FoC Assignment 6

1. You have learned how to access the values in a dictionary using its keys. To learn another way to do it, construct a dictionary whose values are strings 'a', 'b', 'c' and the corresponding values are integers 1, 4, 9. Now try to fetch the value corresponding to the key 'd' (which is not in the dictionary) and observe the output. Now try the same thing using the 'get' method (D.get('d')) and observe the output. What is the difference?

2. Construct a string with your first name and surname separated by a space. Now use *set* to find the unique characters in your name. Observe the output carefully. Are the character strings in the output alphabets only?

3. Here is a list of mathematicians and the fields they worked in:

   - 'Newton': 'Calculus', 'Mechanics', 'Optics'

   - 'Gauss' : 'Number theory', 'Mechanics', 'Optics', 'Geometry', 'Calculus', 'Complex analysis'

   - 'Weierstrass' : 'Real Analysis'

   - 'Cauchy' : 'Real Analysis', 'Mechanics', 'Number theory', 'Complex analysis'

   Construct a dictionary in which the mathematicians are keys and the values are sets of fields in which they worked. Using set operations in python, find:

   (a) All the different fields in which these four mathematicians worked in

   (b) Fields in which Gauss and Cauchy worked in

   (c) Fields in which Newton and Gauss worked in but Cauchy didn't

   (d) Fields in which either Newton or Weierstrass worked