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CS 457

Project 3

Design Document

Project 3 adds joins to the database created in Project 1 and Project 2. The new implementation is within the select() function.

When a “select” input is seen, nothing happens except that a current command variable changes to “select”. On the next line is the from command. When “from” input is seen, the word “from” is deleted and the rest of the line is stored in a query variable. For example, the input “from Employee E, Sales S” changes to “Employee E, Sales S”. The next line is either a “where” input or an “on” input. What happens to the “from” input happens to these inputs. For example, if the input is “where E.id = S.employeeID;”, it changes to “E.id = S.employeeID;”, and this is stored in another query variable. The select function then runs after the “;” is seen.

In select, the join operations are executed. There are only two join operations in Project 3. They are inner join and left outer join. The select function joins the two tables together based on the choices. For “E.id = S.employeeID”, the id variable of a duplicate of table Employee, called E is set to the employeeID variable of a duplicate of table Sales, named S. The two operations (inner join and left outer join) are very similar except the latter prints all of E, hence the “3|Gill” in the last line.