Qinyun Lin – SEC01 (NUID 001582464) Big Data System Engineering with Scala Spring 2022 Assignment No. 4



Task

1. Implement 6 methods for RandomState

Solution

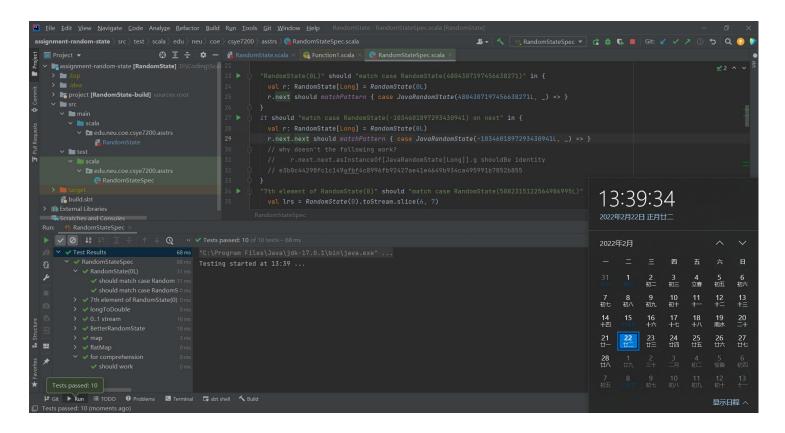
```
// Hint: Think of the input and output, find the appropriate method that achieve this.
// 10 points
def flatMap[U](f: T => RandomState[U]): RandomState[U] = f(this.get)
```

```
// Hint: This a recursively method and it concatenate current element with following elements.
// 12 points
def toStream: LazyList[T] = LazyList.cons(this.get, this.next.toStream)
```

```
case class JavaRandomState[T](n: Long, g: Long => T) extends RandomState[T] {
    // Hint: Remember to use the "seed" to generate next RandomState.
    // 7 points
    def next: RandomState[T] = JavaRandomState(new Random(n).nextLong(), g)
    // Hint: Think of the input and output.
    // 5 points
    def get: T = g(n)
    // Hint: This one need function composition.
    // 13 points
    def map[U](f: T => U): RandomState[U] = JavaRandomState[U](n, g andThen f)
}
```

```
// Hint: This is a easy one, remember that it not only convert a Long to a Double
// but also scale down the number to -1 ~ 1.
// 4 points
val longToDouble: Long => Double = { x => x.toDouble / Long.MaxValue}
```

Unit Test Screenshot



Project Source

https://github.com/MrNiro/CSYE7200/tree/Spring2022/assignment-random-state/src/main/scala/edu/neu/coe/csye7200/asstrs