

```

clc;
clear;

input_vector=input('Enter the input vector');
g1=[1 0 0];
g2=[1 1 1];

disp('The first generator vector g(1) is');
disp(num2str(g1));
disp('The second generator vector g(2) is');
disp(num2str(g2));

code1=mod(conv(input_vector,g1),2);
code2=mod(conv(input_vector,g2),2);

disp(['The code due to g(1) is',num2str(code1)]);
disp(['The code due to g(2) is',num2str(code2)]);

final_code=[];
for p=1:length(code1)
    if code1(p)==0 && code2(p)==0
        final_code=[final_code,0,0];
    elseif code1(p)==1 && code2(p)==0
        final_code=[final_code,1,0];
    elseif code1(p)==0 && code2(p)==1
        final_code=[final_code,0,1];
    elseif code1(p)==1 && code2(p)==1
        final_code=[final_code,1,1];
    endif
end
disp(['The code vector is:',num2str(final_code)]);

```

input

[1 0 1 1]

output

Enter the input vector[1 1 0 1]

The first generator vector g(1) is

1 0 0

The second generator vector g(2) is

1 1 1

The code due to g(1) is1 1 0 1 0 0

The code due to g(2) is1 0 0 0 1 1

The code vector is:1 1 1 0 0 0 1 0 0 1 0 1

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