```cpp
1
2  // COS30008, Midterm, Problem 3, 2024
3
4  #include "iVigenereStream.h"
5
6  using namespace std;
7
8  iVigenereStream::iVigenereStream(Cipher aCipher, const string& aKeyword,     ⮒
     const char* aFileName) :
9      fCipher(aCipher),
10     fCipherProvider(aKeyword)
11  {
12     open(aFileName);
13  }
14
15  iVigenereStream::~iVigenereStream()
16  {
17     // Close the file stream
18     close();
19  }
20
21  void iVigenereStream::open(const char* aFileName)
22  {
23     // Open file in binary mode
24     fIStream.open(aFileName, ios_base::binary);
25  }
26
27  void iVigenereStream::close()
28  {
29     fIStream.close();
30  }
31
32  void iVigenereStream::reset()
33  {
34     // Reset the cipher provider
35     fCipherProvider.reset();
36     // Reset the file stream
37     seekstart();
38  }
39
40  bool iVigenereStream::good() const
41  {
42     return fIStream.good();
43  }
44
45  bool iVigenereStream::is_open() const
46  {
47     return fIStream.is_open();
48  }
```

```cpp
49
50  bool iVigenereStream::eof() const
51  {
52      return fIStream.eof();
53  }
54
55  iVigenereStream& iVigenereStream::operator>>(char& aCharacter)
56  {
57      if (fIStream.good())
58      {
59          // Read a character using get() method of ifstream
60          // so as not to skip whitespace characters
61          fIStream.get(aCharacter);
62
63          if (fIStream.good())
64          {
65              // Call the cipher function to encode/decode the character
66              aCharacter = fCipher(fCipherProvider, aCharacter);
67          }
68      }
69
70      return *this;
71  }
```