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3. The StringChecker interface describes classes that check if strings are valid, according to some criterion.

```
public interface StringChecker
{
    /** Returns true if str is valid. */
    boolean isValid(String str);
}
```

A CodeWordChecker is a StringChecker. A CodeWordChecker object can be constructed with three parameters: two integers and a string. The first two parameters specify the minimum and maximum code word lengths, respectively, and the third parameter specifies a string that must <u>not</u> occur in the code word. A CodeWordChecker object can also be constructed with a single parameter that specifies a string that must <u>not</u> occur in the code word; in this case the minimum and maximum lengths will default to 6 and 20, respectively.

The following examples illustrate the behavior of CodeWordChecker objects.

Example 1

StringChecker sc1 = new CodeWordChecker(5, 8, "\$");

Valid code words have 5 to 8 characters and must not include the string "\$".

Method call	Return value	Explanation
<pre>scl.isValid("happy")</pre>	true	The code word is valid.
<pre>sc1.isValid("happy\$")</pre>	false	The code word contains "\$".
<pre>scl.isValid("Code")</pre>	false	The code word is too short.
<pre>scl.isValid("happyCode")</pre>	false	The code word is too long.

Example 2

StringChecker sc2 = new CodeWordChecker("pass");

Valid code words must not include the string "pass". Because the bounds are not specified, the length bounds are 6 and 20, inclusive.

Method call	Return value	Explanation
<pre>sc2.isValid("MyPass")</pre>	true	The code word is valid.
<pre>sc2.isValid("Mypassport")</pre>	false	The code word contains "pass".
<pre>sc2.isValid("happy")</pre>	false	The code word is too short.
sc2.isValid("1,000,000,000,000,000")	false	The code word is too long.

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Write the complete CodeWordChecker class. Your implementation must meet all specifications and conform to all examples.