Practical 07 – 22001212

01)

22001212_q1.scala > {} FirstEvenNumbers > main

```scala
object FirstEvenNumbers{

    def firstEvenNumbers(numbers:List[Int]):List[Int]={
        val evenNumbers=numbers.filter(x=>x%2==0);
        return evenNumbers;
    }

    def main(args:Array[String]):Unit={
        println("Enter how many numbers that you want to enter:");
        var n=scala.io.StdIn.readInt();
        println("Enter the numbers:");
        var Numbers=List[Int]();
        for(i<-1 to n){
            var input=scala.io.StdIn.readInt();
            Numbers=Numbers:+input;
        }
        println("Even numbers in the "+firstEvenNumbers(Numbers));
    }
}
```

```
Enter how many numbers that you want to enter:
10
Enter the numbers:
1
2
3
4
5
6
7
8
9
10
Even numbers in the List(2, 4, 6, 8, 10)
PS C:\Users\User\Desktop\UCSC\2nd Year Sem-01\SCS 2204 - Functional Programming\Practical 07>
```

02)

22001212_q2.scala > {} CalculateSquare

```scala
object CalculateSquare{
    def calculateSquare(numbers:List[Int]):List[Int]={
        val squareNumbers=numbers.map(x=>x*x);
        return squareNumbers;
    }

    def main(args:Array[String]):Unit={
        print("Enter how many numbers you want to enter :  ");
        var n=scala.io.StdIn.readInt();
        print("Enter the numbers : ");
        var Numbers=List[Int]();
        for(i<-1 to n){
            var input=scala.io.StdIn.readInt();
            Numbers=Numbers:+input;
        }
        println("Square numbers of the "+Numbers+" are : "+calculateSquare(Numbers));
    }
}
```

```
PS C:\Users\User\Desktop\UCSC\2nd Year Sem-01\SCS 2204 - Functional Programming\Practical 07>
Enter how many numbers you want to enter :  5
Enter the numbers : 1
2
3
4
5
Square numbers of the List(1, 2, 3, 4, 5) are : List(1, 4, 9, 16, 25)
PS C:\Users\User\Desktop\UCSC\2nd Year Sem-01\SCS 2204 - Functional Programming\Practical 07>
```

03)

22001212_q3.scala > {} FilterPrime

```scala
object FilterPrime{
    def filterPrime(numbers:List[Int]):List[Int]={
        numbers.filter(isPrime);
    }

    def isPrime(n:Int):Boolean= n match{
        case x if(x<=1)=>false;
        case x if(x==2)=>true;
        case x if(x % 2 == 0) =>false;
        case _ => !(3 to Math.sqrt(n).toInt by 2).exists(i => n % i == 0);
    }

    def main(args:Array[String]):Unit={
        println("Enter how many numbers that you want to enter:");
        var n=scala.io.StdIn.readInt();
        println("Enter the numbers:");
        var Numbers=List[Int]();
        for(i<-1 to n){
            var input=scala.io.StdIn.readInt();
            Numbers=Numbers:+input;
        }
        println("Prime numbers in the "+filterPrime(Numbers));
    }
}
```

```
Enter how many numbers that you want to enter:
10
Enter the numbers:
1
2
3
4
5
6
7
8
9
10
Prime numbers in the List(2, 3, 5, 7)
PS C:\Users\User\Desktop\UCSC\2nd Year Sem-01\SCS 2204 - Functional Programming\Practi
```