Assignment 3

List

1. Declare an empty list
2. Declare a list with more than 5 items
3. Find the length of your list
4. Get the first item, the middle item and the last item of the list
5. Declare a list called mixed_data_types, put your (name, age, height, marital status, address)
6. Declare a list variable named IT_companies and assign initial values Facebook, Google, Microsoft, Apple, IBM, Oracle and Amazon, Print the list using *print()* and Print the number of companies in the list
7. Print the first, middle and last company
8. Print the list after modifying one of the companies
9. Add an IT company to IT_companies
10. Insert an IT company in the middle of the companies list
11. Change one of the IT_companies names to uppercase (IBM excluded!)
12. Sort the list using sort () method
13. Reverse the list in descending order using reverse() method
14. Slice out the first 3 companies from the list
15. Slice out the last 3 companies from the list
16. Slice out the middle IT company or companies from the list
17. Remove the first IT company from the list
18. Remove the middle IT company or companies from the list
19. Remove the last IT company from the list
20. Remove all IT companies from the list
21. Destroy the IT companies list
22. Join the following lists:
23. front_end = ['HTML', 'CSS', 'JS', 'React', 'Redux']
    back_end = ['Node','Express', 'MongoDB']

24. After joining the lists in question 26. Copy the joined list and assign it to a variable full_stack. Then insert Python and SQL after Redux.
25. The following is a list of 10 students ages:
26. ages = [19, 22, 19, 24, 20, 25, 26, 24, 25, 24]
27. Sort the list and find the min and max age
28. Add the min age and the max age again to the list
29. Find the median age (one middle item or two middle items divided by two)
30. Find the average age (sum of all items divided by their number)
31. Find the range of the ages (max minus min)
32. Compare the value of (min - average) and (max - average), use abs () method
33. Find the middle country(ies) in the countries list
34. Divide the countries list into two equal lists if it is even if not one more country for the first half.
35. ['China', 'Russia', 'USA', 'Finland', 'Sweden', 'Norway', 'Denmark']. Unpack the first three countries and the rest as scandic countries.

Tuples

1. Create an empty tuple
2. Create a tuple containing names of your sisters and your brothers (imaginary siblings are fine)
3. Join brothers and sisters tuples and assign it to siblings
4. How many siblings do you have?
5. Modify the siblings tuple and add the name of your father and mother and assign it to family_members.
6. Unpack siblings and parents from family_members
7. Create fruits, vegetables and animal products tuples. Join the three tuples and assign it to a variable called food_stuff_tp.
8. Change the about food_stuff_tp tuple to a food_stuff_lt list
9. Slice out the middle item or items from the food_stuff_tp tuple or food_stuff_lt list.
10. Slice out the first three items and the last three items from food_staff_lt list
11. Delete the food_staff_tp tuple completely.

SET

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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]
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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?
6. Join A and B
7. Find A intersection B
8. Is A subset of B
9. Are A and B disjoint sets
10. Join A with B and B with A
11. What is the symmetric difference between A and B
12. Delete the sets completely
13. Convert the ages to a set and compare the length of the list and the set, which one is bigger?
14. Explain the difference between the following data types: string, list, tuple and set