

Regular expressions are a means of manipulating and searching through strings. Specifically, regular expression may be used to parse a string, search for a specific word or character in a string, extract certain data from a string formatted, rearrange data in a string (such as displaying the data in reverse order), search and replace certain characters/words, and to validate if input strings are formatted in a desired manner.

The following code snippets are some examples of using regular expressions:

```
string str = "Hello world";  
regex rx("world");  
string replacement = "planet";  
string str2 = regex_replace(str, rx, replacement);
```

The above code snippet will find the word "world" in string str, replace it with "planet," and put the new string in string str2.

```
string str = "Hello world";  
regex rx("planet");  
regex_match(str.begin(), str.end(), rx);
```

The above code snippet checks to see if string str matches "planet." It does not, so regex_match returns false.

```
string str = "Hello world";  
regex rx("planet");  
regex_search(str.begin(), str.end(), rx);
```

The above code snippet searches string str for "planet." It does not contain "planet," so regex_search returns false.

Regular expressions can be used in Visual Studio 2010 by including the regex library. The above code snippets run without error and can be implemented in larger programs.