Sifat-Sifat Matriks Anti Ketetanggaan dari Suatu Graf Berarah dan Graf Garis Berarahnya = Properties of Antiadjacency Matrix of A Digraph and Its Line Digraph

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Abstrak

Matriks anti ketetanggaan merupakan salah satu matriks representasi dari suatu graf berarah, tetapi sifat-sifatnya masih belum banyak diketahui karena masih baru diperkenalkan. Sehingga, pada penelitian ini dibahas sifat-sifat dari matriks anti ketetanggaan suatu graf berarah dan graf garis berarahnya. Sifat-sifat yang dibahas yaitu hasil representasi dari perpangkatan matriks anti ketetanggaan suatu graf berarah yang mungkin mempunyai digon atau gelang berarah, determinan dan polinomial karakteristik dari matriks anti ketetanggaan suatu graf berarah yang mempunyai digon berarah, dan hubungan polinomial karakteristik matriks anti ketetanggaan suatu graf berarah asiklik sederhana dan graf garis berarahnya. Kemudian, pada penelitian ini ditunjukkan bahwa tidak ada hubungan antara suatu graf berarah selain asiklik dan graf garis berarahnya dengan memberikan counterexample-nya.

.....Antiadjacency matrix is one of the representation matrices of a directed graph, but its properties are still not widely known because it has just been introduced. Thus, in this study, we discuss the properties of the antiadjaceny matrix of a digraph and its line digraph. The properties discussed are the results of the representation of powering the antiadjaceny matrix of a digraph which may have directed digon(s) or loop(s), the determinant and characteristic polynomial of an anti-adjacent matrix of a digraph that has directed digon(s), and the characteristic polynomial relationship of the antiadjaceny matrix of a simple acyclic digraph. and the line digraph. Then, in this study, it was shown that there is no relationship between a directed graph other than acyclic and a directed line graph by providing its counterexample.