

Introduction

1. Hello World

2. Comments

3. Variables

4. Arithmetic Expressions

- * Operator Precedence

- * Integer division vs Floating point division

- * Number representation

5. Input/Output

In [1]:

```
# 1. Hello World
print('Hello World!')
print("Welcome to Python Course")
print("This is really"
      " getting nice")
print("""Python is really cool language
       isn't it""")
```

```
Hello World!
Welcome to Python Course
This is really getting nice
Python is really cool language
       isn't it
```

In [2]:

```
print("Hello " + "Mahendra Garodi" + "!")  
  
print("This is number " + 10)
```

Hello Mahendra Garodi!

```
-----  
TypeError                                Traceback (most recent call last)  
<ipython-input-2-7a0a8826b982> in <module>()  
      1 print("Hello " + "Mahendra Garodi" + "!")  
      2  
----> 3 print("This is number " + 10)
```

TypeError: must be str, not int

In [3]:

```
# 2. Comments  
# This is single line comment  
"""  
This is multi-line line comment.  
This is second line of multi-line comment.  
"""  
  
# Below is example of multiline line string and not comment  
my_address = """G-9, Damden Neptunia,  
Gulmohar Enclave Road, Munnekolal  
Marathahalli - 560037  
"""  
print(my_address)
```

G-9, Damden Neptunia,
Gulmohar Enclave Road, Munnekolal
Marathahalli - 560037

In [4]:

```
# 3. Variables
name = "Mahendra Garodi"
age = 20
percentage = 87.5
is_student = False

print("Type of name : ", type(name))
print("Type of age : ", type(age))
print("Type of percentage : ", type(percent))
print("Type of is_student : ", type(is_student))

print("My age is : ", age)
age = name # You can assign variable of any type to any type
print("Now my age is : ", age)
print("Now the type of age is: ", type(age))
```

```
Type of name : <class 'str'>
Type of age : <class 'int'>
Type of percentage : <class 'float'>
Type of is_student : <class 'bool'>
My age is : 20
Now my age is : Mahendra Garodi
Now the type of age is: <class 'str'>
```

Arithmetic Operators

- + : Addition
- - : Subtraction
- * : Multiplication
- / : Division (Floating Point Division)
- // : Division (Integer division)
- % : Modulo
- ** : exponentiation

In [5]:

```
# 4. Arithmetic expressions

result = 10/3 # Floating point division in Python 3.x and Integer division in Python 2.x
print(result)
result = 10 + 2 * 10 / 5
print(result)

print((10 - 2) * 5)
remainder = 21 % 10
print(remainder)
```

```
3.3333333333333335
14.0
40
1
```

In [6]:

```
# Number representation using scientific notation
```

```
number = 1.567e-2 # 1.567 * 10^-2
print(number)

binary_var = 0b111
print("Binary Variable: ", binary_var)
hex_var = 0xA
print("Hex Variable: ", hex_var)
octal_var = 0011
print("Octal Variable: ", octal_var)

int_var = 100
print("Hexadecimal Notation: ", hex(int_var))
```

0.01567

Binary Variable: 7

Hex Variable: 10

Octal Variable: 9

Hexadecimal Notation: 0x64

In [7]:

```
# Data type conversion
```

```
float_var = 10.5
int_var = int(float_var)

print("Type of float_var: ", type(float_var), ", Value: ", float_var)
print("Type of int_var: ", type(int_var), ", Value: ", int_var)

result = int("10") + 20 # Conversion from string to int
print("Result : ", result)

binary_number = int("111", 2)
print("Binary number: ", binary_number)
```

Type of float_var: <class 'float'> , Value: 10.5

Type of int_var: <class 'int'> , Value: 10

Result : 30

Binary number: 7

Bitwise Operators

- & : and
- | : or
- ^ : exclusive or
- ~ : invert bits
- >> : right shift
- << : left shift

In [8]:

```
# Bitwise Operators
```

```
number = 4 #Binary : 0b100  
print(number << 1) # 0b1000 -> Right shift means multiply by 2  
print(number >> 1) # 0b100 -> Left shift means divide by 2
```

8
2

In [9]:

```
# 5. Input/Output
```

```
name = input("Enter your name: ")  
print("You entered: ", name)  
# Printing using format string  
  
print("Welcome %s!" % name)  
  
integer_var = 10  
float_var = 10/3  
print("Integer: %d, Float: %f" % (integer_var, float_var), "You can add something here!!")
```

Enter your name: Mahendra

You entered: Mahendra

Welcome Mahendra!

Integer: 10, Float: 3.333333 You can add something here!!