

For this project, I used JDBC to connect a Java program to a MySQL database. For testing, I used the MySQL connection version, 5.1.29, which is included in the submission. The connection details should be modified within the “config.properties” file in the main directory. The acceptable fields are:

- dbusername (The username for the database)
- dbpassword (The password for the database)
- dbserver (The address of the MySQL database)
- dbport (The port of the MySQL database)
- dbname (The name of the database)

When the program is run, it will create a database with the following relations:

1. employee (eid: integer, name: string, salary: integer)
2. worksfor (eid: integer, mid: integer)

The database uses foreign key “references” constraints, as well as “on delete cascade” and “on update cascade” constraints to maintain referential integrity. After the program completes, the created database is dropped.

The program will read a file named “transfile” located in the project directory. A sample transfile is included in the submission. There are several assumptions that I made during the implementation. These are:

1. For transaction code 2 (adding an employee), the employee is added to the database. If this fails, the program does not continue adding tuples into the worksfor relation. If it succeeds and there are worksfor tuples to be added, the tuples are inserted one at a time. If any of these fail, the rest will continue to be inserted. If everything is successful, the program will print out “done” once. If anything fails, the program will print out “error” once. Thus the error reporting treats each line as a transaction, even though the program treats every insertion as a different operation.
2. For transaction code 6 (checking for employees with more than one manager), I assumed that the program should return employees who have more than one direct manager, or employees who have more than one indirect managers (i.e. the person who has at least one manager who has a manager). There is a function in the DataAccess class that will support only direct managers, however this is never called in the submitted implementation.

Finally, the project is documented using Javadoc tags. The generated HTML documentation can be found in the Javadoc directory.