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//
// FibonacciSequence.cpp
// problemset2
//
// Created by Xinzhe Yu on 6/4/2025.
//

#include "FibonacciSequence.h"

FibonacciSequence::FibonacciSequence() noexcept:
    fPrevious(0),
    fCurrent(1)
{}

const uint64_t& FibonacciSequence::operator*() const noexcept
{
    return fCurrent;
}

FibonacciSequence& FibonacciSequence::operator++() noexcept
{
    fCurrent = fCurrent + fPrevious;
    fPrevious = fCurrent - fPrevious;
    return *this;
}

FibonacciSequence FibonacciSequence::operator++(int) noexcept
{
    FibonacciSequence temp = *this;
    // go to the next
    ++(*this);
    // but return the previous one
    return temp;
}

bool FibonacciSequence::operator==(const FibonacciSequence& aOther) const
    noexcept
{
    return fCurrent == aOther.fCurrent && fPrevious == aOther.fPrevious;
}

void FibonacciSequence::begin() noexcept
{
    fPrevious = 0;
    fCurrent = 1;
}

void FibonacciSequence::end() noexcept
{
    fPrevious = 0;
    fCurrent = 0;
}

```