**Lab 5**

**Question 1:**

Create the set of two semester courses using add method.

**Program:**

course\_1 = 'Data Structure and Algorithms'

course\_2 = 'Probability and Statistics'

courses = set()

courses.add(course\_1)

courses.add(course\_2)

print(courses)

**Output:**

{'Probability and Statistics', 'Data Structure and Algorithms'}

**Question 2:**

Remove the course data structure from the set.

**Program:**

courses.remove(course\_1)

courses.remove(course\_2)

print(courses)

**Output:**

set()

**Question 3:**

Create a list of 10 even numbers in python and convert it into tuple.

**Program:**

even\_num = [2,4,6,8,10,12,14,16,18,20]

print(tuple(even\_num))

**Output:**

(2, 4, 6, 8, 10, 12, 14, 16, 18, 20)

**Question 4:**

Write a program in python with the help of a dictionary data structure that stores 10 words along with their meaning.

Perform following operations.

1. Only grab the words from the dictionary data structure.

2. Only grab the meaning from the dictionary data structure.

3. Exchange 5th word and replace with other word.

4. Grab both words and meaning from the dictionary data structure.

**Program:**

words\_meaning = {'Absence':'The lack or unavailability of something or someone',

'Approval':'Having a positive opinion of something or someone',

'Answer':'The response or receipt to a phone call, question, or letter',

'Attention':'Noticing or recognizing something of interest',

'Amount':'A mass or a collection of something',

'Borrow':'To take something with the intention of returning it after a period of time',

'Ban':'An act prohibited by social pressure or law',

'Characteristic':'referring to features that are typical to the person, place, or thing',

'Chip':'a small and thin piece of a larger item',

'Cease':'to eventually stop existing'}

print("Words:")

for key,course in words\_meaning.items():

print(f"{key}")

print("\nMeanings:")

for key,course in words\_meaning.items():

print(f"{course}")

print("\nChanging 5th Word:")

for key,course in words\_meaning.items():

if key == 'Amount':

key = 'Subconscious'

course = "of or concerning the part of the mind of which one is not fully aware but which influences one's actions and feelings"

print(f"{key}: {course}")

**Output:**

Words:

Absence

Approval

Answer

Attention

Amount

Borrow

Ban

Characteristic

Chip

Cease

Meanings:

The lack or unavailability of something or someone

Having a positive opinion of something or someone

The response or receipt to a phone call, question, or letter

Noticing or recognizing something of interest

A mass or a collection of something

To take something with the intention of returning it after a period of time

An act prohibited by social pressure or law

referring to features that are typical to the person, place, or thing

a small and thin piece of a larger item

to eventually stop existing

Changing 5th Word:

Absence: The lack or unavailability of something or someone

Approval: Having a positive opinion of something or someone

Answer: The response or receipt to a phone call, question, or letter

Attention: Noticing or recognizing something of interest

Subconscious: of or concerning the part of the mind of which one is not fully aware but which influences one's actions and feelings

Borrow: To take something with the intention of returning it after a period of time

Ban: An act prohibited by social pressure or law

Characteristic: referring to features that are typical to the person, place, or thing

Chip: a small and thin piece of a larger item

Cease:to eventually stop existing

**Question 5:**

Write a program in python with the help of a dictionary data structure that stores the courses of current semester and assign a number key to each course perform above operations.

**Program:**

courses\_dict = {'1':"DSA",

'2':"Probability",

'3':"HRM",

'4':"HCI",

'5':"Software Requirement Engineering"}

print("Keys:")

for key,course in courses\_dict.items():

print(f"{key}")

print("\nCourses:")

for key,course in courses\_dict.items():

print(f"{course}")

print("\nChanging 5th Word:")

courses\_dict['5'] = 'PF'

for key,course in courses\_dict.items():

print(f"{key}: {course}")

**Output:**

Keys:

1

2

3

4

5

Courses:

DSA

Probability

HRM

HCI

Software Requirement Engineering

Changing 5th Word:

1: DSA

2: Probability

3: HRM

4: HCI

5: PF

**Question 6:**

Write a program in python with the help of a dictionary data structure that stores the names of 10 students of your class and perform above operations.

**Program:**

students\_dict = {'1':"Muhaddis",

'2':"Ahmed",

'3':"Aamir",

'4':"Haroon",

'5':"Hafeez",

'6':"Noman",

'7':"Sibghat",

'8':"Yameen",

'9':"Zohaib",

'10':"Raheel"}

print("Keys:")

for key,course in students\_dict.items():

print(f"{key}")

print("\nStudents:")

for key,course in students\_dict.items():

print(f"{course}")

print("\nChanging 5th Word:")

students\_dict['5'] = 'Ahsan'

for key,course in students\_dict.items():

print(f"{key}: {course}")

**Output:**

Keys:

1

2

3

4

5

6

7

8

9

10

Students:

Muhaddis

Ahmed

Aamir

Haroon

Hafeez

Noman

Sibghat

Yameen

Zohaib

Raheel

Changing 5th Word:

1: Muhaddis

2: Ahmed

3: Aamir

4: Haroon

5: Ahsan

6: Noman

7: Sibghat

8: Yameen

9: Zohaib

10: Raheel

**Question 7:**

Create a tuple of 10 elements with data ypes string, integer and float.

**Program:**

data\_tuple = ('Hello','Hey',2,5,2,3.14,6.6,2,'End','Last')

print(data\_tuple)

**Output:**

('Hello', 'Hey', 2, 5, 2, 3.14, 6.6, 2, 'End', 'Last')

**Question 8:**

apply count and index method on the tuple created above.

**Program:**

print(data\_tuple.index('End')) #returns the index of given parameter.

print(data\_tuple.count(2)) #returns the occurance of given parameter.

**Output:**

8

3

**Question 9:**

Write a code in python which makes tuple mutable.

**Program:**

mutable\_tuple = [('Hello'),('Hey'),('Greeting')] #tuple inside a list makes it mutable.

mutable\_tuple.append(('Wishes'))

print(mutable\_tuple)

**Output:**

['Hello', 'Hey', 'Greeting', 'Wishes']

**Question 10:**

Apply Concatenation by adding 100 after your class id.

**Program:**

class\_id = 'BSE-22F-106'

print(class\_id + '100')

**Output:**

BSE-22F-106100