Revisiting the Skew-Hermitian Matrix: Examining Even and Odd Number Conditions Under A = -A^T

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Abstract: ***Let Skew hermintian matrix and even and even & odd and odd number of matrix same condition satisfy by the A=-A^T.***

Keywords: Skew-Hermitian matrix, even matrix, odd matrix, conjugate transpose, linear algebra

1.Introduction

Skew hermintian matrix and even and even & odd and odd number of matrix same condition satisfy by the A=- $\boldsymbol{A}^T$

A = [2 4] = 16-24=-8
      [6 8]

A^T = [2 6] = 16 - 24 = -8
        [4 8]

A = -A^T

Skew hermintian matrix:

A hermitian matrix is a square matrix that is equal to its conjugate transpose in other words take the complex conjugate of each element the transpose the matrix you get the matrix back, A=- $\boldsymbol{A}^T$

A = [i   3]
      [2 2i]

= 2(i) - 3(2)

Since $i^2 = -1$

= 2(-1) - 6 = -8.

A = [i   2]
      [2 2i]

= $2i^2$ - 3(2) = 2(-1) - 6 = -8.

A= - $\boldsymbol{A}^T$.it is a skew hermintian matrix.

Even number of matrix:

Let first row is a even number and second row is a even number is a called by **"even number of matrix".**

Explain:

A = [2 4]
      [6 8]

= 16 - 24 = -8

A^T = [2 6]
        [4 8]

= 16 - 24 = -8

A =− $\boldsymbol{A}^T$ is a skew hermintian matrix.

Let first row is a odd number and second row is a odd number is a called by **"Odd number of matrix".**

Explain:

A = [1 3]
[5 7]

= 7·15 = -8

A^T = [1 5]
[3 7]

= 7 - 15 = -8

A =$-\boldsymbol{A}^T$ is a skew hermintian matrix.

2. Conclusion

Let Skew hermintian matrix and even and even & odd and odd number of matrix same condition satisfy by the

A = -$\boldsymbol{A}^T$ = Even number of matrix = Odd number of matrix.

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