Assignment-4 (strings): -

1. Implement your own functions for
   a) reading a string with multiple lines
   b) printing strings

2. Define your own iterative functions for
   (using array notation as well as exclusively using pointers)
   a) finding length
   b) copying
   c) concatenation
   d) comparision
   e) reversing in memory
   f) finding first occurrence of given character
   g)finding last occurrence of given character
   h)counting no.of occurences of a given character
   i) finding a substring in a main string
   j) Whether a string starts or ends with a particular sub string

3. Write recursive functions for
   a)finding string length
   b)comparision of two strings
   c)displaying string in reverse order
   d)to count no.of occurences of a given character
   e)finding occurrence of a given character
   f)finding sub string in a main string

4. Perform the following operations using sprintf
   a) concatenation of two strings
   b) copying one string to other
   c) length of a string

5. Study the following functions
   strncpy, strncat, strncmp, strcasecmp, strncasecmp, strchr, strrchr,strstr, strtok,
   sprintf, snprintf, sscanf

6. Study about various functions which can convert from string to different types
   atoi, atol, atoll, atof
   strtoimax, strtol, strtoul, strtof, strtod etc
   man -k strto – for more listing

7. Implement your own function to convert a string having only digits into an integer and vice versa

8. Explore the following functions used for raw memory operations.
   memcpy, memcmp, memset, bzero

9. Implement generic swap function (which swap variables of any type,Hint:-memcpy)

10. Write a program to copy one array from other using memcpy

11. Write a c program to find sum & avg of command line arguments

12. In a table of strings swap any two rows, when table is declared as
    a) char tstr[5][20];
    b) char *tstr[5];

13. Convert the string in a.b.c.d format into 32 bit unsigned integer (use pointer operations for packing purpose)

Miscellaneous:-

14. Precision problems
    Compare some int, float, double expressions, if getting precision problems
    rectify using the condition fabs(exp1 – exp2) < 1e-5
    eg:- int x = 2; float y = sqrt(4); float z=sqrt(0.1225);
    Check correctness of comparisions like x==y , z==0.35 etc.

Buffered I/O operations

15. int a,b,c;
    printf(“enter two no.s\n”);
    scanf(“”%d%d”,&,&b); //but here give input of 3 no.s separated by space.
    printf(“ente ranother number\n”);
    scanf(“%d”,&c);
    printf(“%d,%d,%d\n”,a,b,c);

    What do you observer, if any prob fix it using “ %d” while reading variable c
    (or) use __fpurge before reading c

16. char c1,c2;
    printf(“enter any character\n”);
    scanf(“%c”,&c1); //you may use getchar(c1); here
    scanf(“%c”,&c2);
    printf(“c1=%d,c2=%d\n”,c1,c2);
    fix any prob using a space before %c or using __fpurge

17. int x,y;
    for(int i=1;i<=5;i++)
    {
        printf(“i=%d”,i); //dont use \n at end of printf
        y=1/(x-5);
    }
    What do you observer when you run above code.
    Try the same using \n at the end of printf or by using fflush after printf