Mathematics for computing

**Practical File**

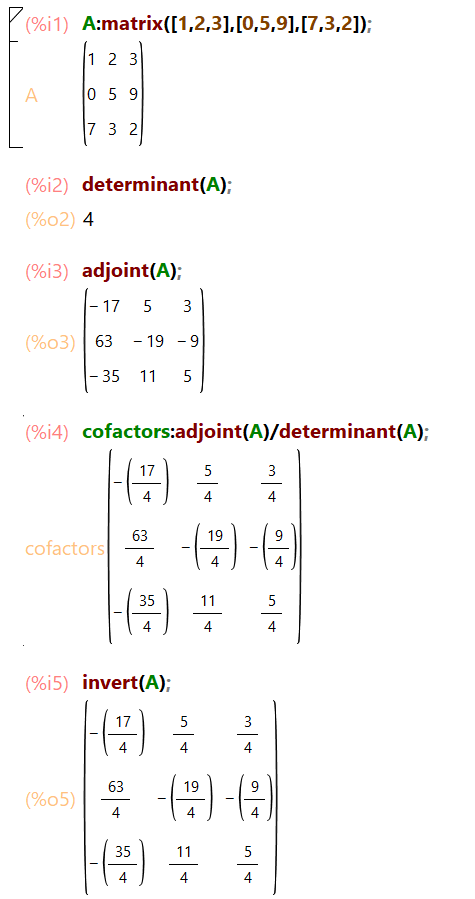
**NAME: HIMANSHU KADYAN**

**ROLL NUMBER: 24HCS4137**

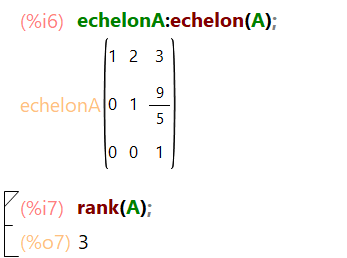
**SEMESTER: 1st**

**COURSE: BSc(H) CS**

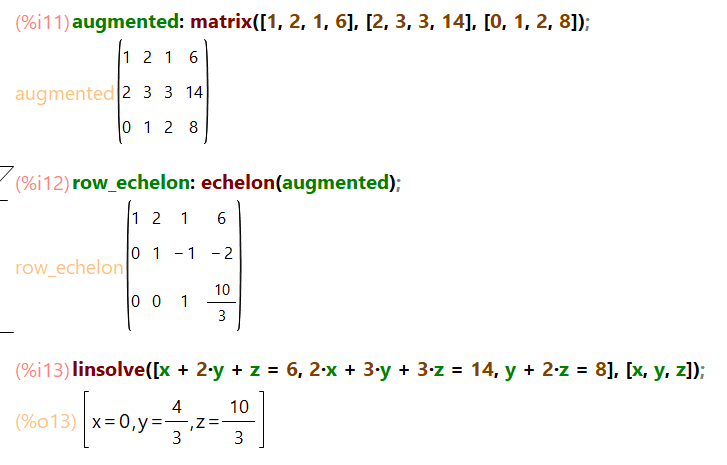
**Q1.** Find cofactors, determinant, adjoint and inverse of a matrix.

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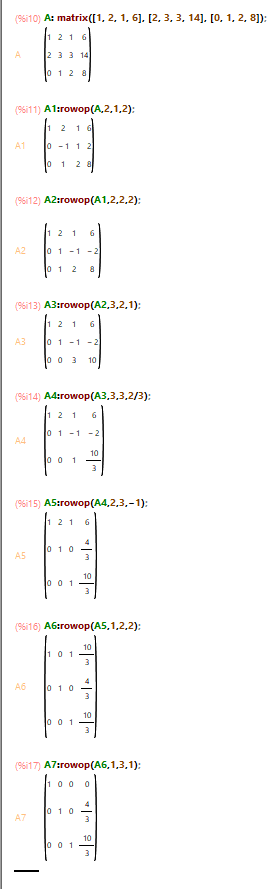
**Q2.** Convert the matrix into echelon form and find its rank.

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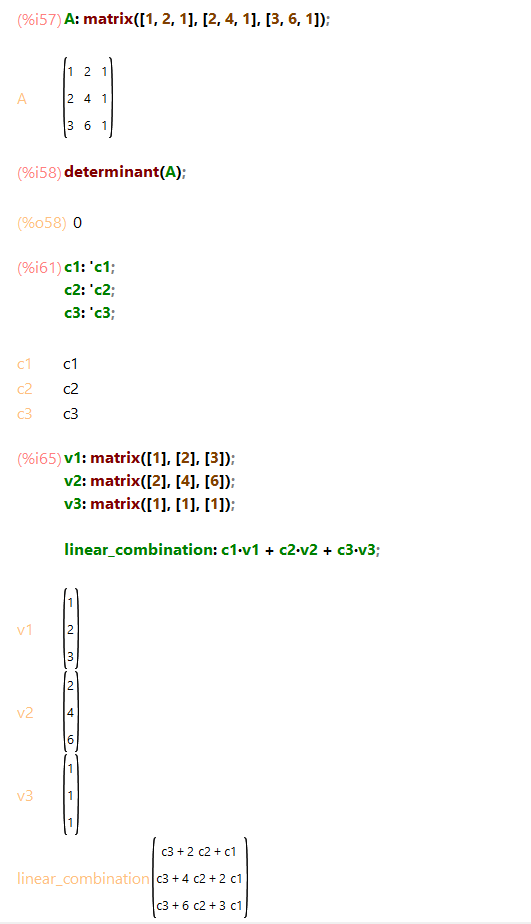
**Q3.** Solve a system of equations using Gauss elimination method.

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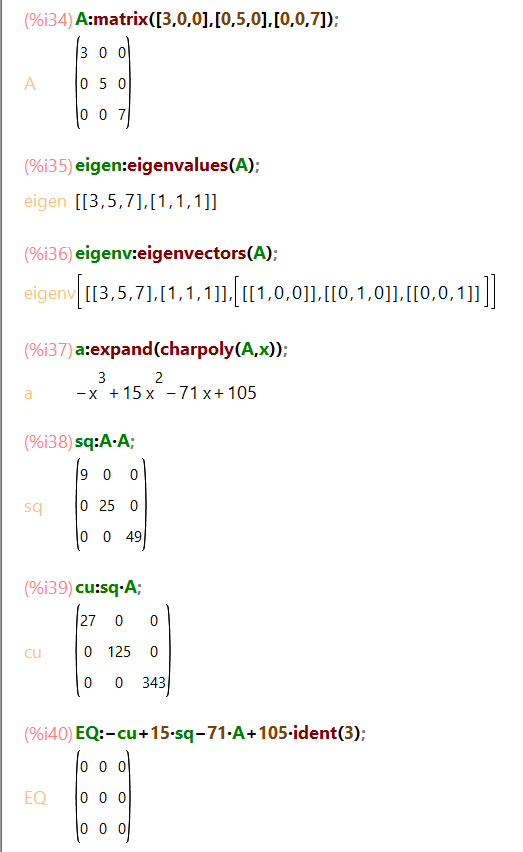
**Q4.** Solve a system of equations using the Gauss Jordan method.

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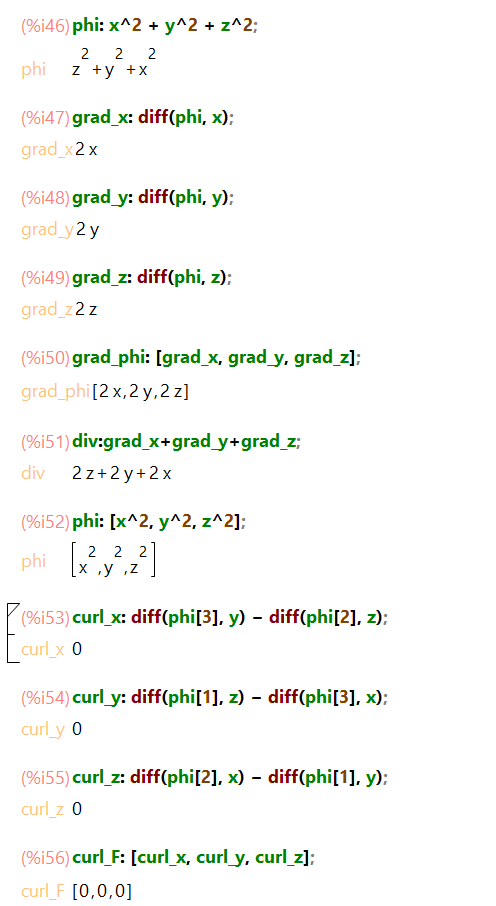
**Q5.** Verify the linear dependence of vectors. Generate a linear combination of given vectors of R^n / matrices of the same size.

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**Q6.** Check the diagonalizable property of matrices and find the corresponding eigenvalue and verify the Cayley Hamilton theorem.

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**Q7.** Compute Gradient of a scalar field, Divergence and Curl of a vector field.

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