```
print("week 04!")

    week 04!
```

# In built Function

For example, sum(), range(), type() etc.

```
# What is a type error for python
sum(10, 12)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-3-35fd616905f7> in <cell line: 1>()
----> 1 sum(10, 12)

TypeError: 'int' object is not iterable
```

```
# How help predefined in python
x = [10.5, 12]

sum(x)

    22.5
```

# Creating Function

Structure of creating function:

def function_name(para1, para2):

function body here

return value

```
# Sum of two numbers using function
def sum(x, y):
  sumOfvalue = x + y
  return sumOfvalue

FinalvalueOfSum = sum(233000, 20000)
print(FinalvalueOfSum)

    253000
```

```
# Using function print add, subtract, division, and multiplication of two numbers in a program

## For sum value
def summation(x, y):
  sumOfvalue = x + y
  return sumOfvalue

## For sub value
def subtract(x, y):
  subOfvalue = x - y
  return subOfvalue

## For sub value
def division(x, y):
  divOfvalue = x / y
  return divOfvalue

## For sub value
def multip(x, y):
  mulOfvalue = x * y
  return mulOfvalue
```

```
FinalvalueOfSum = summation(12.5, 20)
print(FinalvalueOfSum)

FinalvalueOfSub = subtract(12.5, 20)
print(FinalvalueOfSub)
```

```
    32.5
    -7.5
```

Write a program of n even numbers using python function

```
# define the function
def evenNumbers(n):
  if n % 2 == 0:
    print("The number is even")
  else:
    print("The number is odd")

evenNumbers(15.5)
```

```
    The number is odd
```

Now, we want to solve sum of n numbers using python function ----> construction of function

```
# Name of the function is SUN_of_N_Numbers
def SUM_of_N_Numbers(n):
  sum_total = 0 # initial total sum

  for i in range(0, n+1):
    sum_total = sum_total + i
  return sum_total

# We want to take value from keyboard of n
n = int(input("Enter the n value: "))
print(n, "\n", type(n))

Final_SUM_of_N_Numbers = SUM_of_N_Numbers(n)
print("Our final results: ", Final_SUM_of_N_Numbers)
```

```
    Enter the n value: 40
    40
     <class 'int'>
    Our final results:  820
```

Now, we want to solve the area of a traingle, where x, y, z are the lengths. Find, area = base * height/2.

```
def area_value(base, height):
  area = (base * height)/2
  return area

final_area_of_traingle = area_value(3, 9)
print("The area of a triangle is :", final_area_of_traingle)
```

```
    The area of a triangle is : 13.5
```

```
# improve this program
def area_value(base, height):
  area = (base * height)/2
  return area

base = float(input("Input the base here:"))
print(base)

height = float(input("Input the height here:"))
print(height)

final_area_of_traingle = area_value(base, height)
print("The area of a triangle is :", final_area_of_traingle)
```

```
    Input the base here:3
    3.0
    Input the height here:4
```

```
4.0
The area of a triangle is : 6.0
```

#**************************************************************************************#