# Numpy | Linear Algebra

The Linear Algebra module of NumPy offers various methods to apply linear algebra on any numpy array.  
One can find:

* rank, determinant, trace, etc. of an array.
* eigen values of matrices
* matrix and vector products (dot, inner, outer,etc. product), matrix exponentiation
* solve linear or tensor equations and much more!

|  |
| --- |
| # Importing numpy as np  import numpy as np    A = np.array([[6, 1, 1],                [4, -2, 5],                [2, 8, 7]])    # Rank of a matrix  print("Rank of A:", np.linalg.matrix\_rank(A))    # Trace of matrix A  print("\nTrace of A:", np.trace(A))    # Determinant of a matrix  print("\nDeterminant of A:", np.linalg.det(A))    # Inverse of matrix A  print("\nInverse of A:\n", np.linalg.inv(A))    print("\nMatrix A raised to power 3:\n",             np.linalg.matrix\_power(A, 3)) |