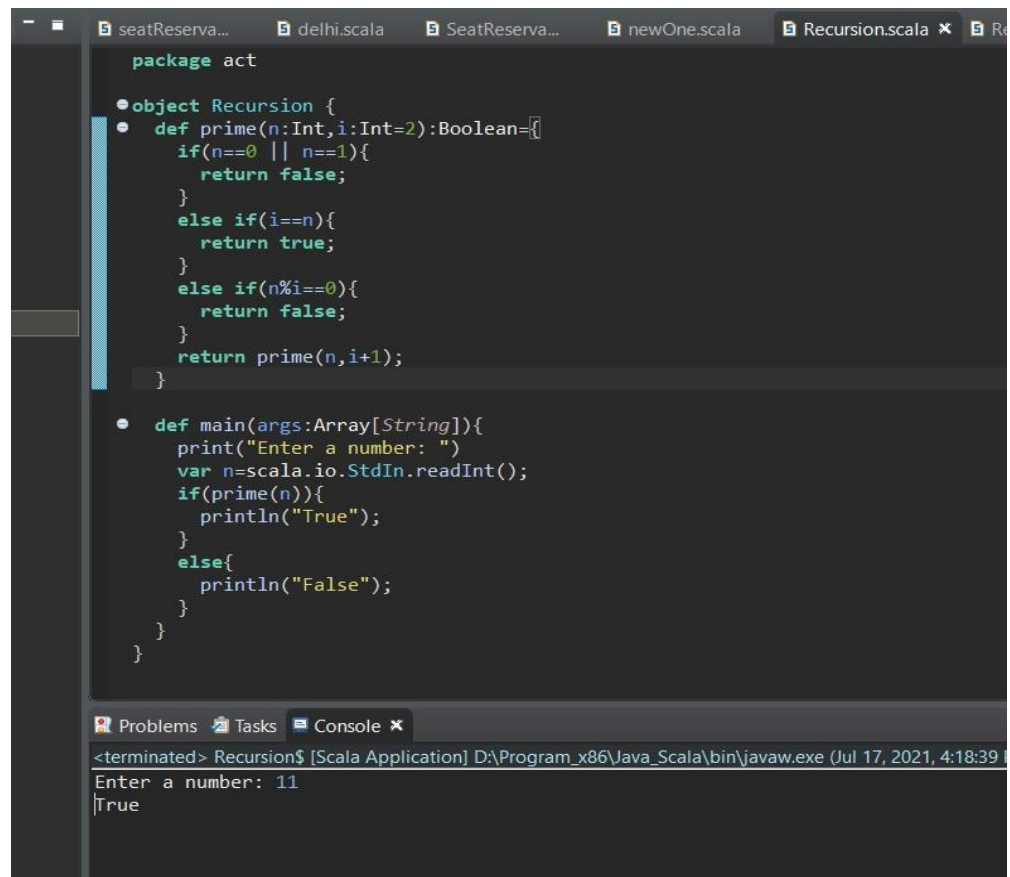


SCS 2204 – Functional Programming

Recursive Activity

Index: 19000707

1.



```
package act

object Recursion {
  def prime(n: Int, i: Int = 2): Boolean = {
    if (n == 0 || n == 1) {
      return false;
    }
    else if (i == n) {
      return true;
    }
    else if (n % i == 0) {
      return false;
    }
    return prime(n, i + 1);
  }

  def main(args: Array[String]) {
    print("Enter a number: ")
    var n = scala.io.StdIn.readInt();
    if (prime(n)) {
      println("True");
    }
    else {
      println("False");
    }
  }
}
```

Problems Tasks Console

<terminated> Recursion\$ [Scala Application] D:\Program_x86\Java_Scala\bin\javaw.exe (Jul 17, 2021, 4:18:39 PM)
Enter a number: 11
True

2.

```
package act

object Recur_Seq {
  def seq(n:Int,i:Int=2){
    if(n==0 || n==1){
      println(" ");
    }
    else if(i==n){
      print(n + ", ");
      //println(n + " is a prime number!");
      seq(n-1,i=2);
    }
    else if(n%i==0){
      seq(n-1,i=2);
    }
    else{
      seq(n,i+1);
    }
  }

  def main(args:Array[String]){
    print("Enter a number: ")
    var n=scala.io.StdIn.readInt();
    seq(n);
  }
}
```

Problems Tasks Console x

<terminated> Recur_Seq\$ [Scala Application] D:\Program_x86\Java_Scala\bin\javaw.exe (Jul 17, 2021, 4:19:35 PM)

Enter a number: 12

11, 7, 5, 3, 2,

3.

```
package act

object Addition {
  var add = 0;
  def sum(n:Int):Int={
    if(n>0){
      add = add + n;
      sum(n-1);
    }
    else{
      return add;
    }
  }

  def main(args:Array[String]){
    print("Enter a number: ");
    var n = scala.io.StdIn.readInt();
    println(sum(n));
  }
}
```

Problems Tasks Console x

<terminated> Addition\$ [Scala Application] D:\Program_x86\Java_Scala\bin\javaw.exe (Jul 17, 2021, 4:20:00 PM)

Enter a number: 8

36

4.

```
package act

object Number {
  def num(n:Int){
    if(n%2==0){
      println(n + " is an Even number");
    }
    else{
      println(n + " is an Odd number");
    }
  }
}

def main(args:Array[String]){
  print("Enter a number: ");
  var k = scala.io.StdIn.readInt();
  num(k);
}
```

Problems Tasks Console x

<terminated> Number\$ [Scala Application] D:\Program_x86\Java_Scala\bin\javaw.exe (Jul 17, 2021, 4:22:20 PM)
Enter a number: 13
13 is an Odd number

5.

```
package act

object AddEven {
  var evAdd = 0;
  def add(n:Int){
    if(n>0){
      if(n%2==0){
        evAdd += n;
        add(n-1);
      }
      else{
        add(n-1);
      }
    }
    else{
      println("Addition of Even numbers: " + evAdd);
    }
  }
}

def main(args:Array[String]){
  print("Enter a number: ");
  var k = scala.io.StdIn.readInt();
  add(k);
}
```

Problems Tasks Console x

<terminated> AddEven\$ [Scala Application] D:\Program_x86\Java_Scala\bin\javaw.exe (Jul 17, 2021, 4:22:52 PM)
Enter a number: 16
Addition of Even numbers: 72

6.

```
package act

object Fibonacci {
  def fibo(n:Int):Int={
    if(n==0){
      return 0;
    }
    else if(n==1){
      return 1;
    }
    else{
      return fibo(n-1) + fibo(n-2);
    }
  }

  def main(args:Array[String]){
    print("Enter a number: ");
    var n = scala.io.StdIn.readInt();
    var i=0;
    for(i<- 0 to n){
      print(fibo(i)+" ");
    }
  }
}
```

Problems Tasks Console x

<terminated> Fibonacci\$ [Scala Application] D:\Program_x86\Java_Scala\bin\javaw.
Enter a number: 12
0 1 1 2 3 5 8 13 21 34 55 89 144