

**Date:**

**AIM:**

To implement Rail-Fence Cipher technique using C.

**ALGORITHM:**

1. Get the plaintext string from the user.
2. Take the string length of the plaintext.
3. For each plaintext character do the following-
  - a. If  $ch \% 2 == 0$  put in a[] array
  - b. Else put in b[] array
4. Take each character in a[] array and put in s[] array and increment the index.
5. After all characters in a[] array are copied, then copy each character from b[] array and put into s[] array and increment the index.
6. Print the contents of s[] array to get ciphertext.

**PROGRAM CODE:**

```
#include<stdio.h>
#include<string.h>
void main()
{
    int i,j,k=0,l=0,m=0;
    char s[20],a[10],b[10];
    printf("enter a string:");
    scanf("%s",s);
    for(i=0;i<strlen(s);i++)
    {
        if(i%2==0) //even position
        {
            a[k]=s[i];
            k++;
        }

        else //odd position
        {
            b[l]=s[i];
            l++;
        }
    }
    for(i=0;i<k;i++)
    {
        printf("%c ",a[i]);
        s[m]=a[i];
        m++;
    }
```

```
}  
printf("\n");  
for(i=0;i<l;i++)  
{  
    printf(" %c",b[i]);  
    s[m]=b[i];  
    m++;  
}  
printf("\n\ncipher text is %s",s);  
getchar();  
}
```

## OUTPUT:

```
[root@localhost-live liveuser]# vi railfence.c  
[root@localhost-live liveuser]# cc railfence.c  
[root@localhost-live liveuser]# ./a.out  
enter a string:queenoftears  
q e n f e r  
u e o t a s  
  
cipher text is qenferueotas[root@localhost-live liveuser]#
```

## RESULT: