# Lecture 8 - UM 102 (Spring 2021) 

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IISc


## Recap

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- If the rank is $n$ : The column space is all of $\mathbb{F}^{n}$. Hence $T\left(e_{1}\right), T\left(e_{2}\right), \ldots T\left(e_{n}\right)$ form a basis.


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0 & 3 & 5 & 0 & 1 & 2 \\
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- $R_{i} \rightarrow c R_{i}(c \neq 0): B=E_{2} A$ where $E_{2}$ is again obtained the same way. Its $i^{\text {th }}$ row has $c$ instead of 1 . Its inverse has $\frac{1}{c}$ instead of 1.
- $R_{i} \rightarrow R_{i}+c R_{j}: B=E_{3} A$ where $E_{3}$ is obtained similarly. Its inverse is obtained by replacing $c$ with $-c$.
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