**Experiment 08—LBC**

clc;

clear all;

k=input('Enter the length of msg word:');

n=input('Enter the length of codeword:');

p=input('Enter the parity matrix:');

G=[eye(k);p;];m=input('Enter the length of msg word:');

H=[eye(n-k) p']

dtable=syndtable(H)

R=input('Enter the received code word');

%S=R\*H'

S\_B=rem(R\*H' ,2)

S\_D=bi2de(S\_B, 'left-msb')

if(S\_D==0)

disp('The recieved codeword is valid:')

else

disp('The corrected codeword is invalid:')

E=dtable(S\_D+1, :)

%CC=R+E

disp('The corrected codeword is: ')

cc=rem(R+E, 2)

msg=cc(1:k)

end

**OUTPUT🡪**

Enter the length of msg word:> 3

Enter the length of codeword:> 6

Enter the parity matrix:> [1 0 1; 0 1 1;1 1 0]

Enter the length of msg word:> 3

H = 1 0 0 1 0 1

0 1 0 0 1 1

0 0 1 1 1 0

dtable =0 0 0 0 0 0

0 0 1 0 0 0

0 1 0 0 0 0

0 0 0 0 1 0

1 0 0 0 0 0

0 0 0 1 0 0

0 0 0 0 0 1

1 0 0 0 1 0

Enter the received code word> [0 0 1 1 1 0]

S\_B = 1 1 1

S\_D = 7

The corrected codeword is invalid:

E = 1 0 0 0 1 0

The corrected codeword is:

cc = 1 0 1 1 0 0

msg =

1 0 1