

```
1
2 //Sartaj Khan
3 //Date: 26/04/23
4
5 #include "LZWTable.h"
6 #include <cassert>
7
8 LZWTable::LZWTable(uint16_t aInitialCharacters) :
9     fIndex(0),
10     fInitialCharacters(aInitialCharacters)
11 {}
12
13 void LZWTable::initialize() {
14     for (size_t i = 0; i < 128; i++) {
15         fEntries[fIndex] = PrefixString((char)i);
16         fEntries[fIndex++].setCode(i);
17     }
18 }
19
20 const PrefixString& LZWTable::lookupStart(char aK) const noexcept {
21     assert(0 <= aK < fIndex);
22     PrefixString found = PrefixString();
23     for (PrefixString aPrefixString : fEntries) {
24         if (aPrefixString.K() == aK) {
25             found = aPrefixString;
26             break;
27         }
28     }
29     return found;
30 }
31
32 bool LZWTable::contains(PrefixString& aWK) const noexcept {
33     assert(aWK.w() != static_cast<uint16_t>(-1));
34     for (size_t index = fIndex - 1; index >= aWK.w(); index--) {
35         if (fEntries[index] == aWK) {
36             aWK = fEntries[index];
37             return true;
38         }
39     }
40     return false;
41 }
42
43 void LZWTable::add(PrefixString& aWK) noexcept {
44     assert(aWK.w() != static_cast<uint16_t>(-1));
45     aWK.setCode(fIndex);
46     fEntries[fIndex++] = aWK;
47 }
```