

## 5.17 C++ example: Domain name validation with functions

zyDE 5.17.1: Validate domain names with functions.

Functions facilitate breaking down a large problem into a collection of smaller ones.

A **top-level domain** (TLD) name is the last part of an Internet domain name like .com in example.com. A **core generic top-level domain** (core gTLD) is a TLD that is either .com, .net, .org, or .info. A **restricted top-level domain** is a TLD that is either .biz, .name, or .pro. A **second-level domain** is a single name that precedes a TLD as in apple in apple.com.

The following program repeatedly prompts for a domain name and indicates whether that domain name is valid and has a core gTLD. For this program, a valid domain name has a second-level domain followed by a TLD, and the second-level domain has these three characteristics:

1. Is 1-63 characters in length.
2. Contains only uppercase and lowercase letters or a dash.
3. Does not begin or end with a dash.

For this program, a valid domain name must contain only one period, such as apple.com, but not support.apple.com. The program ends when the user presses just the Enter key in response to a prompt.

1. Run the program. Note that a restricted gTLD is not recognized as such.
2. Change the program by writing an input function and adding the validation for a restricted gTLD. Run the program again.

Load default template...

```
1 #include <iostream>
2 #include <cctype>
3 #include <vector>
4 #include <string>
5 using namespace std;
6
7 const int MAX_NUMS = 4; // Global variable used for vector sizes
8
9 // *****
10 // GetPeriodPosition - Pass a string and return the position of the period
11 // *****
12 int GetPeriodPosition(string stringToSearch) {
13     int periodCounter;
14     int periodPosition;
15     unsigned int i;
16
17     periodCounter = 0;
18     periodPosition = -1;
```

apple.com  
APPLE.com  
apple.comm  
.

Run

[Feedback?](#)

zyDE 5.17.2: Validate domain names with functions (solution).

A solution to the above problem follows.

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```
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