Lists

Practice

1. Pick three music bands of your choice and create a list with the main albums issued by each band. Use both list() and vector() functions.

2. Pick five cities of your choice and create a list containing a few tourist attractions in each city, as well as the population of each city. Use both list() and vector() functions.

3. Create a list using the following vectors as objects:

   - x = (12, 15, 26, 4)
   - y = (30, 25, 44, 61, 38, 91, 44, 2, 16, 55, 73)
   - z = (42, 71, 100, 120, 3, 30)
   - w = (73, 21, 60)

   Give the objects the vectors' names. Then access the following elements:
   - the object x
   - the fifth component in object y
   - the last three components in object z
   - the second, the fourth and the tenth component in object y
   - the fourth component in object y and the first component in object w.

4. In the list created at #3, change the components 4 to 9 in object y with the values 10, 12, 14, 16, 18 and 20.

5. After creating the list at #3, add a new object q with the following values: 100, 101, 102 and 103.

6. In the list created at #3, compute the sum, the mean and the standard deviation for all the objects. Use both lapply() and sapply() function and explain the difference between them.

7. Pick four countries of choice and look for the following data about each country: population, GDP, average salary, birth rate. Create a list with these data, than compute the average value for each object in the list.