American University of Science & Technology

Department Of Computer Science

**CSI 250L – Computer Programming-II Lab**

**Fall 2011/2012**

**Lab Work 2**

**Solution provided by** : Dr. Saeed Raheel

**Problem 4:**

Write a program to input a line of text and store it in an array **Line.** The program should allow the user to choose from the following menu:

1. Count the number of words in **Line.**
2. Output the length of **Line.**
3. Append “\*\*\*” to **Line**.
4. Output the content of **Line.**
5. Exit.

#include <iostream>

using namespace std;

int countWords(char a[])

{

 int count=0;

 for (int i=0;a[i]!='\0';i++)

 if (a[i]==' ') ++count;

 ++count; // to account for the last word in the line (usually it is not followed by a space but rather \0)

 return count;

}

int getLength(char a[])

{

 int i;

 for (i=0;a[i]!='\0';++i);

 return i;

}

void printArray(char a[])

{

 for (int i=0;a[i]!='\0';++i)

 cout << a[i];

}

void appendStars(char a[])

{

 int size = getLength(a);

 a[size]='\*';

 a[size+1]='\*';

 a[size+2]='\*';

 a[size+3]='\0';

}

int main()

{

 const int size = 80;

 char Line[size];

 int action = 0;

 cout << "Please enter a line of text : ";

 cin.getline(Line, size);

 while (action!=5)

 {

 cout << "Please choose one of the following actions : " << endl;

 cout << "1- Count the number of words in Line." << endl;

 cout << "2- Output the length of Line." << endl;

 cout << "3- Append \"\*\*\*\" to Line." << endl;

 cout << "4- Output the content of Line." << endl;

 cout << "5- Exit." << endl << endl;

 cin >> action;

 switch (action)

 {

 case 1: cout << "The number of words in \"" << Line << "\" : " << countWords(Line)<< endl;break;

 case 2:cout << "The length of \"" << Line << "\" : " << getLength(Line)<< endl;break;

 case 3:cout << "Appending \"\*\*\*\" to \"" << Line << "\" : "; appendStars(Line); printArray(Line); cout << endl;break;

 case 4:cout << "The line of text is \""; printArray(Line); cout << "\"" << endl;break; // or simply cout << Line

 case 5:cout << "Exiting...Bye Bye" << endl;break;

 default : cout << "Invalid choice!" << endl;

 }

 cout << endl;

 }

 system("pause");

 return 0;

}