**A Micro Project Report**

**on**

**Problem Solving using C Language**

Submitted by

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**NARASARAOPETA ENGINEERING COLLEGE: NARASARAOPET (AUTONOMOUS)**

**Accredited by NAAC with A+ Grade and NBA under Tier-1**

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**NARASARAOPETA ENGINEERING COLLEGE: NARASARAOPET**

**(AUTONOMOUS)**

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**



**CERTIFICATE**

**This is to certify that GUNJi. LAKSHMINARASIMHA SWAMI, Roll No: (23471A05FR) a Second Year Student of the Department of Computer Science and Engineering, has completed the Micro Project Satisfactorily in “Problem Solving using C Language" for the Academic Year 2024-2025.**.

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**1 program to check string palindrome with out using string handling functions**

**#include<stdio.h>**

**int main()**

**{**

**char str1[100],str2[100];**

**int start,end,len=0,flag=0,i;**

**printf("enter a string:");**

**scanf("%s",str1);**

**for(i=0;str1[i]!='\0';i++ {**

**str2[i]=str1[i];**

**}**

**for(i=0;str1[i]!='\0';i++){**

**len++;**

**}**

**start=0;**

**end=len-1;**

**while(start<end) {**

**if(str1[start]==str2[end]) {**

**start++;**

**end--;**

**}**

**else**

**{**

**flag++;**

**break;**

**}**

**}**

**if(flag==0)**

**{**

**printf("the given string is palindrome");**

**}**

**else**

**{**

**printf("the given string is not palindrom");**

**}**

**return 0;**

**}**

**output:**

**enter a string:manam**

**the given string is palindrome**

**2.find shortest word from given sentence**

**#include <stdio.h>**

**#include <string.h>**

**int main() {**

**char sentence[100], word[50], shortestWord[50];**

**int len, minLen = 1000;**

**int i, j, start, end;**

**printf("Enter a sentence: ");**

**fgets(sentence, sizeof(sentence), stdin);**

**shortestWord[0] = '\0';**

**for (i = 0; sentence[i] != '\0'; i++) {**

**while (sentence[i] == ' ' || sentence[i] == '\t' || sentence[i] == '\n') {**

**i++;**

**}**

**start = i;**

**while (sentence[i] != ' ' && sentence[i] != '\0' && sentence[i] != '\n') {**

**i++;**

**}**

**end = i;**

**if (end > start) {**

**strncpy(word, &sentence[start], end - start);**

**word[end - start] = '\0';**

**len = strlen(word);**

**if (len < minLen) {**

**minLen = len;**

**strcpy(shortestWord, word);**

**}**

**}**

**}**

**if (minLen != 1000) {**

**printf("The shortest word is: %s\n", shortestWord);**

**} else {**

**printf("No valid words found in the sentence.\n");**

**}**

**return 0;**

**}**

**output:**

**Enter a sentence: sunil is good boy and handsome**

**The shortest word is: is**

**................**

**.3.string copy without using strcpy()**

**#include<stdio.h>**

**int main()**

**{**

**char str1[100],str2[100];**

**int i;**

**printf("enter a string:");**

**fgets(str1,sizeof(str1),stdin);**

**for(i=0;str1[i]!='\0';i++)**

**{**

**str2[i]=str1[i];**

**}**

**printf("after copy ");**

**printf("str1=%s\n",str1);**

**printf("str2=%s",str2);**

**return 0;**

**}**

**output:**

**enter a string:Narasimha**

**after copy**

**str1=Narasimha**

**str2=Narasimha**

**.....................................................................................................**

**4.campare two stings without using strcmp()**

**#include<stdio.h>**

**int lenth(char str[]){**

**int i,len=0;**

**for(i=0;str[i]=='\0';i++){**

**len++;**

**}**

**return len;**

**}**

**int main(){**

**char str1[100],str2[100];**

**int i,len1,len2,flag;**

**printf("enter srting one:");**

**fgets(str1,sizeof(str1),stdin);**

**printf("enter string two:");**

**fgets(str2,sizeof(str2),stdin);**

**len1=lenth(str1);**

**len2=lenth(str2);**

**while(str1[i]!='\0'&&str2[i]!='\0') {**

**if(str1[i]==str2[i]) {**

**i++;**

**}**

**else {**

**flag++;**

**break;**

**}**

**}**

**if(flag==0){**

**printf("the given two strings are equal");**

**}**

**else**

**{**

**printf("the given two strings are not equal");**

**}**

**return 0;**

**}**

**output:**

**enter srting one: Narasimha**

**enter string two: Swami**

**the given two strings are not equal**

**5.Write a program that uses an array of pointers to strings str[]. Receive two strings str1 and str2 and check if str1is embedded in any of the strings in str[].If str1 is found, then replace it with str2. char \*str[] = { "We will teach you how to...", "Move a mountain","Level a building","Erase the past","Make a million","...all through C!" };For example if str1 contains "mountain" and str2 contains "car", then the second string in**

**str should get changed to "Move a car".**

**#include <stdio.h>**

**#include <string.h>**

**#define SIZE 6**

**void replaceSubstring(char \*str, const char \*str1, const char \*str2)**

**{**

**char \*pos;**

**int len\_str1 = strlen(str1);**

**int len\_str2 = strlen(str2);**

**pos = strstr(str, str1);**

**if (pos != NULL) {**

**char temp[100];**

**int i = 0;**

**while (str + i != pos) {**

**temp[i] = str[i];**

**i++;**

**}**

**temp[i] = '\0';**

**strcat(temp, str2);**

**strcat(temp, pos + len\_str1);**

**strcpy(str, temp);**

**}**

**}**

**int main() {**

**char \*str[] = {**

**"We will teach you how to...",**

**"Move a mountain",**

**"Level a building",**

**"Erase the past",**

**"Make a million",**

**"...all through C!"**

**};**

**char str1[100], str2[100];**

**printf("Enter the string to find (str1): ");**

**fgets(str1, sizeof(str1), stdin);**

**str1[strcspn(str1, "\n")] = '\0';**

**printf("Enter the string to replace with (str2): ");**

**fgets(str2, sizeof(str2), stdin);**

**str2[strcspn(str2, "\n")] = '\0';**

**for (int i = 0; i < SIZE; i++) {**

**replaceSubstring(str[i], str1, str2);**

**}**

**printf("\nModified strings:\n");**

**for (int i = 0; i < SIZE; i++) {**

**printf("%s\n", str[i]);**

**}**

**return 0;**

**}**

**output:**

**Enter the string to find (str1): car**

**Enter the string to replace with (str2): mountain**

**Modified strings:**

**We will teach you how to...**

**Move a mountain**

**Level a building**

**Erase the past**

**Make a million**

**...all through C!**