202010819 3정현 7주차 과제

) 그행에 -1 -1 -1 0 더하기

$$\begin{bmatrix} 1 & 2 & 3 \\ 0 & -1 & -2 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} \chi_1 \\ \chi_2 \\ \chi_3 \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix}$$

$$\begin{aligned}
\chi_1 + 2\chi_2 + 3\chi_3 &= 0 \\
-\chi_2 - 2\chi_3 &= 0 \\
\chi_3 &= 0
\end{aligned}$$

$$\therefore \chi_1 = \chi_2 = \chi_3 = 0$$

#||)
$$\alpha_1 = 10$$
, $\alpha_2 = -3$, $\alpha_3 = 5$

35gol/ 25gx(-8) 赴汉 日初

$$\begin{bmatrix} 2 & 6 & 1 & 7 \\ 0 & -1 & \frac{-3}{2} & \frac{-9}{2} \\ 0 & 0 & \frac{11}{2} & \frac{55}{2} \end{bmatrix}$$

보두 0이되게 *운생!!*

$$\begin{bmatrix} 2 & 6 & 1 \\ 0 & -1 & \frac{-3}{2} \\ 0 & 0 & \frac{11}{2} \end{bmatrix} \begin{bmatrix} \chi_1 \\ \chi_2 \\ \chi_3 \end{bmatrix} = \begin{bmatrix} 0 \\ \frac{-9}{2} \\ \frac{1}{2} \end{bmatrix}$$

$$2\alpha_1 + 6\alpha_2 + \alpha_3 = 9$$

$$-\chi_2 - \frac{3}{2}\chi_3 = \frac{-9}{2}$$

$$\frac{11}{2}\chi_3 = \frac{55}{2}$$

$$\begin{bmatrix}
1 & 0 & 0 \\
0 & 1 & 0 \\
0 & 1 & 1
\end{bmatrix}$$

$$\begin{bmatrix}
1 & 0 & 0 \\
0 & 1 & 0 \\
3 & 1 & 1
\end{bmatrix}$$

$$\begin{bmatrix}
0 & 0 \\
0 & 1 & 0 \\
3 & 1 & 1
\end{bmatrix}$$

$$\begin{bmatrix}
0 & 2R_1 + R_2 \rightarrow R_3
\end{bmatrix}$$

#20) (1)
$$x_1 = 2, x_2 = -5, x_3 = 3$$
 (2) $x_1 = -2, x_2 = 2, x_3 = 0$

$$\begin{bmatrix}
1 & 2 & 3 & | & 1 & 2 \\
2 & 3 & 4 & | & 3 & | & 5 \\
| & 0 & 1 & | & 5 & | & -2
\end{bmatrix}$$

$$\begin{bmatrix} 1 & 2 & 3 & | & 1 & | & 2 \\ 0 & -1 & -2 & | & -1 & | & -2 \\ 0 & 0 & 2 & 6 & 0 \end{bmatrix}$$

$$2x_3 = 6 \rightarrow x_2 = 3$$

$$-x_2 - 2x_3 = -1$$

$$-x_2 - 6 = -1$$

·. (() 만친 계산

$$-\lambda_2 - 6 - 1$$

$$-\lambda_2 = -5$$

$$\lambda_1 + 2\lambda_2 + 3\lambda_3 = 1$$

$$\frac{\chi_1 - |0| + 9}{\chi_1 = 2}$$

$$\chi_1 + 2\chi_2 + 3\chi_3 = 2$$

$$\chi_1 + 4 = 2$$

$$\chi_1 = -2$$

 $2x_3 = 0 \rightarrow x_3 = 0$

ב- = גצב- נא

→ X2 = 2

(2) 만인 계산

$$\#22$$
) $\chi_1 = 1$, $\chi_2 = 0$, $\chi_3 = -3$

$$\begin{bmatrix}
1 & 3 & 0 \\
2 & 1 & 0 \\
3 & 4 & 1
\end{bmatrix}$$

$$\begin{bmatrix}
1 & (-1)R_1 + R_2 \rightarrow R_2 \\
268011 - 2 & -6 & 0 & (-6) \\
0 & -5 & 0 \\
3 & 4 & 1
\end{bmatrix}$$

$$\begin{bmatrix}
2 & (-3)R_1 + R_2 \rightarrow R_3 \\
368011 - 3 & -9 & 0 & (-6) \\
3 & 4 & 1
\end{bmatrix}$$

$$\begin{bmatrix} 1 & 3 & 0 \\ 0 & -5 & 0 \\ 0 & -5 & 1 \end{bmatrix} \xrightarrow{3} (-1)R_1 + R_2 \rightarrow R_3$$

$$U = \begin{bmatrix} 1 & 3 & 0 \\ 0 & -5 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

$$\begin{bmatrix}
1 & 0 & 0 \\
0 & 1 & 0 \\
0 & 0 & 1
\end{bmatrix}$$

$$\begin{bmatrix}
1 & 0 & 0 \\
0 & 0 & 1
\end{bmatrix}$$

$$\begin{bmatrix}
1 & 0 & 0 \\
0 & 0 & 1
\end{bmatrix}$$

$$\begin{bmatrix}
1 & 0 & 0 \\
0 & 1 & 0 \\
0 & 1 & 1
\end{bmatrix}$$

$$\begin{bmatrix}
1 & 0 & 0 \\
0 & 1 & 0 \\
3 & 1 & 1
\end{bmatrix}$$

$$\begin{bmatrix}
1 & 0 & 0 \\
0 & 1 & 0 \\
3 & 1 & 1
\end{bmatrix}$$

$$\begin{bmatrix}
1 & 2R_1 + R_2 \rightarrow R_2
\end{bmatrix}$$

$$\frac{y_1 = 1}{2y_1 + y_2 = 2} \longrightarrow y_2 = 0$$

$$3y_1 + y_2 + y_3 = 0 \longrightarrow y_3 = -3$$

$$\begin{bmatrix} 1 & 3 & 0 \\ 0 & -5 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \end{bmatrix} = \begin{bmatrix} 1 \\ 0 \\ -3 \end{bmatrix}$$

$$\chi_1 + 3\chi_2 = 1 \longrightarrow \chi_1 = 1$$