

OOP (1010), Summer 2015
Lab 3

This lab is an exercise of `std::string` and `std::vector`. You can study them from the following links:

`std::string`:

<http://www.cplusplus.com/reference/string/string/>
http://en.cppreference.com/w/cpp/string/basic_string

`std::vector`:

<http://www.cplusplus.com/reference/vector/vector/>
<http://en.cppreference.com/w/cpp/container/vector>

Here is an example to create a object of `std::vector` which can dynamically store a set of integers:

```
std::vector<int> v(3, 0);  
    // Create a vector with three zero-value integers.  
v[0] = 0;  
v[1] = 10;  
v[2] = 20;  
v.push_back(30);    // Add an element  
v.push_back(40);    // Add an element  
for(size_t i = 0; i < v.size(); ++i)  
    cout << v[i] << endl;  
/*  
0  
10  
20  
30  
40  
*/
```

Please design a function named `createStringArray` to separate a text into a string array by a delimiter. For example, given a text, "ABC::EFG::XYZ", and a delimiter, "::". `createStringArray` then creates an array to contain three strings: "ABC", "EFG", and "XYZ". `createStringArray` has three parameters as follows:

text: The input text, an object of `std::string`

deleimiter: The delimiter, an object of `std::string`. The default is " ", a

space key.

vOut: The output array, an object of `std::vector`

And `createStringArray` returns the number of separated strings.

Input and Output

Your program should be able to continuously read input lines from `cin` until EOF is detected. Each two lines represent the input text and the delimiter respectively. If the length of delimiter line is zero, using the default delimiter. For example,

```
Line1      ABC::EFG::XYZ
Line2      ::
```

or

```
Line1      ABC EFG XYZ
Line2
```

, both of them generate the same result, "ABC", "EFG", and "XYZ" . To read a whole line of text, you can use the following method:

```
std::string s;
std::getline(cin, s); // then getline returns cin
```

Then output the size of **vOut** and the each separated string line by line, for example, the output of the above example will be

```
3
ABC
EFG
XYZ
```

Requirements

1. Using reference to declare the parameters of `createStringArray`.
2. Your program can read multiple test data sets until EOF happens.