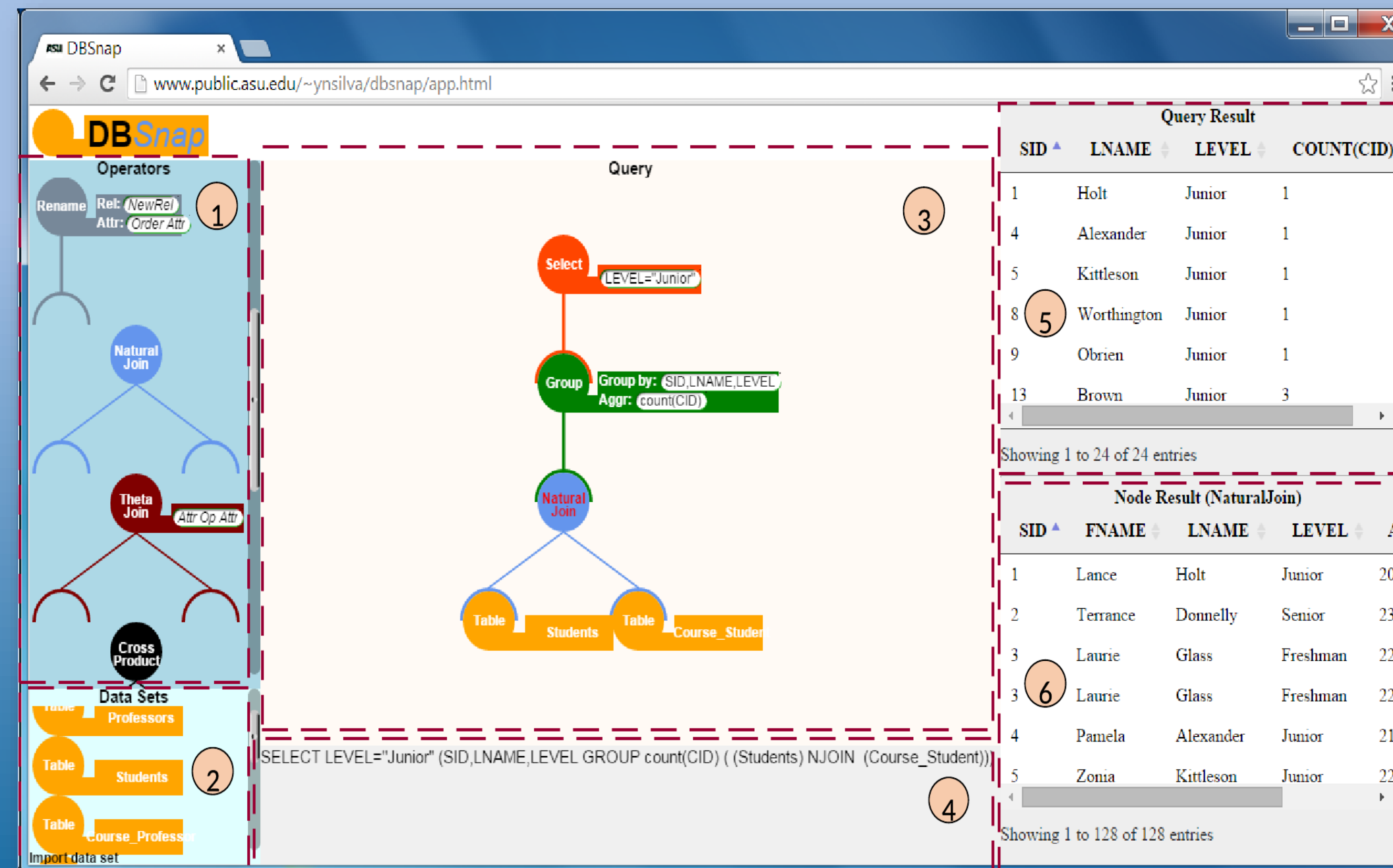


## Overview

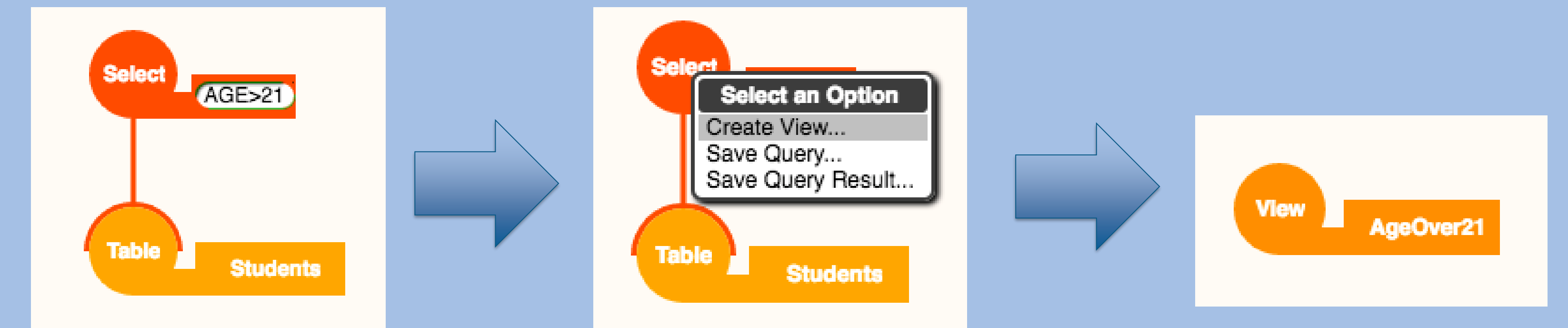
Computer Science Education has focused on studying block-based programming. In this approach, computer programs are created by connecting blocks and the blocks' shapes determine the permitted connections. The focus is on the program's logic instead of its syntax. DBSnap, a web-based application to build database queries, particularly relational algebra queries, by snapping blocks. DBSnap aims to have the same transformational effect on database learning as previous block-based systems had on traditional programming learning.

### DBSnap key features:

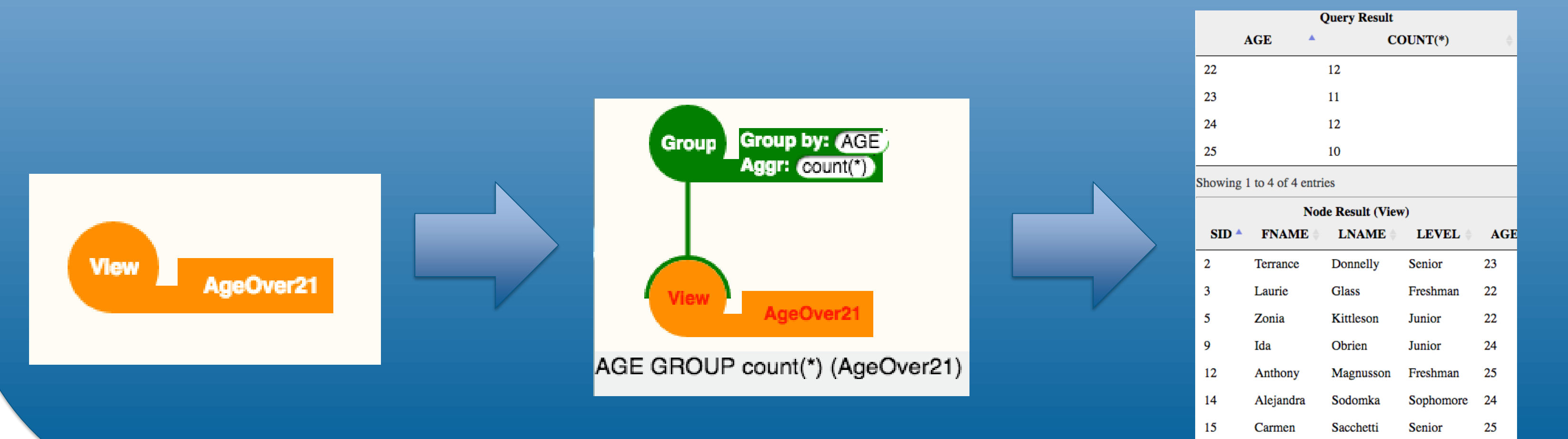
- Highly dynamic web app
- Intuitive query blocks
- Construction of intuitive database query trees
- Intermediate node inspection
- Shows the query results as the query is being built
- Publicly available & open source



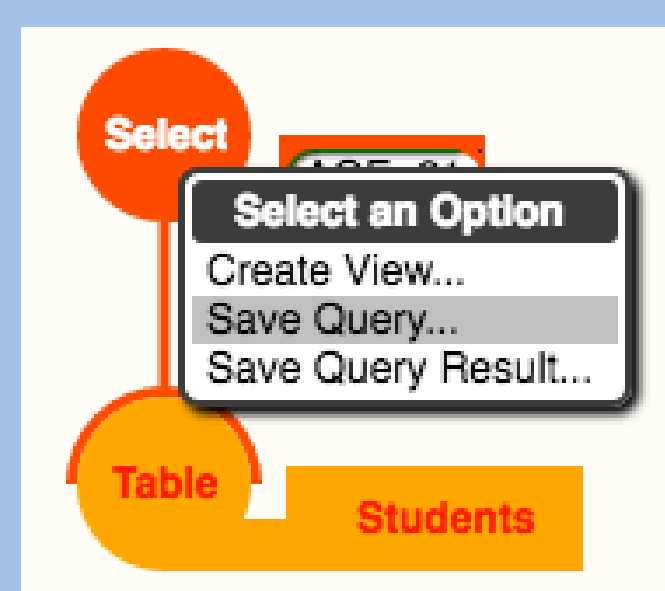
## Support of Views



- DBSnap allows for views which display the results of a stored query
- Views are key components of modern database systems
- DBSnap allows creating a view using any existing query
- Views can be used in other queries to build more complex queries

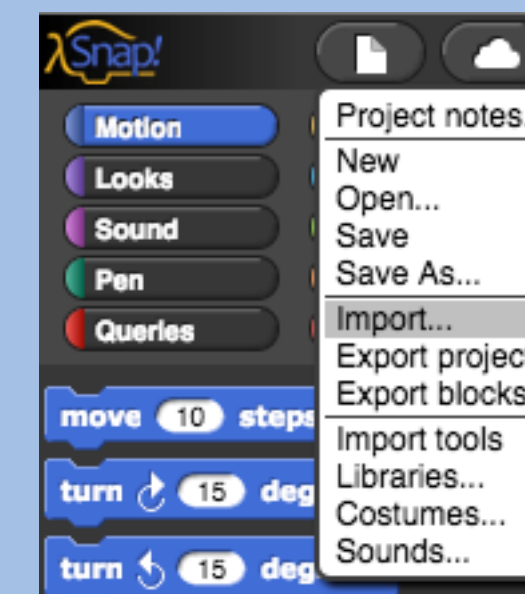
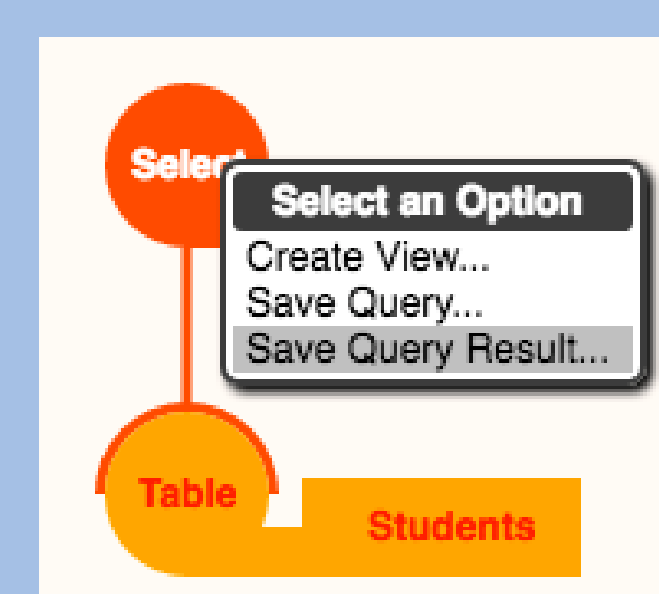


## Saving & Loading Queries from Disk



- DBSnap supports the saving and loading of queries previously stored on disk
- This feature allows users to save partially created queries and modify the query later
- Saving and loading from disk also simplifies the process of creating and submitting class assignments using DBSnap
- Query results are saved with a .dbs file extension

## Accessing Queries from Snap!



- Snap! is a block-based environment to create procedural programs
- Snap!, however, does not support database queries
- This feature allows the user to save the result of a query using DBSnap and to open the file from Snap!
- Query results are saved in XML format
- The generated list block is compatible with other features of Snap! (we can create programs that use this block)

## Initial Integration with Snap!

- Allows users to create programs that combine:
  - Sequential coding statements
  - Database queries
- The integrated system allows for the creation of queries and other data-aware blocks in the same application

