**Python – Functions & Classes**

**Date**:19-07-2021

1. Reverse a given list in Python

list1 = [100, 200, 300, 400, 500]

**Expected output: [500, 400, 300, 200, 100]**

def reversing\_list(List):

    list.reverse()

    return list

input\_list = input("Enter list:")

list  = input\_list.split(",")

print("REVERSE LIST:")

for i in list:

    print(i)

print(reversing\_list(list))

#Output:

# Enter list:100, 200, 300, 400, 500

# REVERSE LIST:

# 100

#  200

#  300

#  400

#  500

# [' 500', ' 400', ' 300', ' 200', '100']

2. Concatenate two lists index-wise

list1 = ["M", "na", "i", "Ke"]

list2 = ["y", "me", "s", "lly"]

**Expected output: ['My', 'name', 'is', 'Kelly']**

list1 = ["M", "na", "i", "Ke"]

list2 = ["y", "me", "s", "lly"]

list3 = [i + j for i, j in zip(list1, list2)]

print(list3)

#output: ['My', 'name', 'is', 'Kelly']

3. Given a two Python list. Iterate both lists simultaneously such that list1 should display item in original order and list2 in reverse order

list1 = [10, 20, 30, 40]

list2 = [100, 200, 300, 400]

**Expected output:**

**10 400**

**20 300**

**30 200**

**40 100**

list1 = [10, 20, 30, 40]

list2 = [100, 200, 300, 400]

for l1, l2 in zip(list1, list2[::-1]):

    print(l1, l2)

# output:

# Given a two Python list. Iterate both lists simultaneously such that list1 should display item in original order and list2 in reverse order

#     list1 = [10, 20, 30, 40]

#     list2 = [100, 200, 300, 400]

4. Remove empty strings from the list of strings

list1 = ["Mike", "", "Emma", "Kelly", "", "Brad"]

list1 = ["Mike", "", "Emma", "Kelly", "", "Brad"]

while "" in list1:

    list1.remove("")

print(list1)

# output:

# ['Mike', 'Emma', 'Kelly', 'Brad']

5. Below are the two lists convert it into the dictionary

keys = ['Ten', 'Twenty', 'Thirty']

values = [10, 20, 30]

**Expected output: {'Ten': 10, 'Twenty': 20, 'Thirty': 30}**

keys = ['Ten', 'Twenty', 'Thirty']

values = [10, 20, 30]

d = dict(zip(keys, values))

print(d)

# output:

# {'Ten': 10, 'Twenty': 20, 'Thirty': 30}

6. Merge following two Python dictionaries into one

dict1 = {'Ten': 10, 'Twenty': 20, 'Thirty': 30}

dict2 = {'Thirty': 30, 'Fourty': 40, 'Fifty': 50}

def merge(d1, d2):

    result = {\*\*d1, \*\*d2}

    return result

d1 = {'Ten': 10, 'Twenty': 20, 'Thirty': 30}

d2 = {'Thirty': 30, 'Forty': 40, 'Fifty': 50}

d3 = merge(d1, d2)

print(d3)

# output:

# {'Ten': 10, 'Twenty': 20, 'Thirty': 30, 'Forty': 40, 'Fifty': 50}

7. Access the value of key ‘history’ from the below

sampleDict = {

"class":{

"student":{

"name":"Mike",

"marks":{

"physics":70,

"history":80

}

}

}

}

sampleDict = {

       "class":{

          "student":{

             "name":"Mike",

             "marks":{

                "physics":70,

                "history":80

             }

          }

       }

    }

print("output:",sampleDict['class']['student']['marks']['history'])

#output: 80

**Expected output: 80**

8. Parse the following JSON to get all the values of a key ‘name’ within an array

[

{

"id":1,

"name":"name1",

"color":[

"red",

"green"

]

},

{

"id":2,

"name":"name2",

"color":[

"pink",

"yellow"

]

}

]

**Expected output: ["name1", "name2"]**

import json

path = input("Enter the Path : ")

try:

    file = open(path,"r")

    info = file.read()

    value = []

    value = json.loads(info)

    List = [item.get('name') for item in value]

    print(List)

except:

    print("File open failure")

# output:

# Enter the Path : H:\Task-3\history.py

# File open failure