**Day 2 session 2** **Example programs**

**(Dictionary and File)**

**(Copy and Paste the following progams in the google colab and execute them with complete realization)**

**Do the following Example programs using Google colab and Post them in your Github repository with the topic name ‘Day 2 sesson 2 Example programs’**

# Dictionary Worked out Examples

**#dict.clear()**

**#Removes all elements of dictionary dict**

dict = {'Name': 'Zara', 'Age': 7};

print("Start Len : %d" % len(dict))

dict.clear()

print("End Len : %d" % len(dict))

**o/p**

**Start Len : 2**

**End Len : 0**

**#dict.items()**

**#Returns a list of dict's (key, value) tuple pairs**

dict = {'Name': 'Zara', 'Age': 7}

print ("Value : %s" % dict.items())

**o/p**

**Value : dict\_items([('Name', 'Zara'), ('Age', 7)])**

**# dict.copy()**

**#Returns a copy of dictionary dict**

dict1 = {'Name': 'Zara', 'Age': 7};

dict2 = dict1.copy()

print ("New Dictinary : %s" % str(dict2))

**o/p**

**New Dictinary : {'Name': 'Zara', 'Age': 7}**

# Python Program to Generate a Dictionary that Contains Numbers (between 1 and n) in the Form (x,x\*x).

n=int(input("Enter a number:"))

d={x:x\*x for x in range(1,n+1)}

print(d)

# Python Program to Sum All the Items in a Dictionary

d={'A':100,'B':540,'C':239}

print("Total sum of values in the dictionary:")

print(sum(d.values()))

# Python Program to Remove the Given Key from a Dictionary

d = {'a':1,'b':2,'c':3,'d':4}

print("Initial dictionary")

print(d)

key=input("Enter the key to delete(a-d):")

if key in d:

del d[key]

else:

print("Key not found!")

exit(0)

print("Updated dictionary")

print(d)

# Python Program to add name and mark as key->value pair in a Dictionary and print it.

n=int(input("Enter no of records"))

d={}

for i in range(1,n+1):

name= input("Enter name %d"%(i))

mark=int(input("Enter mark %d"%(i)))

d[name]=mark

print (d)

**# Keys and Values example**

d={}

print (" The dictionary elements are")

for i in range(1,21):

d[i]=i\*\*2

print (d)

# To print key and values

print (" Key==> Value are")

for (k,v) in d.items():

print(k,"==>",v)

# To print key only

print ("\nTo print key only")

for k in d.keys():

print(k, end=" ")

#To print value only

print ("\nTo print values only")

for v in d.values():

print(v, end=" ")

**o/p**

**The dictionary elements are**

**{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 12: 144, 13: 169, 14: 196, 15: 225, 16: 256, 17: 289, 18: 324, 19: 361, 20: 400}**

**Key==> Value are**

**1 ==> 1**

**2 ==> 4**

**3 ==> 9**

**4 ==> 16**

**5 ==> 25**

**6 ==> 36**

**7 ==> 49**

**8 ==> 64**

**9 ==> 81**

**10 ==> 100**

**11 ==> 121**

**12 ==> 144**

**13 ==> 169**

**14 ==> 196**

**15 ==> 225**

**16 ==> 256**

**17 ==> 289**

**18 ==> 324**

**19 ==> 361**

**20 ==> 400**

**To print key only**

**1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20**

**To print values only**

**1 4 9 16 25 36 49 64 81 100 121 144 169 196 225 256 289 324 361 400**

**Python program to convert 2 digit number into words**

d={0:'',1:'one',2:'two',3:'three',4:'four',5:'five',6:'six',7:'seven',8:'eight',9:'nine',\

10:'ten',11:'eleven',12:'twelve',13:'thirteen',14:'fourteen',15:'fifteen',16:'sixteen',\

17:'seventeen',18:'eightteen',19:'nineteen',20:'twenty',30:'thirty',40:'fourty',50:'fifty',\

60:'sixty',70:'seventy',80:'eighty',90:'ninty'}

num=int(input("Enter the integer between 1 to 99:"))

if (num<=20):

print(d[num])

if(num>20 and num<100):

if num%10==0:

print(d[num])

else:

print(d[num//10\*10]+" "+d[num%10])

# **How to sort a dictionary by values in Python**

d = {"Pierre": 42, "Anne": 33, "Zoe": 24}

#Use the sorted function and operator module

import operator

sorted\_d = sorted(d.items(), key=operator.itemgetter(1))

print(sorted\_d)

sorted\_a= sorted(d.items(), key=operator.itemgetter(1),reverse=True)

print(sorted\_a)

**o/p**

[('Zoe', 24), ('Anne', 33), ('Pierre', 42)]

[('Pierre', 42), ('Anne', 33), ('Zoe', 24)]

**Exercises- Tests**

**Do the following Exercise programs using Google colab and Post them in your Github repository with the topic name ‘Day 2 sesson 2 Exercise programs’**

1. Add rollno and marks {name:mark} for n number of students through keyboard in a dictionary and print the marks in descending order with respective name.
2. Add name and salary {name:salary} for n number of employees through keyboard in a dictionary and print them in name alphabetical order with salary
3. Add name and salary {name:salary} for n number of employees through keyboard in a dictionary and print them in salary ascending order and sum, max, min and average of the salaries
4. Add name and salary {name:salary} for n number of employees through keyboard in a dictionary and print only the employees whose salary is greater than 2000 but less than 4000
5. Python program to convert a 3 digit number into words

**Files Examples**

**# Python Program to count the number of lines in a text file.**

from google.colab import drive

drive.mount('/content/drive')

#Python Program to count the number of lines in a text file.

file = '/content/drive/My Drive/doc.txt'

num\_lines = 0

with open(file, 'r') as f:

for line in f:

num\_lines += 1

print("Number of lines:")

print(num\_lines)

**Python Program to count the number of words in a text file.**

#Python Program to count the number of lines in a text file.

file = 'drive/My Drive/doc.txt'

num\_words = 0

with open(file, 'r') as f:

for line in f:

words = line.split()

print(words)

num\_words += len(words)

print("Number of words:")

print(num\_words)

**Python Program to count the occurrences of a word in a text file.**

fname = 'drive/My Drive/doc.txt'

word=input("Enter word to be searched:")

k = 0

with open(fname, 'r') as f:

for line in f:

words = line.split()

for i in words:

if(i==word):

k=k+1

print("Occurrences of the word:")

print(k)

**Python Program to copy the contents of one file into another.**

file1 = 'drive/My Drive/sample1.txt'

file2 = 'drive/My Drive/sample2.txt'

with open(file1,'r') as f:

with open(file2, "w") as f1:

for line in f:

f1.write(line)

**Python Program to read the contents of the file in reverse order.**

file = 'drive/My Drive/doc.txt'

with open (file,'r') as f:

for line in f:

l=line.split()

l.reverse()

st= " ".join(l)

print (st)

**Files Exercises**

**Do the following Exercise programs using Google colab and Post them in your Github repository with the topic name ‘Day 2 sesson 2 Exercise programs’**

1. Python Program to count the total number of charaters (except blank space) in a text file.
2. Python Program to print all the numbers present in a text file with its total number of occurrence.
3. Python Program to append the contents of one file to another file
4. Python Program to count the number of blank spaces in a text file.
5. Python Program to read a file and capitalize the first letter of every word in the file and copy the every word capitalized content into another file and read it .