**Program to implement bit stuffing**

#include<stdio.h>

#include<conio.h>

#include<string.h>

int main()

{

int a[20],b[30],i,j,k,count,n;

printf("Enter frame size (Example: 8):");

scanf("%d",&n);

printf("Enter the frame in the form of 0 and 1 :");

for(i=0; i<n; i++)

scanf("%d",&a[i]);

i=0;

count=1;

j=0;

while(i<n)

{

if(a[i]==1)

{

b[j]=a[i];

for(k=i+1; a[k]==1 && k<n && count<5; k++)

{

j++;

b[j]=a[k];

count++;

if(count==5)

{

j++;

b[j]=0;

}

i=k;

}

}

else

{

b[j]=a[i];

}

i++;

j++;

}

printf("After Bit Stuffing :");

for(i=0; i<j; i++)

printf("%d",b[i]);

return 0;

}

**Output:**

Enter frame size (Example: 8):12

Enter the frame in the form of 0 and 1 : 0 1 0 1 1 1 1 1 1 0 0 1

After Bit Stuffing : 0101111101001

**Program to implement byte stuffing**

#include<string.h>

#include<stdio.h>

#include<unistd.h>

#include<fcntl.h>

#define SIZE 40

struct frame

{

char str[SIZE+1];

char tmp[2\*SIZE];

char flag;

char e;

char final[2\*SIZE];

}s;

main()

{int fd,len1;

int i,j,len;

fd=open("b1",O\_WRONLY);

printf("\nEnter flag character and escape character for byte-stuffing:");

scanf("%c %c",& s.flag,&s.e);

printf("\nEnter string:");

scanf("%s",s.str);

len=strlen(s.str);

for(i=0,j=0;i<len;i++,j++)

{

if(s.str[i]==s.flag)

{

s.tmp[j]=s.e;

s.tmp[j+1]=s.flag;

j++;

continue;

}

else if(s.str[i]==s.e)

{

s.tmp[j]=s.e;

s.tmp[j+1]=s.e;

j++;

continue;

}

else

{

s.tmp[j]=s.str[i];

}

}

printf("\nAppended string is==>%s \n",s.tmp);

len1=strlen(s.tmp);

for(i=0,j=0;i<=len1;i++,j++)

{

if((i==0)(i==len1))

{

s.final[j]=s.flag;

s.final[j+1]=s.tmp[i];

j++;

continue;

}

else

{

s.final[j]=s.tmp[i];

}

}

printf("\nFianal string is==>%s\n",s.final);

write(fd,&s,sizeof(s));

}

**Output:**

Enter string:sim#andh@ar

Sending message is==>#sim@#andh@@ar#

Flag character is==>#

Escape character is ==>@

And actual message was ==>sim#andh@ar