Lab 11 Pointer (1)

Question-1.

Design a function to count how many words are there in a string. Word is separated by space. You need to design a function findWord(char* arr, int* i, int* count) to implement the operation. In main function, you should have a for loop to check through the string.

a. When current char is a space, skip;
b. When current char is some character, call function findWord. The function will check the current entire word, and increment the index of for loop in main function as well as count using call by pointer.

Output the number of characters in each words, as well as the total number of word.

Note:

This question is used to practice call by pointer. It can be easily implemented just in main function. Please do not do so, and solve the question with the function described above.

Expected Outcomes

Example
Enter the content of the strings: *I am a CS student* *Word 1 has 1 characters.* *Word 2 has 2 characters.* *Word 3 has 1 characters.* *Word 4 has 2 characters.* *Word 5 has 7 characters.* *The number of words in the string is: 5*

Please read the following code and think what output should be for each program. Then copy the code to IDE. Compile and execute the program to check whether your answer is correct.

Expected Outcomes

Example1

```
#include <iostream>
using namespace std;

int main() {
    int num = 5, *ptr;
    ptr = &num;
    //Try to think what is the meaning of following values?
    cout << "&ptr  is " << &ptr << endl;
    cout << "Value of ptr is: " << ptr << endl;
    cout << "&num is: " << &num << endl;
    *ptr = 42;
    cout << "num=" << num << endl;
    cin>>*ptr; //Let's enter 100
    //What happens if you write cin>>ptr; ?
    cout << "num=" << num << endl;
    num = 7;
    cout << "*ptr is " << *ptr << endl;
    cout << "Address of num is" << ptr << endl;
    return 0;
}
```

Example2

```
#include <iostream>
using namespace std;
void f(int *a, int *b) {
    int *c;
    c = a;
    *c = *c + 10;
    *b = *b + 10;
}
int main() {
    int x = 3, y = 4;
    int *ptr;
    ptr = &x;
    f(ptr, &y);
    cout << "x=" << x << endl;
    cout << "y=" << y << endl;
    cout << "*ptr1=" << *ptr << endl;
    return 0;
}
```

Example3

```
#include <iostream>
using namespace std;
int main() {
    int num = 5, *ptr1 = &num;
    int **ptr2 = &ptr1;
    //Try to think what is the meaning of following values?
    cout << "&ptr1  is " << &ptr1 << endl;
    cout << "&ptr2  is " << &ptr2 << endl;
    cout << "*ptr1  is " << *ptr1 << endl;
    cout << "*ptr2  is " << *ptr2 << endl;
    cout << "Value of ptr1 is: " << ptr1 << endl;
    cout << "Value of ptr2 is: " << ptr2 << endl;
    return 0;
}
```