Solutions-Problem set 1(section 1.2)

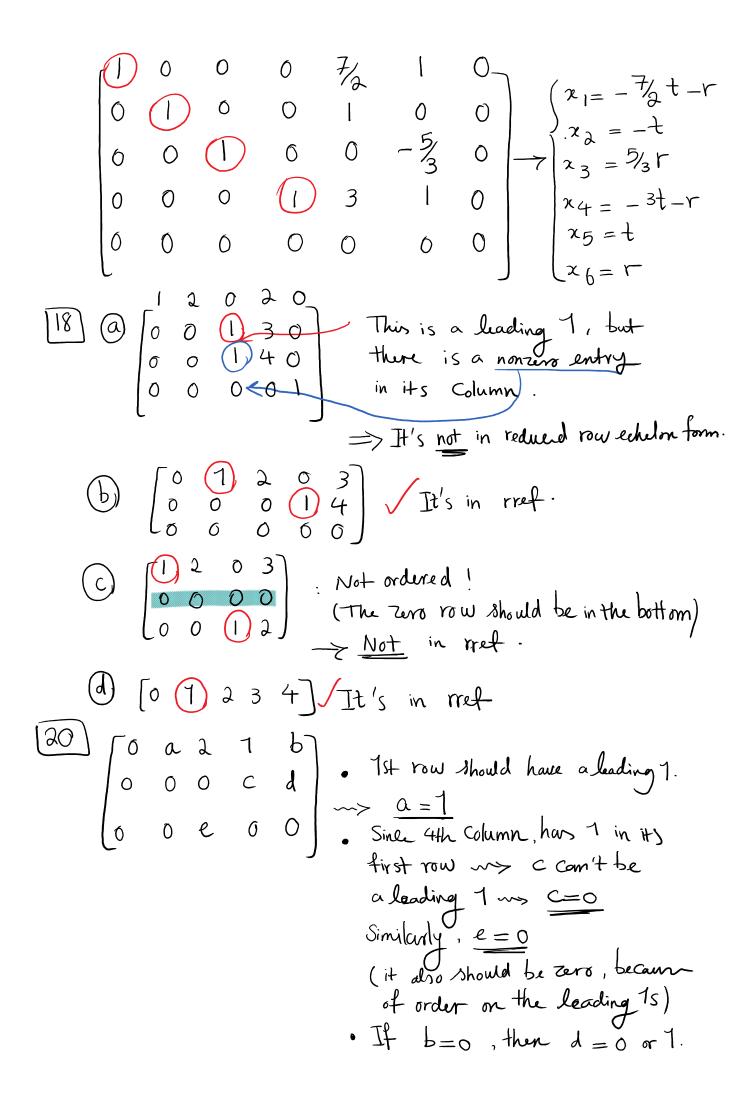
Saturday, January 30, 2016 10:14 PM

$$\begin{vmatrix}
x_{2} + 2x_{4} + 3x_{5} = 0 \\
+x_{4} + 8x_{5} = 0
\end{vmatrix}
\xrightarrow{\text{Aug.}}
\begin{vmatrix}
0 & 1 & 0 & 2 & 3 & 0 \\
0 & 0 & 4 & 8 & 0
\end{vmatrix}$$

$$\begin{vmatrix}
0 & 1 & 0 & 2 & 3 & 0 \\
0 & 0 & 0 & 1 & 2 & 0
\end{vmatrix}
\xrightarrow{\text{OD}-22}
\begin{vmatrix}
0 & 1 & 0 & 0 & -1 & 0 \\
0 & 0 & 0 & 1 & 2 & 0
\end{vmatrix}$$

$$\Rightarrow x_{1}, x_{3} \text{ and } x_{5} \text{ are free variables and } x_{2} = x_{5} + x_{4} = -2x_{5}$$

$$\begin{vmatrix}
x_{1} = t \\
x_{2} = s \\
x_{3} = r \\
x_{4} = -2s \\
x_{5} = s
\end{vmatrix}$$



Therefore,
$$a=1$$
, $b=0$, $c=0$, $d=0$, $d=0$
 $a=1$, $b=0$, $c=0$, $e=0$, $d=0$
 $a=1$, $b=0$, $c=0$, $e=0$, $d=0$
 $a=1$, $b=0$, $c=0$, $e=0$, $d=0$
 $a=1$, $b=1$, $a=0$, $a=0$
 $a=1$, $b=1$, $a=0$, $a=0$
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 $a=1$, $b=1$, $a=0$, $a=0$, $a=0$
 $a=1$, $a=1$, $a=1$, $a=1$, $a=1$
 $a=1$