**Lab 5**

Lists , tuples , sets , dictionaries

1.The following is a list of 10 students ages:

ages = [19, 22, 19, 24, 20, 25, 26, 24, 25, 24]

1. Sort the list and find the min and max age
2. Add the min age and the max age again to the list
3. Find the median age (one middle item or two middle items divided by two)
4. Find the average age (sum of all items divided by their number )
5. Find the range of the ages (max minus min)
6. Compare the value of (min - average) and (max - average), use \_abs()\_ method

2.Iterate through the list, ['Python', 'Numpy','Pandas','Django', 'Flask'] using a for loop and print out the items.

3.Create fruits, vegetables and animal products tuples.

1. Join the three tuples and assign it to a variable called food\_stuff\_tp.
2. Change the about food\_stuff\_tp tuple to a food\_stuff\_lt list
3. Slice out the middle item or items from the food\_stuff\_tp tuple or food\_stuff\_lt list.
4. Slice out the first three items and the last three items from food\_staff\_lt list
5. Delete the food\_staff\_tp tuple completely

3. Create a set given below

it\_companies = {'Facebook', 'Google', 'Microsoft', 'Apple', 'IBM', 'Oracle', 'Amazon'}

A = {19, 22, 24, 20, 25, 26}

B = {19, 22, 20, 25, 26, 24, 28, 27}

age = [22, 19, 24, 25, 26, 24, 25, 24]

1. Find the length of the set it\_companies
2. Add 'Twitter' to it\_companies
3. Insert multiple IT companies at once to the set it\_companies
4. Remove one of the companies from the set it\_companies
5. What is the difference between remove and discard

4. From the above sets A and B

1. Join A and B
2. Find A intersection B
3. Is A subset of B
4. Are A and B disjoint sets
5. Join A with B and B with A
6. What is the symmetric difference between A and B
7. Delete the sets completely

5. Create an empty dictionary called dog.Add name, color, breed, legs, age to the dog dictionary

6. Create a student dictionary and add first\_name, last\_name, gender, age, marital status, skills, country, city and address as keys for the dictionary

1. Get the length of the student dictionary
2. Get the value of skills and check the data type, it should be a list
3. Modify the skills values by adding one or two skills
4. Get the dictionary keys as a list
5. Get the dictionary values as a list
6. Change the dictionary to a list of tuples using \_items()\_ method
7. Delete one of the items in the dictionary
8. Delete one of the dictionaries

7.Create a person dictionary.

person={

'first\_name': 'Asabeneh',

'last\_name': 'Yetayeh',

'age': 250,

'country': 'Finland',

'is\_marred': True,

'skills': ['JavaScript', 'React', 'Node', 'MongoDB', 'Python'],

'address': {

'street': 'Space street',

'zipcode': '02210'

}

}

1. Check if the person dictionary has skills key, if so print out the middle skill in the skills list.
2. Check if the person dictionary has skills key, if so check if the person has 'Python' skill and print out the result.
3. If a person skills has only JavaScript and React, print('He is a front end developer'), if the person skills has Node, Python, MongoDB, print('He is a backend developer'), if the person skills has React, Node and MongoDB, Print('He is a fullstack developer'), else print('unknown title') - for more accurate results more conditions can be nested!
4. If the person is married and if he lives in Finland, print the information in the following format:

```py

Asabeneh Yetayeh lives in Finland. He is married.

``

8. Print the season name of the year based on the month number using a dictionary.