```
clc
clear all
close all
% For detecting error in 7,4 Hamming Code
% First detecting Even or Odd Parity
% 2017KUCP1016
% Name Apurv Jain
y = round(rand(1,4))
y_sum = sum(y);
if rem(y_sum,2)==0
    display('Even Parity');
else
    display('Odd Parity');
end
a = zeros(1,4);
a(1,1) = y(1,1);
for i = 1:1:3
    a(1,i+1) = xor(y(1,i),y(1,i+1));
end
a
yy = zeros(1,7);
yy(1,7) = y(1,4);
yy(1,6) = y(1,3);
yy(1,5) = y(1,2);
yy(1,3) = y(1,1);
yy
yy(1,1) = xor(xor(yy(1,3),yy(1,5)),yy(1,7));
yy(1,2) = xor(xor(yy(1,3),yy(1,6)),yy(1,7));
yy(1,3) = xor(xor(yy(1,5),yy(1,6)),yy(1,7));
yy
z = 5;
if yy(1,z) == 1
    yy(1,z) = 0;
else
    yy(1,z) = 1;
end
yy
n = zeros(1,3);
n(1,1) = xor(xor(xor(yy(1,1),yy(1,3)),yy(1,5)),yy(1,7));
n(1,2) = xor(xor(xor(yy(1,2),yy(1,3)),yy(1,6)),yy(1,7));
n(1,3) = xor(xor(xor(yy(1,3),yy(1,5)),yy(1,6)),yy(1,7));

r = [n(1,3);n(1,2);n(1,1)];
p = r;
pp = fliplr(p);
ans = bi2de(p);
ans
bit_no = 0;
n = 2;
for j = 1:1:3
    bit_no = bit_no + (2^n)*ans(j,1);
    n = n-1;
```

```
end
display ('Error is in ');
display (bit_no);
```

```
y =

     0     0     1     1

Even Parity

a =

     0     0     1     0


yy =

     0     0     0     0     0     1     1


yy =

     1     0     0     0     0     1     1


yy =

     1     0     0     0     1     1     1


ans =

     1
     0
     1

Error is in

bit_no =

     5
```

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