

- Sometimes special matrices will complicate calculations because they are
- not invertible
 - infinite number of vectors
 - infinite number of eigenvectors
 - reduced dimensionality
- singular matrix - if its inverse ^{doesn't} exists.

Summary of Module:

1. How much a transformation grows space (the determinant).
2. Special case when determinant is 0
 - ↳ basis vectors are not linearly independent.
 - ↳ the inverse does not exist
3. Define matrices as transformations of space.
 - ↳ different archetypes of matrices
 - rotations
 - inversions
 - stretches
 - shears
4. How to combine successive transformations.
 - matrix multiplication (composition).
5. How to solve systems of linear equations by
 - elimination - gauss jordan
6. How to find inverses
 - RREF
 - QR Factorization.