

Programming Question:

Convert an IPv4 address in the format of null-terminated C string into a 32-bit integer. For example, given an IP address "172.168.5.1", the output should be a 32-bit integer with "172" as the highest order 8 bit, 168 as the second highest order 8 bit, 5 as the second lowest order 8 bit, and 1 as the lowest order 8 bit. That is,

"172.168.5.1" => 2896692481

Requirements:

1. Please do not use system string function.
2. You can only iterate the string **once**.
3. You should handle spaces correctly: a string with spaces between a digit and a dot is a valid input; while a string with spaces between two digits is not.
 "172[Space].[Space]168.5.1" is a valid input. Should process the output normally.
 "1[Space]72.168.5.1" is not a valid input. Should report an error.
4. Please provide unit tests.