SET A

1. Write a Scala function named applyDiscount that accepts a list of 5 prices (as Double) and a discount rate of 10% (as a Double, e.g., 0.1 for 10%). The function should return a new list where each price is reduced by the discount amount.

2. Create a mutable Map with three student records, where keys are student IDs and values are student names. Then add a new record, update an existing student's name, remove a record, and finally print the updated Map.

3. Create an RDD from an array containing 5 integer elements. Then perform a transformation operation i.e. squaring each element and display the resulting values.

SET B

1. Write a Scala function named calculateTax that accepts a list of 5 incomes (as Double) and a tax rate of 15% (i.e., 0.15). The function should return a new list where each income is reduced by the tax amount.

2. Create a mutable Map with three country-capital records i.e. (USA-Washington,France-Paris, Japan-Tokyo). Then add a new record (Germany-Berlin), update the capital of an existing country (France-Lyon), remove a record i.e. Japan, and finally print the updated Map.

3. Create an RDD from an array containing 5 string elements (names). Then perform a transformation operation that converts each name to uppercase and display the resulting values. (Hint: toUpperCase)