'
    YELLOW = '\033[93m'
    RED = '\033[91m'
    BOLD = '\033[1m'
    UNDERLINE = '\033[4m'
    END = '\033[0m'

print(color.PURPLE + 'Hello World !' , end = " ")
print(color.CYAN + 'Hello World !' , end = " ")
print(color.DARKCYAN + 'Hello World !' , end = " ")
print(color.BLUE + 'Hello World !' , end = " ")
print(color.GREEN + 'Hello World !' , end = "\n\n")
print(color.YELLOW + 'Hello World !' , end = " ")
print(color.RED + 'Hello World !' , end = " ")
print(color.BOLD + 'Hello World !' , end = " ")
print(color.UNDERLINE + 'Hello World !' +color.END, end = " ")
print(color.END + 'Hello World !' , end = " \n\n")
```

I am in red

Hello World ! Hello World ! Hello World ! Hello World ! Hello World !

Hello World ! Hello World ! Hello World ! Hello World ! Hello World !

Variables

In [17]:

```
name = "Fahad"  
print(name)
```

Fahad

In [26]:

```
first_name = "Fahad"  
  
LAST_NAME = "Siddiqui"  
  
print(first_name+" "+LAST_NAME)  
  
print(first_name, " ", LAST_NAME)  
  
print("{} {}".format(first_name, LAST_NAME))
```

Fahad Siddiqui
Fahad Siddiqui
Fahad Siddiqui

In [18]:

```
weight = 150  
print(weight)
```

150

1. You can't enclose it in quotation marks.
2. You can't have any spaces in it.
3. It can't be a number or begin with a number.

In addition, a variable can't be any of Python's *reserved* words, also known as keywords—the special words that act as programming instructions, like **print**.

Here's a list of them.

and	False	not
as	finally	or
assert	for	pass
break	from	print
class	global	raise
continue	if	return
def	import	True
del	in	try
elif	is	while
else	lambda	with
except	None	yield
	nonlocal	

String

In [29]:

```
str1 = "Hello"
str2 = "World"
str3 = "!"
print(str1 + str2 + str3)
print(str1 + str2 + str3 * 3)
```

```
HelloWorld!
HelloWorld!!!
```

Conditional Statements

In [31]:

```
species = "cat"

if species == "cat":
    print("Yep, it's cat.")
```

Yep, it's cat.

In [36]:

```
if 2 + 2 == 4:
    print("Everything makes sense.",end="\n\n")

if 2 + 1 > 4:
    print("Condition false")
elif 2 + 1 < 4:
    print("Condition true")
else:
    print("equal")
```

Everything makes sense.

Condition true

In [42]:

```
x = 1

if x == 1 and x < 5:
    print("Done!")

if x == 1 or x > 5:
    print("Yap!")

if not x > 1:
    print("Working")

if not x > 1:
    if x == 1:
        print("Nested condition")
```

Done!

Yap!

Working

Nested condition

Loops

In [45]:

```
for i in range(10):  
    print(i)
```

0
1
2
3
4
5
6
7
8
9

In [46]:

```
for j in range(1,10,2):  
    print(j)
```

1
3
5
7
9

In [48]:

```
for i in range(1,11):  
    if i % 2 == 0:  
        print("{} is even".format(i))  
    else:  
        print("{} is odd".format(i))
```

1 is odd
2 is even
3 is odd
4 is even
5 is odd
6 is even
7 is odd
8 is even
9 is odd
10 is even

In [54]:

```
# Nested Loops

for i in range(1,11):
    print("Table of ",i)
    for j in range(1,11):
        print(i*j,end=" ")
    print("\n")
```

Table of 1
1 2 3 4 5 6 7 8 9 10

Table of 2
2 4 6 8 10 12 14 16 18 20

Table of 3
3 6 9 12 15 18 21 24 27 30

Table of 4
4 8 12 16 20 24 28 32 36 40

Table of 5
5 10 15 20 25 30 35 40 45 50

Table of 6
6 12 18 24 30 36 42 48 54 60

Table of 7
7 14 21 28 35 42 49 56 63 70

Table of 8
8 16 24 32 40 48 56 64 72 80

Table of 9
9 18 27 36 45 54 63 72 81 90

Table of 10
10 20 30 40 50 60 70 80 90 100

In [57]:

```
k = 0

while k < 10:
    print(k , end = " ")
    k += 1
```

0 1 2 3 4 5 6 7 8 9

Pattern

In [73]:

```
'''
#
# #
# # #
# # # #
# # # # #

'''

n = input("Give me a number ")

n = int(n)

for i in range(n):
    for j in range(i+1):
        print('#',end=" ")
    print()
```

Give me a number 5

```
#
# #
# # #
# # # #
# # # # #
```

In [70]:

```
'''
# # # # #
# # # #
# # #
# #
#

'''

n = input("Give me a number ")

n = int(n)

for i in range(n):
    for j in range(n-i):
        print('#',end=" ")
    print()
```

Give me a number 5

```
# # # # #
# # # #
# # #
# #
#
```

In [87]:

```
'''
# # # # #
# # # #
# # #
# #
#
'''

n = input("Give me a number")

n = int(n)

for i in range(n):
    for j in range(n):
        if i > j:
            print(" ",end=" ")
        else:
            print('#',end=" ")
    print()
```

Give me a number5

```
# # # # #
# # # #
# # #
# #
#
```

In [96]:

```
'''
    #
  # #
# # #
# # # #
# # # # #
# # # # # #

'''

n = input("Give me a number: ")
n = int(n)

for i in range(n):
    for j in range(n+1):
        if j >= n-i:
            print("#",end=" ")
        else:
            print(' ',end=" ")
    print()
```

Give me a number: 5

```
    #
  # #
# # #
# # # #
# # # # #
```

In [114]:

```
'''
    # # #
#   #   #
# #   # #
#   #   #
    # # #
'''

n = input("Give me a number: ")

n = int(n)

k = n//2

for i in range(-k,k+1):
    for j in range(-k,k+1):
        if abs(i) == abs(j):
            print(" ",end=" ")
        else:
            print('#',end=" ")
    print()
```

Give me a number: 5

```

# # #
#   #   #
# #   # #
#   #   #
    # # #
```

Reverse a Given Number

In [131]:

```
n = int(input("Please Enter any Number: "))

# 12345
# %
# //

print("Type is : ",type(n),end="\n\n")

rev = 0

while n > 0:
    mod = n %10
    rev = (rev *10) + rev
    n = n //10

print("\n Reverse of entered number is = %d" %Reverse)
```

Please Enter any Number: 12345

Type is : <class 'int'>

Reverse of entered number is = 54321

THE END!