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THE PATH POLYNOMIAL OF A COMPLETE GRAPH*

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Abstract. Let $P_k(x)$ denote the polynomial of the path on k vertices. A complete description of the matrix that is the obtained by evaluating $P_k(x)$ at the adjacency matrix of the complete graph, along with computing the effect of evaluating $P_k(x)$ with Laplacian matrices of a path and of a circuit.

Key words. Graph, Adjacency matrix, Laplacian matrix, Characteristic polynomial.

AMS subject classifications. 05C38, 05C50.

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