SCS 2204 - Functional Programming
Scala Practical – 07

1. Write a Scala function called **filterEvenNumbers** that takes a list of integers as input and uses a lambda function to filter out the even numbers from the list. The function should return a new list containing only the even numbers.

   Example:

   Input: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
   Output: [2, 4, 6, 8, 10]

   You can use the filter method on lists to implement the **filterEvenNumbers** function with a lambda function inside it.

2. Write a Scala function called **calculateSquare** that takes a list of integers as input and uses a lambda function to calculate the square of each number in the list. The function should return a new list containing the squares of the input numbers in the same order.

   Example:

   Input: [1, 2, 3, 4, 5]
   Output: [1, 4, 9, 16, 25]

   You can use the map method on lists to implement the **calculateSquare** function with a lambda function inside it.

3. Write a Scala function called **filterPrime** that takes a list of integers as input and uses a lambda function to filter out the prime numbers from the list. The function should return a new list containing only the prime numbers.

   Example:

   Input: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
   Output: [2, 3, 5, 7]