Question 1.
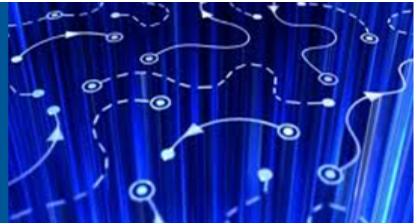
Write a program that will interrogate a list containing the rainfall in Cork for 12 months.

```
rainfall = [85, 78, 65, 45, 30, 25, 20, 22, 35, 55, 70, 80]
months = ["Jan", "Feb", "Mar", "Apr", "May", "Jun",
          "Jul", "Aug", "Sep", "Oct", "Nov", "Dec"]
```

The program should calculate and display:
- The average monthly rainfall
- The highest rainfall value received
- The lowest rainfall value received
- The months where the rainfall exceeded the average

The following is a sample output of this program.

> Highest rainfall value: 164.5
> Lowest rainfall value: 46.4
> Average is 83.2666666667
> Months that exceeded average: January March June

Question 2.

Use a dictionary to store information about a person you know. Store their first name, last name, age, and the city in which they live. You should have keys such as first_name, last_name, age, and city. Print each piece of information stored in your dictionary.

Question 3.

You are tasked with creating a simple dictionary to store information about your favourite fruits. Follow the steps below to complete the exercise:

- Create an empty dictionary called favourite_fruits.
- Add at least three key-value pairs to the dictionary. Each key should be the name of a fruit (e.g., "apple") and the corresponding value should be a brief description or fact about that fruit.

- Print out the dictionary to display the information about your favourite fruits.
- Ask the user to enter the name of a fruit.
- Use a conditional statement to check if the entered fruit exists in your favourite_fruits dictionary.
- If it exists, print out the description or fact about that fruit.
- If it doesn't exist, print a message saying that the fruit is not in your list of favourites.

Question 4.

Write a program that analyses unique words appearing across multiple documents and identifies words that are common to all, unique to each, or only in certain combinations.
Instructions:
1. You will have multiple "documents" as lists of words. (Example: doc1 = ["data", "science", "python", "analysis","photosynthesis", "mitochondria","molecule", "evolution", "genome", "biodiversity", "ecosystem", "metabolism", "mutation", "cell", "enzyme"], doc2 = ["data", "machine", "learning", "python","quantum", "thermodynamics","molecule",, "gravity", "relativity", "evolution", "entropy", "momentum", "wave", "particle", "friction", "energy"], doc3 = ["deep", "learning", "data", "science","molecule", "atom", "catalyst", "reaction", "acid", "base", "evolution", "electrons", "compound", "bond", "solvent"])
2. Use sets to:
   o Find words that appear in all documents.
   o Identify words unique to each document (words in one document that don't appear in others).
   o Find words that appear in at least two but not all documents.
3. Print out each of the results.