Length Of Last Word in a String

Last Updated: 12-02-2020

Given a string s consisting of upper/lower-case alphabets and empty space characters ‘ ‘, return length of the last word in the string. If the last word does not exist, return 0.

**Examples:**

Input : str = "Geeks For Geeks"

Output : 5

length(Geeks)= 5

Input : str = "Start Coding Here"

Output : 4

length(Here) = 4

Input : \*\*

Output : 0

[**Recommended: Please solve it on “*PRACTICE* ” first, before moving on to the solution.**](https://practice.geeksforgeeks.org/problems/length-of-last-word/0)

**Approach 1: Iterate String from index 0**  
If we iterate the string from left to right, we would have to be careful about the spaces after the last word. The spaces before the first word can be ignored easily. However, it is difficult to detect the length of the last word if there are spaces at the end of the String. This can be handled by [trimming the spaces before or at the end of the string](https://www.geeksforgeeks.org/trim-remove-leading-trailing-spaces-string-java/). If modifying the given String is restricted, we need to create a copy of the string and trim spaces from that.

**C++**

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| // C++ program for implementation of simple  // approach to find length of last word  #include<bits/stdc++.h>  #include <boost/algorithm/string.hpp>  using namespace std;    int lengthOfLastWord(string a)  {      int len = 0;        /\* String a is 'final'-- can not be modified      So, create a copy and trim the spaces from      both sides \*/      string str(a);      boost::trim\_right(str);      for (int i = 0; i < str.length(); i++)      {          if (str.at(i) == ' ')              len = 0;          else              len++;      }      return len;  }    // Driver code  int main()  {      string input = "Geeks For Geeks ";      cout << "The length of last word is "          << lengthOfLastWord(input);  }    // This code is contributed by Rajput-Ji |

**Java**

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| // Java program for implementation of simple  // approach to find length of last word  public class GFG {      public int lengthOfLastWord(final String a)      {          int len = 0;            /\* String a is 'final'-- can not be modified             So, create a copy and trim the spaces from             both sides \*/          String x = a.trim();            for (int i = 0; i < x.length(); i++) {              if (x.charAt(i) == ' ')                  len = 0;              else                  len++;          }            return len;      }        // Driver code      public static void main(String[] args)      {          String input = "Geeks For Geeks  ";          GFG gfg = new GFG();          System.out.println("The length of last word is " + gfg.lengthOfLastWord(input));      }  } |

**Python3**

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| # Python3 program for implementation of simple  # approach to find length of last word  def lengthOfLastWord(a):      l = 0        # String a is 'final'-- can not be modified      # So, create a copy and trim the spaces from      # both sides      x = a.strip()        for i in range(len(x)):          if x[i] == " ":              l = 0          else:              l += 1      return l    # Driver code  if \_\_name\_\_ == "\_\_main\_\_":      inp = "Geeks For Geeks "      print("The length of last word is",                   lengthOfLastWord(inp))    # This code is contributed by  # sanjeev2552 |

**C#**

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| // C# program for implementation of simple  // approach to find length of last word  using System;    class GFG {        public virtual int lengthOfLastWord(string a)      {          int len = 0;            // String a is 'final'-- can          // not be modified So, create          // a copy and trim the          // spaces from both sides          string x = a.Trim();            for (int i = 0; i < x.Length; i++) {              if (x[i] == ' ') {                  len = 0;              }              else {                  len++;              }          }            return len;      }        // Driver code      public static void Main(string[] args)      {          string input = "Geeks For Geeks ";          GFG gfg = new GFG();          Console.WriteLine("The length of last word is "                            + gfg.lengthOfLastWord(input));      }  }    // This code is contributed by shrikanth13 |

**Output:**

Length of the last word is 5

**Approach 2: Iterate string from the last index.** This idea is more efficient since we can easily ignore the spaces from the last. The idea is to start incrementing the count when you encounter the first alphabet from the last and stop when you encounter a space after those alphabets.

**C++**

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| // CPP program for implementation of efficient  // approach to find length of last word  #include <bits/stdc++.h>  #include <iostream>  using namespace std;    int length(string str)  {      int count = 0;      bool flag = false;      for (int i = str.length() - 1; i >= 0; i--) {          // Once the first character from last          // is encountered, set char\_flag to true.          if ((str[i] >= 'a' && str[i] <= 'z') || (str[i] >= 'A' && str[i] <= 'Z')) {              flag = true;              count++;          }          // When the first space after the          // characters (from the last) is          // encountered, return the length          // of the last word          else {              if (flag == true)                  return count;          }      }      return count;  }    // Driver code  int main()  {      string str = "Geeks for Geeks";      cout << "The length of last word is " << length(str);      return 0;  }    // This code is contributed by rahulkumawat2107 |

**Java**

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| --- |
| // Java program for implementation of efficient  // approach to find length of last word  public class GFG {      public int lengthOfLastWord(final String a)      {          boolean char\_flag = false;          int len = 0;          for (int i = a.length() - 1; i >= 0; i--) {              if (Character.isLetter(a.charAt(i))) {                  // Once the first character from last                  // is encountered, set char\_flag to true.                  char\_flag = true;                  len++;              }              else {                  // When the first space after the characters                  // (from the last) is encountered, return the                  // length of the last word                  if (char\_flag == true)                      return len;              }          }          return len;      }        // Driver code      public static void main(String[] args)      {          String input = "Geeks For Geeks  ";          GFG gfg = new GFG();          System.out.println("The length of last word is " + gfg.lengthOfLastWord(input));      }  } |

**Python3**

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| # Python3 program for implementation of efficient  # approach to find length of last word  def length(str):        count = 0;      flag = False;      length = len(str)-1;      while(length != 0):          if(str[length] == ' '):              return count;          else:              count += 1;          length -= 1;      return count;    # Driver code  str = "Geeks for Geeks";  print("The length of last word is",                        length(str));    # This code is contributed by Rajput Ji |

**C#**

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| --- |
| // C# program for implementation of efficient  // approach to find length of last word  using System;    class GFG {        public virtual int lengthOfLastWord(string a)      {          bool char\_flag = false;          int len = 0;          for (int i = a.Length - 1; i >= 0; i--) {              if (char.IsLetter(a[i])) {                  // Once the first character from last                  // is encountered, set char\_flag to true.                  char\_flag = true;                  len++;              }              else {                  // When the first space after the                  // characters (from the last) is                  // encountered, return the length                  // of the last word                  if (char\_flag == true) {                      return len;                  }              }          }          return len;      }        // Driver code      public static void Main(string[] args)      {          string input = "Geeks For Geeks ";          GFG gfg = new GFG();          Console.WriteLine("The length of last word is " + gfg.lengthOfLastWord(input));      }  }    // This code is contributed by Shrikant13 |

**PHP**

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| <?php  // PHP program for implementation of efficient  // approach to find length of last word    function length($str)  {      $count = 0;      $flag = false;      for($i = strlen($str)-1 ; $i>=0 ; $i--)      {          // Once the first character from last          // is encountered, set char\_flag to true.          if( ($str[$i] >='a' && $str[$i]<='z') ||              ($str[$i] >='A' && $str[$i]<='Z'))          {              $flag = true;              $count++;          }            // When the first space after the          // characters (from the last) is          // encountered, return the length          // of the last word          else          {              if($flag == true)                  return $count;          }        }      return $count;  }    // Driver code  $str = "Geeks for Geeks";  echo "The length of last word is ", length($str);    // This code is contributed by ajit.  ?> |

**Output:**

Length of the last word is 5