

```
1 // COS30008
2 // Created by Nur E Siam
3
4 #include "FibonacciSequenceIterator.h"
5
6 // Constructor for Fibonacci sequence iterator
7 FibonacciSequenceIterator::FibonacciSequenceIterator(const      ↗
    FibonacciSequenceGenerator& aSequenceObject,
8     long long aStart) noexcept
9     : fSequenceObject(aSequenceObject), fIndex(aStart) {}
10
11 // Dereference operator to retrieve the current Fibonacci number
12 const long long& FibonacciSequenceIterator::operator*() const noexcept {
13     return *fSequenceObject;
14 }
15
16 // Pre-increment operator to move to the next Fibonacci number
17 FibonacciSequenceIterator& FibonacciSequenceIterator::operator++() noexcept ↗
    {
18     fSequenceObject.next();
19     ++fIndex;
20     return *this;
21 }
22
23 // Post-increment operator to move to the next Fibonacci number
24 FibonacciSequenceIterator FibonacciSequenceIterator::operator++(int)      ↗
    noexcept {
25     FibonacciSequenceIterator temp = *this;
26     ++(*this);
27     return temp;
28 }
29
30 // Equality operator to check if two iterators point to the same index
31 bool FibonacciSequenceIterator::operator==(const FibonacciSequenceIterator& ↗
    aOther) const noexcept {
32     return fIndex == aOther.fIndex;
33 }
34
35 // Inequality operator to check if two iterators point to different indices
36 bool FibonacciSequenceIterator::operator!=(const FibonacciSequenceIterator& ↗
    aOther) const noexcept {
37     return fIndex != aOther.fIndex;
38 }
39
40 // Get the iterator pointing to the beginning of the sequence
41 FibonacciSequenceIterator FibonacciSequenceIterator::begin() const noexcept ↗
    {
42     return FibonacciSequenceIterator(fSequenceObject, 1);
43 }
```

```
44
45 // Get the iterator pointing to the end of the sequence
46 FibonacciSequenceIterator FibonacciSequenceIterator::end() const noexcept {
47     return FibonacciSequenceIterator(fSequenceObject, 93);
48 }
49
```