**Assignment 16.1**

**Problem Statement**

Given a list of numbers - List[Int] (1, 2, 3, 4, 5, 6, 7, 8, 9, 10)

- find the sum of all numbers

- find the total elements in the list

- calculate the average of the numbers in the list

- find the sum of all the even numbers in the list

- find the total number of elements in the list divisible by both 5 and 3

Solution:

**package** com.list

//Given a list of numbers - List[Int] (1, 2, 3, 4, 5, 6, 7, 8, 9, 10)

//

//- find the sum of all numbers

//- find the total elements in the list

//- calculate the average of the numbers in the list

//- find the sum of all the even numbers in the list

//- find the total number of elements in the list divisible by both 5 and 3

**object** ListManipulation {

**def** main(args: Array[*String*]): Unit = {

**var** numbers = List(1, 2, 3, 4, 5, 6, 7, 8, 9, 10)

**var** sumOfAllNo = numbers.reduce((acc, n) => acc + n)

//- find the sum of all numbers

print("The sum of all numbers:\t" + sumOfAllNo);

println("");

//- find the total elements in the list

println("The total elements in the list:\t" + numbers.length);

//- calculate the average of the numbers in the list

**var** avgOfList = (numbers.reduce((acc, n) => ((acc + n))).toDouble / numbers.length)

print("The average of the numbers in the list:\t" + avgOfList);

println("");

//- find the sum of all the even numbers in the list

//(2, 4, 6, 8, 10) 30

**var** sumEven = numbers.filter(p => (p % 2 == 0)).reduce((acc, n) => ((acc + n)))

print("The sum of all the even numbers in the list:\t" + sumEven);

println("");

//- find the total number of elements in the list divisible by both 5 and 3

//( 3, 5, 6, 9, 10)

**var** numDivBy5or3 = numbers.filter(p => (p % 5 == 0 || p % 3 == 0))

**var** totalNumDivBy5or3 = numbers.filter(p => (p % 5 == 0 || p % 3 == 0)).length

print("The total number of elements in the list divisible by both 5 and 3:\t" + totalNumDivBy5or3);

}

}