Functions

In [9]:
```
def my_table_function(table_number):
    table_list = []
    for value in range(1,11):
        table_list.append(table_number*value)
    return table_list
```

In [10]:
```
table_number = 2
table_list = my_table_function(table_number)
table_list
```

Out[10]:
```
[2, 4, 6, 8, 10, 12, 14, 16, 18, 20]
```

In [34]:
```
def return_names(input_name):
    name_list = input_name.split(' ')
    first_name = name_list[0]
    last_name = name_list[1]
    return [first_name, last_name]
```

In [35]:
```
full_name = 'mehul wankhede'
first_name = return_names(full_name)
first_name
```

Out[35]:
```
['mehul', 'wankhede']
```

write a fuction to check datatype given user_input

In [37]:
```
usr_input = input('Enter value ')
type(int(usr_input))
```

```
Enter value 10
```

Out[37]:
```
int
```

write a function to check number is positive or negative

In [39]:
```
input_value = -123
def check_number(input_number):
    if input_number > 0:
        print('number is positive')
    else:
        print('number is negative')

check_number(input_value)
```

```
number is negative
```

Write functions which takes your age as input and check your adult or not return True or False

In [40]:
```
def check_adult(input_age):
    if input_age > 18:
        return True
```

```
    else:
        return False
```

In [41]:
```
vishal_age = 21
is_adult = check_adult(vishal_age)
is_adult
```

Out[41]:
```
True
```

In [42]:
```
nagendra = 12
is_adult = check_adult(nagendra)
is_adult
```

Out[42]:
```
False
```

Write function which takes list of number as input and seperate positive and negative number and return them in two seperate lists

In [45]:
```
input_list = [1,-3,-2, 6, 9, 10, -5]
pos_list = [] # store positive number
neg_list = [] #  store negative number
def my_filter_function(input_list):
    pos_list = []
    neg_list = []
    for value in input_list:
        if value > 0:
            pos_list.append(value)
        else:
            neg_list.append(value)
    return neg_list, pos_list
```

In [46]:
```
neg_list_final , pos_list_final = my_filter_function(input_list)
```

In [47]:
```
neg_list_final
```

Out[47]:
```
[-3, -2, -5]
```

In [48]:
```
pos_list_final
```

Out[48]:
```
[1, 6, 9, 10]
```

Write function which takes input lists of persons ages and seperates adults and child ages

- input_ages = [23,56,9,7,90,15,13,10]
- adults_ages = [23,56,90]
- childs_ages = [9,7,15,13,10]

In [ ]:
```
# write all the function in lists, tuple , dictionary, set ---Homework
# write all the function in strings  ----Home work
```

List Comprehension

In [49]:
```
table_list = []

for value in range(1,11):
    table_list.append(value*2)
    print(table_list)
```

```
[2]
[2, 4]
[2, 4, 6]
[2, 4, 6, 8]
[2, 4, 6, 8, 10]
[2, 4, 6, 8, 10, 12]
[2, 4, 6, 8, 10, 12, 14]
[2, 4, 6, 8, 10, 12, 14, 16]
[2, 4, 6, 8, 10, 12, 14, 16, 18]
[2, 4, 6, 8, 10, 12, 14, 16, 18, 20]
```

In [50]:
```
final_list = [value*2 for value in range(1,11)]
final_list
```

Out[50]:
```
[2, 4, 6, 8, 10, 12, 14, 16, 18, 20]
```

In [51]:
```
# print till 5th value
final_list = [value*2 for value in range(1,11) if value<=5]
final_list
```

Out[51]:
```
[2, 4, 6, 8, 10]
```

In [54]:
```
# print after 5th value
final_list =[value*2 for value in range(1,11) if value>5]
final_list
```

Out[54]:
```
[12, 14, 16, 18, 20]
```

In [55]:
```
final_list = [value*2 for value in range(1,11) if value%2 ==0]
final_list
```

Out[55]:
```
[4, 8, 12, 16, 20]
```

In [ ]:
```
# home work write all the conditional operations in python
```

In [56]:
```
final_list = [value*2 for value in range(1,11) if value%2 !=0]
final_list
```

Out[56]:
```
[2, 6, 10, 14, 18]
```

In [58]:
```
final_list = ['even','odd','even','odd']
final_list = ['even' if value%2==0 else 'odd' for value in range(0,10)]
final_list
```

Out[58]:
```
['even', 'odd', 'even', 'odd', 'even', 'odd', 'even', 'odd', 'even', 'odd']
```

In [71]:
```
final_list =[value*2 if value%2 ==0 else value*1 for value in range(1,11)]
```

In [73]:
```
final_list
```

Out[73]:
```
[1, 4, 3, 8, 5, 12, 7, 16, 9, 20]
```

In [ ]:
```

```