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A STUDY ON GRAPHS AND CIRCUITS

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Abstract:

A significant area of mathematics called graph theory is used in fields including computer science, engineering, and the social sciences. In this paper, the topic of graphs and circuits is explored, with a focus on the characteristics and applications of graphs and circuits in various fields. The paper begins by describing the fundamental ideas behind graphs and circuits before going over some of these ideas' most significant characteristics and uses. They include Hamiltonian circuits, Euler's formula, and planarity. Finally, the paper discusses some of the current and future research directions in this field.

Keywords:

Graphs, circuits, planarity, Euler's formula, Hamiltonian circuit, Network, Circuit.

Introduction:

The study of graphs, which are mathematical structures used to represent relationships between objects, is known as graph theory. a graph G is a pair of sets (V, E), where V is the set of vertices(nodes) and E is the set of edges (lines), formed by pairs of vertices. Graph theory has many applications in fields such as computer science, engineering, and social sciences. In this paper, we will explore the topic of graphs and circuits, specifically looking at the properties and applications of these concepts.

The study of electronics requires the use of mathematical techniques. Electronics have made a significant impact on the growth of contemporary society. Electronics play a major role in signal processing, communications, and information processing. With the use of graph theory, it is now possible to study the properties of electronic circuits more easily. This is a fast-spreading trend.