Assignment - 6

Write a C-program to detect error checking using 1D parity.

```
#include<stdio.h>
int main(){
//sender
int n, i, j;
Printf("---Sender---");
Printf("Enter no of bits: \n");
scanf("%d", &n);
int arr[20];
Printf("Enter binary data to receiver: \n");
for(i=0; i<n; i++)
    scanf("%d", &arr[i]);
// Compute parity
Printf("\n ---Parity Check Sender End---\n");
Printf("\n ---Received data from sender");
for(i=0; i<n; i++)
    Printf("%d", arr[i]);
int c=0;
for(j=0; j<n; j++){
    if(arr[j]==1)
        c++;
    }
```

```
if(c%2==1){
    arr[n]=1;
}
else
    arr[n]=0;
printf("\n After inserting extra bit for even parity:\n");
for(i=0; i<=n; i++)
    printf("%d", arr[i]);

// receiver end
printf("\n\n --- Receiver --- \n");
int arr2[20];
printf("Enter no of bits:\n");
scanf("%d", &n);
printf("Enter binary data received at receiver end:\n");
for(i=0; i<=n; i++)
    printf("%d", arr2[i]);

e=0;
for(j=0; j<=n; j++)
    if(arr2[j]==1)
        e++;
}
if(e%2==1){
    printf("\n Reject");
}
```

```
case 1
    printf("\n Accepted data : \n");
    for(i=0 ; i<m ; i++)
        printf("%d", arr2[i]);
    }
}
```

output

```
. . . . . Sender . . . . . .
Enter no of bits : 5
Enter binary data to receive : 10101
. . . . Parity check sender end . . . . .
Received data from sender : 10101
After inserting extra bit for even parity : 101011.
```

24/3/23