**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**

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.**

fname = input("Enter file name: ")

num\_lines = 0

with open(fname, '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.**

fname = input("Enter file name: ")

num\_words = 0

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

for line in f:

words = line.split()

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 = input("Enter file name: ")

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.**

with open("foo.txt") as f:

with open("out.txt", "w") as f1:

for line in f:

f1.write(line)

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

filename=input("Enter file name: ")

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

for line in f:

l=line.split()

l.reverse()

st= " ".join(l)

print (st)

**Files Exercises**

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 by getting the both file names through keyboard .
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 .