VASAVI COLLEGE OF ENGINEERING

(AUTONOMOUS)

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DEPARTMENT OF: COMPUTER SCIENCE AND ENGINEERING

NAME OF THE LABORATORY : COMPUTER NETWORKS LAB

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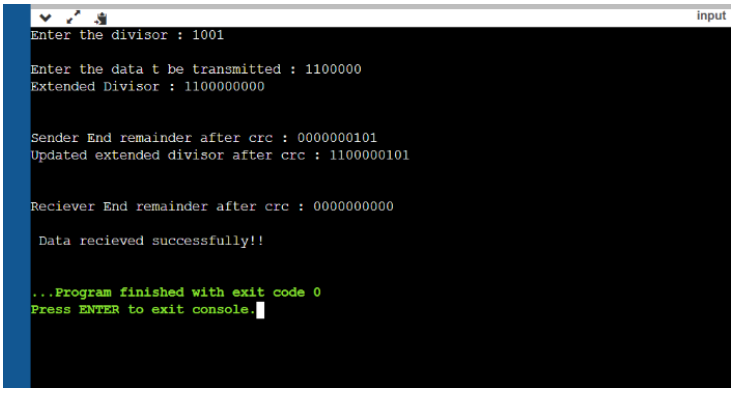
1)CRC (Cyclic Redundancy Check)

```
#include<stdio.h>
#include<stdlib.h>
#include<string.h>
#define maxlength 100

void sender(char *dividend, char *divisor,int m, int n)
{
   char buffer[m+n];
strcpy(buffer,dividend);
   int i,j;
i=0;
   j=0;
   while(i<m)
   {
      if(buffer[i]=='0') {i++; continue;}
      for(j=0;j<n;j++)
      {
         if(divisor[j]!=buffer[i+j])
         {
            buffer[i+j]='1';
         }
         else
         {
            buffer[i+j]='0';
         }
      }
   }
printf("\n\n\nSender End remainder after crc : %s\n",buffer);
   for(i=m;i<m+n-1;i++)
   {
      dividend[i]=buffer[i];
   }
printf("Updated extended divisor after crc : %s\n",dividend);
}

void reciever(char *dividend, char *divisor,int m, int n)
{
   char buffer[m+n];
strcpy(buffer,dividend);
   int i,j;
i=0;
   j=0;
   while(i<m)
   {
      if(buffer[i]=='0') {i++; continue;}
      for(j=0;j<n;j++)
      {
         if(divisor[j]!=buffer[i+j])
         {
            buffer[i+j]='1';
```

```
        }
        else
        {buffer[i+j]='0';}
      }
   }
printf("\n\nReciever End remainder after crc : %s\n",buffer);
   for(i=m;i<m+n-1;i++)
   {
      if(buffer[i]=='1') break;
   }
   if(i==m+n-1) {printf("\n Data recieved successfully!!\n");}
   else {printf("\n Error in data!!!\n");}
}

int main()
{
printf("Enter the divisor : ");
   char divisor[maxlength];
   char data[maxlength];
scanf("%s",divisor);
printf("\nEnter the data t be transmitted : ");
scanf("%s",data);
   int m=strlen(data);
   int n=strlen(divisor);
   char dividend[m+n];
strcpy(dividend,data);
   int i;
   for(i=m;i<m+n-1;i++)
   {dividend[i]='0';}
   dividend[i]='\0';
printf("Extended Divisor : %s",dividend);
   sender(dividend,divisor,m,n);
reciever(dividend,divisor,m,n);
   return 0;
}
```

OUTPUT:



2)sliding window

```
#include<stdio.h>

int main()
{
   int w,i,f,frames[50];

printf("Enter window size: ");
scanf("%d",&w);

printf("\nEnter number of frames to transmit: ");
scanf("%d",&f);

printf("\nEnter %d frames: ",f);

   for(i=1;i<=f;i++)
scanf("%d",&frames[i]);

printf("\nWith sliding window protocol the frames will be sent in the following manner (assuming no corruption of frames)\n\n");
printf("After sending %d frames at each stage sender waits for acknowledgement sent by the receiver\n\n",w);

   for(i=1;i<=f;i++)
   {
      if(i%w==0)
      {
printf("%d\n",frames[i]);
printf("Acknowledgement of above frames sent is received by sender\n\n");
      }
      else
printf("%d ",frames[i]);
   }

   if(f%w!=0)
printf("\nAcknowledgement of above frames sent is received by sender\n");

   return 0;
}
```

OUTPUT: