Problem Description: Consider the list of courses opted by a Student "John" and available electives as a part of Student Management System.

courses = ("Python Programming", "RDBMS", "Web Technology", "Software Engg").
electives = ("Business Intelligence", "Big Data Analytics")

Write a Python Program to satisfy following business requirements:

a. List the number of courses opted by Student "John"
b. List all the courses opted by Student "John".
c. Student "John" is also interested in elective courses mentioned above. Print the updated tuple including electives.
d. Check whether Student "John" is allowed to change his course from "Software Engg" to "Computer Networks". If yes, print the updated course list else mention the reason for the same.

Q2

Problem Description: ABC Retail Store sells different varieties of Furniture to the customers. The list of furnitures available and its cost list are given below:

Furniture	Sofa set	Dining table	T.V. Stand	Cupboard
Cost in Rs.	20,000	8,500	4,599	13,920

The furniture's and its corresponding Cost should be stored as a list. If the required furniture is available in list of furniture's listed above and Quantity purchased is greater than zero, only then bill amount should be calculated. In case of invalid values for furniture required by the customer and quantity purchased, consider bill amount to be 0.
Initialize required furniture and required quantity with different values and test the results.

Write a Python program to calculate and display the bill amount to be paid by the customer based on the furniture bought and quantity purchased.

Q3

Problem Description: Consider this scenario from student management system. Given below are 2 Sets representing the names of students enrolled for a particular course.

java_course = {“John”, “Jack”, “Jill”, “Joe”}
python_course = {“Jake”, “John”, “Eric”, “Jill”}

Write a Python program to satisfy below mentioned business requirements:

a. List the number of Students enrolled for Python course
b. List the names of Students enrolled for Java course only
c. List the names of Students enrolled for Python course only
d. List the number and names of Students enrolled for both Java and Python courses
e. List the number and names of Students enrolled for either Java or Python courses but not both
f. List names and number of Students enrolled for either Java or Python courses

Q4

Given below is a Dictionary customer details representing customer Details from Retail Application - Customer Id is key and Customer Name is value.

customer_details = { 1001 : "John", 1004 : "Jill", 1005: "Joe", 1003 : "Jack" }

Write Python code to perform below mentioned operations:

a. Print details of Customers

b. Print number of Customers
c. Print Customer names in ascending order
d. Delete the details of customer with customer id = 1005 and print updated dictionary
e. Update the name of customer with customer id = 1003 to “Mary” and print updated dictionary
f. Check whether details of customer with customer id 1002 exists in the dictionary.