Project Title: Knowledge Graph-based Family Company Detection

Name: Your Name

Motivation. Company ownership graphs are central objects in economics and are of high importance for central banks, financial authorities and national statistical offices.

Problem. Besides financial relationships, personal or family connections enable much broader use of such company graphs: detecting family businesses or studying the real dispersion of control. In this project, the problem we want to solve is to build a Knowledge Graph that can detect whether a family controls a particular given company.

Solution. The envisioned solution consists of a logic-based KG component describing how company control is defined, together with a KG embedding-based component for detecting family connections. This is envisioned to be combined in a simple architecture feeding the output of the logical method into the KG embedding component.

Steps. The plan is to use

- a pre-existing open dataset from X and combining it with one from Y to form the data of our Knowledge Graph. On top of that, the plan is
- to formulate logical knowledge representing control and use a logical reasoner (to be determined) to form the knowledge component of the KG.
- As a KG embedding component the plan is to use Z.

Scope. The pre-existing datasets from X and Y are reasonably compatible, so the data integration effort should be manageable. The plan is to use KG embedding method Z out-of-the-box, but make no adjustments to the method.

Learning outcomes I plan to **focus** on	LO1, LO2
Learning outcomes I plan to **show basic proficiency in**	LO4-LO12
Learning outcomes I plan **not to include**	LO3