Lab 8 Quiz

- Write a c program which prints the number of characters and number of words firstly. Then the program should print each word to the screen. The word is given below;

  hi sir my name is myName mySurname

  you should replace your name and your surname with myName and mySurname.

Sample Scenario

Let the sentence is “hi sir my name is hasan emre akkus”;

Sample output

Number of characters: 37
Number of words: 8

These are:

  hi
  sir
  my
  name
  is
  hasan
  emre
  akkus
#include <stdio.h>

/*
 * string.h library includes core string functions.
 * in this software we will use
 * strcpy
 * strtok
 * functions. These functions are included in string.h library.
 */
#include <string.h>

int main(void)
{
    /* First we define our sentence*/
    char name[50] = "hello sir my name is hasan emre akkus";
    /*
     * During the software we will copy our sentence define above
     * We will use the holder variable to find the number of words and
     * we will use the name variable to separeate each word.
     */
    char holder[50];
    /* The variables numberOfWords and numberOfChars will hold the number
     * of characters and words */
    int numberOfWords = 0, numberOfChars = 0;
    /*
     * We will separeate each word from the name variable.
     * After we separeate a word, we will assign this seperated word to
     * the variable seperatedWord
     */
    char *seperatedWord;
    /*
     * strlen function is used to find the total number of characters
     * in a string
     */
    numberOfChars = strlen(name);
    printf("Number of chars : %d\n", numberOfChars);
    /*
     * strcpy function copies the second parameter to the first
     * parameter. 
     * After we call strcpy function below, the value of holder
     * becomes:
     * "hello sir my name is hasan emre akkus"
     */
    strcpy(holder, name);
    /*
     * strtok function seperates its first parameter's value from the
     * beggining to the
     * place of its second parameter.
     * Ex : in this software since our second parameter is space (" ")
     * "hello" is seperated from "sir my name is hasan emre akkus" and
     * the word "hello" is returned
     */
    seperatedWord = strtok(holder, " ");
    /*
we separate each word in the while loop defined below and we increment numberOfWords by one.

```c
while(separatedWord != NULL)
{
    numberOfWords++;
    separatedWord = strtok(NULL, " ");
}
```

```c
printf("Number of words : %d\n", numberOfWords);
printf("These are: \n");
```

```c
/*
 we used the holder variable to find the number of words.
Now we will use the name variable to print each word to the screen.
*/
```

```c
We will use the same technique which we used above.
```

```c
separatedWord = strtok(name, " ");
```

```c
while(separatedWord != NULL)
{
    printf("\t%s\n", separatedWord);
    separatedWord = strtok(NULL, " ");
}
```

```c
return(0);
```
}
Define the string

“I am a student of Cankaya University”

to a software and take a word from the user. If the input word exists in the string then print “The word exists”. If the input word does not exist in the string then prints “The word does not exist”.

**Sample Scenario**

Write a word: student

The word exists in the sentence.

Write a word: basketball

The word does not exist in the sentence.
#include <stdio.h>

/* string.h library includes core string functions. */
#include <string.h>

int main(void)
{
    /* First we define our sentence*/
    char sentence[50] = "i am a student of cankaya university";

    /* We will seperate each word from the sentence variable. After we separate a word, we will assign this seperated word to the variable seperatedWord */
    char *seperatedWord;

    /* userInput variable will holdd the the string that the user will enter as input. */
    char userInput[50] = "";

    /* if isFound variable is 0 then our software cannot find the word in the sentence.

    if we find the user input in our sentence, then we update our variable value to one. */
    int isFound = 0;

    printf("Write a word : ");
    scanf("%s", &userInput);

    /* strtok function seperates its first parameter's value from the beggining to the place of its second parameter.
Ex : in this software since our second parameter is space (" ") "i" will be seperated from "am a student of cankaya university" and the word "i" will be returned
we seperate each word in the while loop defined below */
    seperatedWord = strtok(sentence, " ");

    while(seperatedWord != NULL)
    {
        /* if the seperated word is equals to user input, then we update our isFound variable to one. */
        if(strcmp(seperatedWord, userInput) == 0)
            isFound = 1;
seperatedWord = strtok(NULL, " ");

/* if the value of isFound is still zero then we cannot find the word in the sentence*/
if(isFound == 0)
    printf("The word does not exist in the sentence.");
else
    printf("The word exists in the sentence.");

return(0);
• Define the string

“dal sarkar kartal kalkar kartal kalkar dal sarkmaz”

to a software and take a word from the user. If the input word is used in the sentence then print “Input word is used x times in the sentence”. If the input word is not used in the sentence then print “Input word is not used.”

**Sample Scenario**

Enter a word : kartal

Input word is used 2 times in the sentence

Enter a word : sarkar

Input word is used 1 times in the sentence

Enter a word : basketball

Input word is not used
#include <stdio.h>

/*
 * string.h library includes core string functions.
 */
#include <string.h>

int main(void)
{
    /* First we define our sentence*/
    char sentence[150] = "dal sarkar kartal kalkar kartal kalkar dal sarkmaz";

    /* We will sperate each word from the sentence variable. 
     * After we seperate a word, we will assign this seperated word to 
     * the variable seperatedWord 
     */
    char *seperatedWord;

    /* userInput variable will hold the the string that the user will 
     * enter as input. 
     */
    char userInput[50] = "";

    /* 
     * if the variable numberOfUsage is zero, then the input word is 
     * not used. 
     */
    int numberOfUsage = 0;

    printf("Write a word : ");
    scanf("%s", &userInput);

    /*
     * strtok function seperates its first parameter's value from the 
     * beggining to the 
     * place of its second parameter. 
     * 
     * Ex : in this software since our second parameter is space (" ") 
     * "i" will be seperated from "am a student of cankaya university" 
     * and 
     * the word "i" will be returned 
     * we seperate each word in the while loop defined below 
     */
    seperatedWord = strtok(sentence, " ");

    while(seperatedWord != NULL)
    {
        /* 
         * if the seperated word is equals to user input, 
         * then we update our numberOfUsage variable by one. 
         */
        if(strcmp(seperatedWord, userInput) == 0)
            numberOfUsage++;

        seperatedWord = strtok(NULL, " ");
    }
}
if the value of numberOfUsage is still zero then we cannot find
the word in the sentence/
  if(numberOfUsage > 0)
      printf("Input word is used %d times in the sentence", numberOfUsage);
  else
      printf("Input word is not used.");

return(0);
• Define the string

“I am a student of cankaya university”

to a software and take a word from the user. If the input word is used in the sentence then print the place of the word in the sentence. If the input word is not used in the sentence then print “Input word is not used.”

Sample Scenario

Enter a word : student

The word is at the place of : 4

Enter a word : university

The word is at the place of : 7

Enter a word : basketball

Input word is not used
#include <stdio.h>

/* string.h library includes core string functions. */
#include <string.h>

int main(void)
{
    /* First we define our sentence*/
    char sentence[150] = "I am a student of cankaya university";
    /* We will separate each word from the sentence variable. After we separate a word, we will assign this separated word to the variable seperatedWord */
    char *seperatedWord;
    /* userInput variable will hold the the string that the user will enter as input. */
    char userInput[50] = "";
    /* if the variable placeofWord is zero, then the input word is not used. */
    int placeofWord = 0;
    /* wordCounter variable holds the number of seperated words */
    int wordCounter = 0;

    printf("Write a word :");
    scanf("%s", &userInput);

    /* strtok function seperates its first parameter's value from the begginning to the place of its second parameter. Ex : in this software since our second parameter is space (" ") "i" will be seperated from "am a student of cankaya university" and the word "i" will be returned we seperate each word in the while loop defined below */
    seperatedWord = strtok(sentence, " ");

    while (seperatedWord != NULL)
    {
        /* if the seperated word is equals to user input, then the value of word counter is the place of input string. */
    }
}
but since the first index is zero, placeofWord equals wordCounter + 1;

*/
if(strcmp(seperatedWord, userInput) == 0)
    placeofWord = wordCounter + 1;

    seperatedWord = strtok(NULL, " ");
    wordCounter++;
}

/* if the value of numberOfUsage is still zero then we cannot find the word in the sentence*/
if(placeofWord > 0)
    printf("The word is at the place of %d", placeofWord);
else
    printf("Input word is not used.");
return(0);