**PSG COLLEGE OF TECHNOLOGY, COIMBATORE – 641 004**

**DEPARTMENT OF APPLIED MATHEMATICS AND COMPUTATIONAL SCIENCES**

**LAB WORK SHEET –7**

**Class : M.Sc (SS/TCS) Semester:1 Course : C Programming Lab**

1. Write a program that inputs a line of text into char array s[100]. Output the line in uppercase letters and in lowercase letters.

2. Write a program that uses function strcmp to compare two strings inputby the user. The program should state whether the first string is less than, equal to or greaterthan the second string.

3. Write a program that uses function strncmp to comparetwo strings input by the user. The program should input the number of characters to be compared,then display whether the first string is less than, equal to or greater than the second string.

4. Write a program that inputs several lines of textand a search character and find the number of occurrence of the character.

5. Write a program that inputs several lines of text and find the total occurrencesof each letter of the alphabet in the lines of text. Uppercase and lowercase letters shouldbe counted together. Store the totals for each letter in an array and print the values in tabular formatafter the totals have been determined.

6. Write a program that inputs several lines oftext and count the total number of words. Assume that the words are separated byspaces, comma or dot characters.

7. Write a complete working program that will ask for a person’s name and his/her game score. Then it will ask for a second person’s name and score. The program will print the winner’s name and also print by how many points that person won.

8. Write a program to read a string using pointer then do the following manipulations using pointers,

Find length of the string

Copy the string into another one

Reverse the string

Read one more string and then compare the new string with the old string.

9. Write a C program to display a question and get the answer for the question. Display “Good”, if the answer is correct and display “Wrong” if the answer is wrong.

10. Write a program to read a string and rewrite it in the alphabetical order.

11. Given a string char s[] = “123456789”, write a program that displays the following.

1

2 3 2

3 4 5 4 3

4 5 6 7 6 5 4

5 6 7 8 9 8 7 6 5

12. Write a program that stores lists of names and ages inparallel arrays and sorts the names into alphabetical order keeping the ageswith the correct names.

13. Write a program that takes nouns and forms their plurals on the basis ofthese 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 each noun and its plural. Try the following data:

chair dairy boss circus fly dog church clue dish

14. Write a program that takes a string input and

i) print string after squeezing all continues blanks into one.

ii) prints string with all blanksremoved.

15. A resistor is a circuit device designed to have a specific resistance value between its ends. Resistance values are expressed in ohms or kilo-ohms k. Resistors are frequently marked with colored bands that encode their resistance values, as shown in Figure. The first two bands are digits, and thethird is a power-of-ten multiplier.

****

The table below shows the meanings of each band color. For example, if thefirst band is green, the second is black, and the third is orange, the resistor has avalue of 50 × 103or 50k. The information in the table can be stored in an array of strings.

char COLOR\_CODES[10][7] = {"black", "brown", "red","orange", "yellow", "green", "blue", "violet", "gray","white"};

Notice that “ red ” is COLOR\_CODES[2] and has a digit value of 2 and a multipliervalue of 102 . In general, COLOR\_CODES[ *n* ] has digit value *n* and multiplier value 10*n*.Write a program that prompts for the colors of Band 1, Band 2, and Band 3,and then displays the resistance in kilo-ohms.

**Color Codes for Resistors \***

**Color Value as Digit Value as Multiplier**

Black 0 1

Brown 1 10

Red 2 102

Orange 3 103

Yellow 4 104

Green 5 105

Blue 6 106

Violet 7 107

Gray 8 108

White 9 109

Band 1 =>green

Band 2 =>black

Band 3 =>yellow

Resistance value: 500 kilo-ohms

Do you want to decode another resistor?

=> y

Enter the colors of the resistor's three bands, beginning withthe band nearest the end. Type the colors in lowercase lettersonly, NO CAPS.

Band 1 =>brown

Band 2 =>vilet

Band 3 =>gray

Invalid color: vilet

Do you want to decode another resistor?

=>n

16. Short Message Service (SMS) is a communications service that allowssending text messages of 160 or fewer characters between mobile phones. With the proliferation ofmobile phone use worldwide, SMS is being used in many developing nations for political purposes(e.g., voicing opinions and opposition), reporting news about natural disasters, and so on. Because the length of SMS messages is limited,SMS Language—abbreviations of common words and phrases in mobile text messages, e-mails,instant messages, etc.—is often used. For example, “in my opinion” is “IMO” in SMS Language.Research SMS Language online. Write a program that lets the user enter a message using SMS Language,then the program translates it into English. Also provide a mechanismto translate text written in English (or your own language) into SMS Language.

17. One common security method requires that the cheque amount be both written innumbers and “spelled out” in words. Even if someone is able to alter the numerical amount of the cheque, it’s extremely difficult to change the amount in words. Write a program that inputs a numericcheck amount and writes the word equivalent of the amount. For example, the amount 52.43should be written as

FIFTY TWO and 43/100