**Experiment no#8**

**Program 1:** Write a Python program to store the information of a student in a dictionary data

structure.

**Code:**

dict = {**'Name'** : **'Jibran'**, **'Age'**: 12, **'Class'**:**'Sixth'**, **'DOB'**:**'16 April**

**2006'**}

**print**(**"dict['Name']: "**, dict[**'Name'**])

**print**(**"dict['Age']: "**, dict[**'Age'**]) **print**(**"dict['DOB']: "**, dict[**'DOB'**]) **print**(**"dict['Class']:"**, dict[**'Class'**])

**Output:**

**dict['Name']: Jibran**

**dict['Age']: 12**

**dict['DOB']: 16 April 2006**

**dict['Class']: Sixth**

**Program 2:** Using for loop to access the values stored inside the dictionary.

**Code:**

dict = {**'Name'** : **'Jibran'**, **'Age'**: 12, **'Class'**:**'Sixth'**, **'DOB'**:**'16 April**

**2006'**}

**for** x **in** dict:

**print**(dict[x])

**Output:**

**Jibran**

**12**

**Sixth**

**16 April 2006**

**Program 3:** Using for loop to access the values inside the dictionary by using values() function.

**Code:**

dict = {**'Name'** : **'Jibran'**, **'Age'**: 12, **'Class'**:**'Sixth'**, **'DOB'**:**'16 April**

**2006'**}

**for** x **in** dict.values():

**print**(x)

**Output:**

**Jibran**

**12**

**Sixth**

**16 April 2006**

**Program 4:** Write a program which will extract both the keys and their corresponding values by using item() from a given dictionary. Keep in mind this time you need two variables to get the function return item() which is key : value.

**Code:**

dict = {**'Name'** : **'Jibran'**, **'Age'**: 12, **'Class'**:**'Sixth'**, **'DOB'**:**'16 April**

**2006'**}

**for** x, y **in** dict.items():

**print**(x, y)

**Output:**

**Name Jibran**

**Age 12**

**Class Sixth**

**DOB 16 April 2006**

**Program 5:** Write a program which will search the key from a dictionary and print a message that it has found a key from the given dictionary. **[HINT: Use if condition to find the key from the dictionary.]**

**Code:**

dict = {**'Name'** : **'Jibran'**, **'Age'**: 12, **'Class'**:**'Sixth'**, **'DOB'**:**'16 April**

**2006'**}

**if "DOB" in** dict:

**print**(**"Yes, 'DOB' is one of the keys in the dict dictionary"**)

**Output:**

**Yes, 'DOB' is one of the keys in the dict dictionary**

**Program 6:** Write a program which will add some new information inside the exiting dictionary. Use a concept to update the previous keys with their values and add new information as well.

**Code:**

dict = {**'Name'** : **'Jibran'**, **'Age'**: 12, **'Class'**:**'Sixth'**, **'DOB'**:**'16 April**

**2006'**}

dict[**'Age'**] = 12.5

dict[**'School'**] = **'The Seeds School'**

**print**(**"dict['Age']: "**, dict[**'Age'**])

**print**(**"dict['School']: "**, dict[**'School'**])

dict[**'Friend1'**] = **'Mohib'** dict[**'Friend2'**] = **'Akbar'** dict[**'Friend3'**] = **'Jazil'**

**print**(**"dict['Friend1']"** , dict[**'Friend1'**]) **print**(**"dict['Friend2']"** , dict[**'Friend2'**]) **print**(**"dict['Friend3']"** , dict[**'Friend3'**])

**Output:**

**dict['Age']: 12.5**

**dict['School']: The Seeds School**

**dict['Friend1'] Mohib**

**dict['Friend2'] Akbar**

**dict['Friend3'] Jazil**

**Program 7:** Use pop() to remove the key and its item from the exiting dictionary.

**Code:**

dict = {**'Name'** : **'Jibran'**, **'Age'**: 12, **'Class'**:**'Sixth'**, **'DOB'**:**'16 April**

**2006', 'School' : 'The Seeds School', 'Friend1':'Mohib',**

**'Friend2':'Akbar', 'Friend3':'Jazil'**}

**for** x, y **in** dict.items():

**print**(x, y)

dict.pop("Friend1")

print(dict)

**Output:**

**Name Jibran**

**Age 12**

**Class Sixth**

**DOB 16 April 2006**

**School The Seeds School**

**Friend1 Mohib**

**Friend2 Akbar**

**Friend3 Jazil**

**{'Name': 'Jibran', 'Age': 12, 'Class': 'Sixth', 'DOB': '16 April 2006', 'School': 'The Seeds School', 'Friend2': 'Akbar', 'Friend3': 'Jazil'}**

**Program 8:** Write a program which will add some new information inside the exiting dictionary. Use a concept to update the previous keys with their values and add new information as well.

**Code:**

dict = {**'Name'** : **'Jibran'**, **'Age'**: 12, **'Class'**:**'Sixth'**, **'DOB'**:**'16 April**

**2006'**}

dict[**'Age'**] = 12.5

dict[**'School'**] = **'The Seeds School'**

**print**(**"dict['Age']: "**, dict[**'Age'**])

**print**(**"dict['School']: "**, dict[**'School'**]

**Output:**

**dict['Age']: 12.5**

**dict['School']: The Seeds School**

**Program 9:** Write a program which will delete the last key with value from the exiting dictionary. Print the remaining dictionary. **[Hint: Use pop() to delete from the last based on FILO.]**

dict = {**'Name'** : **'Jibran'**, **'Age'**: 12, **'Class'**:**'Sixth'**, **'DOB'**:**'16 April**

**2006'**, **'School'** : **'The Seeds School'**, **'Friend1'**:**'Mohib'**,

**'Friend2'**:**'Akbar'**, **'Friend3'**:**'Jazil'**}

print(dict)

**for** x, y **in** dict.items():

print(x, y)

dict.popitem()

print(**"After poping from the dictionary the remaining elements are:**

**"**,dict)

**Output:**

{'Name': 'Jibran', 'Age': 12, 'Class': 'Sixth', 'DOB': '16 April 2006', 'School': 'The Seeds School', 'Friend1': 'Mohib', 'Friend2': 'Akbar', 'Friend3': 'Jazil'}

Name Jibran

Age 12

Class Sixth

DOB 16 April 2006

School The Seeds School

Friend1 Mohib

Friend2 Akbar

Friend3 Jazil

After poping from the dictionary the remaining elements are: {'Name': 'Jibran', 'Age': 12, 'Class': 'Sixth', 'DOB': '16 April 2006', 'School': 'The Seeds School', 'Friend1': 'Mohib', 'Friend2': 'Akbar'}

**Program 10:** Write a record set for the faculty members of Software Engineering Department, NED University. Using the concept of nested dictionary or nested dictionary.

**Code:**

faculty = {1: {**'name'**: **‘Asma Khan’**, **'experience'**: **'21'**, **'gender'**: **' Female '**},

2: {**'name'**: **'Dr. Raheela'**, **'experience'**: **'22'**, **'gender'**: **' Female '**},

3: {**'name'**: **'Dr. Kashif'** **'experience'**: **'22'**, **'gender'**: **'Male'**},

4: {**'name'**: **‘Dr.Wahab'**, **'experience'**: **'3'**, **'gender'**: **'Male'**},

5: {**'name'**: **Miss Simrah'**, **'experience'**: **'19'**, **'gender'**: **' Female '**},

6: {**'name'**: **Miss Shumaila**, **'experience'**: **'15'**, **'gender'**: **' Female '**}}

print(faculty)

**Output:**

{1: {**'name'**: **‘Asma Khan’**, **'experience'**: **'21'**, **'gender'**: **' Female '**},

2: {**'name'**: **'Dr. Raheela'**, **'experience'**: **'22'**, **'gender'**: **' Female '**},

3: {**'name'**: **'Dr. Kashif'** **'experience'**: **'22'**, **'gender'**: **'Male'**},

4: {**'name'**: **‘Dr.Wahab'**, **'experience'**: **'3'**, **'gender'**: **'Male'**},

5: {**'name'**: **Miss Simrah'**, **'experience'**: **'19'**, **'gender'**: **' Female '**},

6: {**'name'**: **Miss Shumaila**, **'experience'**: **'15'**, **'gender'**: **' Female '**}}

***Programming Exercise***

1. Design a dictionary of your family. Once you get the printout update family dictionary with your grandparents (maternal and paternal) including uncles and aunts (maternal and paternal).

**Code:**

family={'father':'syed waseem ahmed','mother':'sumera waseem','siblings':['madiha','wajiha','shaheer']}

grand\_family={'maternal':{'grand father':'muzammil','grand mother':'fatima','uncles':['ali','usman'],'aunts':'safdar'},'paternal':{'grand father':'waheed','grand mother':'kaneez','uncles':['umer','adil'],'aunts':['sara','sana']}}

print("family",family)

family.update(grand\_family)

print("updated family with grand family",family

**Output:**

family {'father': 'syed waseem ahmed', 'mother': 'sumera waseem', 'siblings': ['madiha', 'wajiha', 'shaheer']}

updated family with grand family {'father': 'syed waseem ahmed', 'mother': 'sumera waseem', 'siblings': ['madiha', 'wajiha', 'shaheer'], 'maternal': {'grand father': 'muzammil', 'grand mother': 'fatima', 'uncles': ['ali', 'usman'], 'aunts': 'safdar'}, 'paternal': {'grand father': 'waheed', 'grand mother': 'kaneez', 'uncles': ['umer', 'adil'], 'aunts': ['sara', 'sana']}}

2.Write a function to design a personal phone directory of your parents and friends. You must add 12 members. Then make a function to delete a member from a telephone directory. Print total number of members in your personal phone directory

**Code:**

print("personal phone directory")

list1=[]

list2=[]

dic1={}

n=int(input("enter the no of contacts:"))

for i in range(0,n):

names=input("name")

num=input("number")

list1.extend([names])

list2.extend([num])

dic1=dict(zip(list1,list2))

print(dic1)

def delete(dic1):

name4=input("enter the name u want to delete:")

del dic1[name4]

print(dic1)

delete(dic1)

print("total no of members in personal phone directory:",len(dic1))

**Output:**

personal phone directory

enter the no of contacts:12

namemaha

number0334 63545467

namehuraya

number084 98766 566

nameghazala

number877896554 6899

nameosama

number033 754656 827

nameyumna

number099876 3645 44

nametehreem

number03345667978

namerida

number0 99887765098

nameizma

number7889 56 46 877

namenida

number099 8887 65 55

namekinza

number033566788890

namejaveria

number0333344566

namehuda

number0335667899

{'maha': '0334 63545467', 'huraya': '084 98766 566', 'ghazala': '877896554 6899', 'osama': '033 754656 827', 'yumna': '099876 3645 44', 'tehreem': '03345667978 ', 'rida': '0 99887765098', 'izma': '7889 56 46 877', 'nida': '099 8887 65 55', 'kinza': '033566788890', 'javeria': '0333344566', 'huda': '0335667899'}

enter the name u want to delete:javeria

{'maha': '0334 63545467', 'huraya': '084 98766 566', 'ghazala': '877896554 6899', 'osama': '033 754656 827', 'yumna': '099876 3645 44', 'tehreem': '03345667978 ', 'rida': '0 99887765098', 'izma': '7889 56 46 877', 'nida': '099 8887 65 55', 'kinza': '033566788890', 'huda': '0335667899'}

total no of members in personal phone directory: 11

1. .Write a function hexASCII() that prints the correspondence between the lowercase characters in the alphabet and the hexadecimal representation of their ASCII code.

**Code:**

def hexASC():

for i in range(97,123):

print("the hexadecimal equivalent of {} is {}".format(i,chr(i)))

hexASC()

**Output:**

the hexadecimal equivalent of 97 is a

the hexadecimal equivalent of 98 is b

the hexadecimal equivalent of 99 is c

the hexadecimal equivalent of 100 is d

the hexadecimal equivalent of 101 is e

the hexadecimal equivalent of 102 is f

the hexadecimal equivalent of 103 is g

the hexadecimal equivalent of 104 is h

the hexadecimal equivalent of 105 is i

the hexadecimal equivalent of 106 is j

the hexadecimal equivalent of 107 is k

the hexadecimal equivalent of 108 is l

the hexadecimal equivalent of 109 is m

the hexadecimal equivalent of 110 is n

the hexadecimal equivalent of 111 is o

the hexadecimal equivalent of 112 is p

the hexadecimal equivalent of 113 is q

the hexadecimal equivalent of 114 is r

the hexadecimal equivalent of 115 is s

the hexadecimal equivalent of 116 is t

the hexadecimal equivalent of 117 is u

the hexadecimal equivalent of 118 is v

the hexadecimal equivalent of 119 is w

the hexadecimal equivalent of 120 is x

the hexadecimal equivalent of 121 is y

the hexadecimal equivalent of 122 is z

4. Create double dictionaries one of which is your choice of dishes. Other one is dishes cooked

in a week. Compare them and find how many dishes you will get of your choice to be cooked in next week. Print the name of those dishes as well.

**Code:**

fav\_dishes={1:"rice",2:"custard",3:"noodles",4:"burger"}

print("the favourite dishes are:",fav\_dishes)

dishes\_cooked={1:"biryani",2:"pulses",3:"meat",4:"noodles",5:"rice"}

print("dishes cooked are:",dishes\_cooked)

count=0

for i in fav\_dishes:

for j in dishes\_cooked:

if fav\_dishes[i]==dishes\_cooked[j]:

a=dishes\_cooked[j]

print("the common dish in favourite and cooked dishes is:",a)

count=count+1

print("the no of dishes which are common:",count)

**Output:**

the favourite dishes are: {1: 'rice', 2: 'custard', 3: 'noodles', 4: 'burger'}

dishes cooked are: {1: 'biryani', 2: 'pulses', 3: 'meat', 4: 'noodles', 5: 'rice'}

the common dish in favourite and cooked dishes is: rice

the common dish in favourite and cooked dishes is: noodles

the no of dishes which are common: 2

5. Design a list of guests with family members on your sister wedding. Each family members

must be counted. Your parents have made a list of guests and you have made another list. At the end compare both the list and find the common guests which both of you have invited and count them once. The program will return the number of guest with members and total number of guest. Use functions to perform the required actions.

**Code:**

def list\_of\_guests(my,parents):

s1=set(my)

s2=set(parents)

print("the list of guests which are invited by me and my parents becomes:")

s3=s1.union(s2)

print(list(s3))

count=len(s3)

print("the total no of guests along with family members are:",count)

return count

print("the guests which are invited by me are:\n[madiha,mehak,aliza,urooj,shaista,tooba]")

my=["madiha","mehak","aliza","urooj","shaista","tooba"]

print("the guests which are invited by my parents are:\n[madiha,wajiha,shaheer,mahnoor,tooba urooj]")

parents=["madiha","wajiha","shaheer","mahnoor","tooba","urooj"]

list\_of\_guests(my,parents)

**Output:**

the guests which are invited by me are:

[madiha,mehak,aliza,urooj,shaista,tooba]

the guests which are invited by my parents are:

[madiha,wajiha,shaheer,mahnoor,tooba urooj]

the list of guests which are invited by me and my parents becomes:

['mehak', 'aliza', 'mahnoor', 'tooba', 'shaheer', 'madiha', 'urooj', 'wajiha', 'shaista']

the total no of guests along with family members are: 9