2. Develop a Program in C for the following operations on Strings.
a. Read a main String (STR), a Pattern String (PAT) and a Replace String (REP).

b. Perform Pattern Matching Operation: Find and Replace all occurrences of PAT in STR with REP if PAT exists in STR. Report suitable messages in case PAT does not exist in STR.

```c
#include<stdio.h>

char str[50], pat[20], rep[20], res[50];
int c = 0, m = 0, i = 0, j = 0, k, flag = 0;
void stringmatch()
{
    while (str[c] != '\0')
    {
        if (str[m] == pat[i])
        {
            i++;
            m++;
            if (pat[i] == '\0')
            {
                flag = 1;
                for (k = 0; rep[k] != '\0'; k++, j++)
                {
                    res[j] = rep[k];
                }
                i = 0;
                c = m;
            }
        }
        else
        {
            res[j] = str[c];
            j++;
            c++;
            m = c;
            i = 0;
        }
    }
    res[j] = '\0';
}
void main()
{
    printf("\nEnter the main string:");
    gets(str);
    printf("\nEnter the pat string:");
    gets(pat);
    printf("\nEnter the replace string:");
    gets(rep);
    printf("\nThe string before pattern match is:\n %s", str);
    stringmatch();
    if (flag == 1)
        printf("\nThe string after pattern match and replace is: \n %s ", res);
    else
        printf("\nPattern string is not found");
}
```

OUTPUT:

Enter the main string:Designed by vtucode

Enter the pat string:vtucode

Enter the replace string:Braham

The string before pattern match is:
 Designed by vtucode

The string after pattern match and replace is:
 Designed by Braham

************************OUTPUT 2****************************

Enter the main string:Designed by Developer

Enter the pat string:vtucode

Enter the replace string:Braham

The string before pattern match is:
 Designed by Developer

Pattern string is not found