

→ Sender retransmitted where lost, time out or either dropped individually.

## Hamming Code Task

Name - ASHUTOSH REDU

1) Given Data = 1001101 P-Parity - 20BES1262  
Hamming Code 10011100101

At the Receiver's End :-

D - Data P - Parity Bit

1 0 0 1 → no error found

D<sub>11</sub> D<sub>10</sub> D<sub>9</sub> P<sub>8</sub>

1 1 0 0 → no error found

D<sub>7</sub> D<sub>6</sub> D<sub>5</sub> P<sub>4</sub>

(Using even parity)

1 0 1 1 1 1 → no error

D<sub>11</sub> D<sub>10</sub>

D<sub>11</sub> D<sub>10</sub> D<sub>7</sub> D<sub>6</sub> D<sub>5</sub> P<sub>2</sub> found

1 0 0 1 0 1 → no error found

D<sub>11</sub> D<sub>9</sub> D<sub>7</sub> D<sub>5</sub> D<sub>3</sub> P<sub>1</sub>

25 Hence there is no error in the Hamming Code using even parity.

Data = 1001101



2) Hamming code received =

1 0 1 1 1 0 0 0 0 1

D- Data bits P- Parity bits

1 0 0 1 no error (using even parity)

5 D<sub>11</sub> D<sub>10</sub> D<sub>8</sub> P<sub>8</sub>

1 1 0 0 no error

D<sub>7</sub> D<sub>6</sub> D<sub>5</sub> P<sub>4</sub>

10 ~~1 0 1 1 0 0~~ 1 0 1 1 0 0  
~~D<sub>11</sub> D<sub>9</sub> D<sub>7</sub> D<sub>5</sub>~~ D<sub>11</sub> D<sub>10</sub> D<sub>7</sub> D<sub>6</sub> D<sub>3</sub> P<sub>2</sub>  
 error found

15 1 0 1 0 0 1 error found  
 D<sub>11</sub> D<sub>9</sub> D<sub>7</sub> D<sub>5</sub> D<sub>3</sub> P<sub>1</sub>

20 Hence as you can see from the above process the parity bits P<sub>2</sub> & P<sub>1</sub> are corrupted.