## Large Scale Graph Data Processing Implementation

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*Objective*: Graphs are one of the most versatile and powerful data structures. Many real-world problems, including those in social networks, transportation systems, and biological networks, can be naturally modeled as graphs. The goal of this project is to implement and optimize benchmark queries on LDBC SNB social network graph dataset on top of SOTA graph database engines.

**Training Tasks:** (1) Benchmark Graph Data and Query Types: Familiarize with the benchmark graph schema and the types of queries that need to be supported. (2) Query Implementation: Designing and implementing simple queries, such as retrieving friends and friends of friends who have visited certain countries. (3) System Integration: Integrating these query implementations into a graph database system like GraphScope Flex from Ali.

*Expected Results*: Students will gain the ability to design and implement graph queries by applying graph algorithms effectively. Additionally, they will understand how queries are executed in a database system, gaining valuable insights into the operation of graph databases.

*Required techniques*: C/C++, Graph Algorithms, Database System.