Step-1

We have to put as many 1s as possible in a 4 by 7 echelon matrix U and in a reduced form R whose pivot columns are 2, 4, and 5.

Let $U = \begin{bmatrix} 0 & 1 & 1 & 1 & 1 & 1 & 1 \\ 0 & 0 & 0 & 1 & 1 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 & 1 & 1 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$, and

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

Step-2

Here 2, 4, 5 are pivot columns and 1,3,6,7 are free columns. And we can observe that R does not come from this U.

For example, if for obtaining 4^{th} pivot column of R from U, we perform the operation $R_1 - R_2 \to R_1$ in U. Then we can observe that R is not obtained from U.