Practicals based on Data Science (Python) (230701105)

Practical ASSIGNMENT- 1

1. Create three different variables namely my_integer, my_float and my_complex and assign integer value, floating-point value and complex value.
Create a variable my_string and assign it a string value.
Create a variable my_boolean and assign it a boolean value.
Print out the values of these variables along with their data types.

2. Create a string variable called `my_string` and assign it a sentence.
Print the length of `my_string`.
Convert `my_string` to all uppercase letters and print the result.
Replace a word in `my_string` with another word and print the modified string.

3. Create two variables, n1 and n2, and assign them any numeric values.
Calculate the sum, difference, product, and division of n1 and n2 and print the results.
Calculate the square, cube and square root of n2 and print the results.
Calculate and display remainder of n1 and n2.

4. Create a list called `my_list` with at least five different elements (two integers, two strings, one float).
Print the first element of the list.
Print the last element of the list.
Print a slice of the list that includes the second through fourth elements.

5. Print the my_list. [You can use the my_list created in above exercise]
Append a new element to `my_list` and display the result.
Remove any one element from `my_list` and display the result.
Check if a specific element is in `my_list`.
Sort `my_list` in ascending order and display the result.
Reverse the order of elements in `my_list` and display the result.

6. Create a dictionary called `my_dict` with at least three key-value pairs.
Access and print the values associated with one of the keys.
Add a new key-value pair to `my_dict`.
Remove one of the key-value pairs from `my_dict`.
Check if a specific key is in `my_dict`.

7. Convert an integer to a string and print the result.
Convert a string containing a number to an integer and print the result.
Convert a float to an integer and print the result.
Convert a string to a list of characters and print the result.

8. Create two boolean variables, `is_raining` and `is_sunny` and assign them values True or False. Use boolean operators (and, or, not) to create a new variable 'is_good_day' that represents whether it's a good day (e.g., not raining and sunny). Print the value of the new variable 'is_good_day'.

9. Write a program that takes an integer as input and prints whether it is even or odd.

10. Write a program that takes number and display whether it is positive, negative or zero.

11. Write a program that prints all the numbers from 1 to 10.

12. Create a program that calculates the sum of all numbers from 1 to 100.

13. Write a program that prints the multiplication table of a given number.

14. Create a program that generates a multiplication table from 1 to 10 using nested loops.