16.05.2023

Introduction To Computer Programming
Laboratory 09

Labwork - 1

1. **A computer program receives word input from user, until last entered word is a ".". All entered words are concatenated into a single string with spaces between. Final string is displayed. Write C code. Use int strcmp(const char* str1, const char* str2) and char* strcat(char* dst, const char* src) functions from <string.h> library.**
2. **A computer program receives a sentence and a character, then finds the frequency of that character in the sentence. Write the required C program.**

3. **Write a function that takes nouns and forms their plurals on the basis of these rules:**
   a. If noun ends in "y", remove the "y" and add "ies".
   b. If noun ends in "s", "ch", or "sh", add "es".
   c. In all other cases, just add "s".

Print in capital letters each noun and its plural in the main program. Put the following data in an array and test them: chair dairy boss circus fly dog church clue dish

Labwork - 2

1. **Examine the C code below and the output of the code to understand the usage of strncpy,strncmp and strncat.**

```
#include <stdio.h>
#include <string.h>

int main (){
    char str1[]= "To be or not to be";
    char str2[40];
    char str3[40];

    printf("\n\n*********************************************\n");

    printf("* strncpy example *\n\n");

    /* copy to sized buffer (overflow safe): */
    strncpy ( str2, str1, sizeof(str2) );

    /* partial copy (only 5 chars): */
    strncpy ( str3, str2, 5 );
    str3[5] = '\0';   /* null character manually added */

    puts (str1);
    puts (str2);
    puts (str3);

    printf("\n\n*********************************************\n");

    printf("* strncmp example *\n\n");

    char str4[][5] = { "R2D2", "C3PO", "R2A6" };
    int n;
    puts ("Looking for R2 astromech droids...");
```

```
    for (n=0 ; n<3 ; n++)
       if (strncmp (str4[n],"R2xx",2) == 0)
           printf ("found %s\n",str4[n]);

  printf("\n\n*********************************************\n");

  printf("* strncat example *\n\n");

  char str5[20];
  char str6[20];
  strcpy (str5,"To be ");
  strcpy (str6,"or not to be");
  strncat (str5, str6, 6);
  puts (str5);

  return 0;
}
```

2. **A computer program receives a sentence, then removes all the characters except alphabets. Write the required C program.**

3. **A computer program receives a word from user, removes vowels except the first one, and saves in another string. Saved string is displayed. Write C code.**

Exercises

1. **Write C code for a program that displays syllable count of an entered word by counting vowels in a Word.**
2. **Receive a word as input. Reverse the word, capitalize its letters and save into another string. Display both first and last strings. If there are any numbers in the word leave it as it is, just print a message that says there are number(s) in the word.**