Hu 1:

→ →

$$2x - y = 0$$

$$-x + 2y - z = 0$$

$$-y + z = 1$$

$$X + y - Z = 0$$

$$- \times + 2y - Z = 0$$

$$-x + 2y - z = 0$$

$$-y + z = 1$$

$$4x + y - z = 0$$
 $6x + 3y - \lambda z = 0$ 
 $6x - y + z = 1$ 

$$6 - y + z = 1$$

$$-y+z=1$$

## xxxxxx0 Althous ship

$$E_1 + E_2 \rightarrow E_3$$

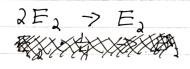
$$E_1 + E_1 \rightarrow E_2$$

$$E_2 + \lambda E_3 \rightarrow E_2$$

$$x=1$$
,  $y=d$ ,  $z=3$ 

1.3.3 
$$\frac{1}{4}$$
  $\frac{1}{4}$   $\frac{1}{4}$ 

$$- \times + 7y - 5z = 4$$
  
 $4y - 3z = 3$   
 $- \times + 8y - 6z = 5$ 





$$x - 7y + 5z = -4$$
  
 $8y - 6z = 6$   
 $-x + 8y - 6z = 5$ 

$$E_1 - E_3 > E_3$$

$$E_3 + E_1 \rightarrow E_3$$

$$E_{\lambda} \cdot \frac{1}{12} \Rightarrow E_{\lambda}$$
 $E_{\lambda} \leftarrow E_{\lambda}$ 

$$Z = -\frac{1}{4\lambda} / Y = \frac{1}{2} \frac{1}{12} / X = \lambda.$$

1.7.8:

-8

-

-VI

-

-3

-

9

9

0

4

4

-

4

-

$$-x + 3y - 2z = 1$$
  
 $-x + 4y - 3z = 0$   
 $-x + 5y - 4z = 0$ 

$$x + 3y + 3z = -1$$
  
 $-x + 4y - 3z = 0$   
 $-x + 5y - 4z = 0$ 

$$E_1 + E_1 \rightarrow E_1$$

$$x - 3y + 2z = -1$$
  
 $y - z = -1$   
 $-x + 5y - 4z = 0$ 

$$E_3 + E_1 \rightarrow E_3$$

$$x - 3y + 2z = -1$$
  
 $y - z = -1$   
 $2y - 2z = -1$ 

$$x - 3y + \lambda z = -1$$
  
 $y - z = -1$   
 $0 = 1$ 

? No solution because
The original assomption that
there is a solution was proven
wrong since the following implications
want to an invalid equation.

1.2.9

$$-x + 3y - 2z = 4$$
  
 $-x + 4y - 3z = 5$   
 $-x + 5y - 4z = 6$ 

$$F_1 \cdot -1 \Rightarrow F_1$$

x + 3y + 2z = -4 -x + 4y - 3z = 5-x + 5y - 4z = 6

$$E_1 + E_1 \rightarrow E_1$$

x - 3y + 2z = -4 y - z = 1-x + 5y - 4z = 6

15-6 52 3

x - 3y + 2z = -4 y - z = 10 = 0 Since The system

Since The system

Simplifies to 2 equations

with 3 unknown variables,

there are infinite solutions