SQL stored procedures are stored code that has the ability to be used repeatedly and called by name instead of writing out the entire code or query over and over. Think of a stored procedure as a method or function in terms of many other programming languages. In SQL a stored procedure will usually store a specific query. It is also possible to pass in parameters into a stored procedure as well. One way that you initialize a stored procedure by writing:

CREATE PROCEDURE <name\_of\_procedure> AS <SQL\_query> GO;

A stored procedure is best used when there is a particular query that is being repeated many times. This is because one has the ability to write the query one time as a stored procedure and then call the stored procedure by name instead of re-writing out the query multiple times when needed. Executing a stored procedure would look like:

EXEC <name\_of\_procedure>;

The main advantages to utilizing stored procedures are that it saves time, creates a smaller code base, can easily be modified and creates reusable code. All of these factors lead to better programs and more readable code for developers.

There are a few differences when it comes to stored queries and application-level queries. The first being that a stored query is compiled once, and an application-level query will be compiled every time it is written. Both the stored procedure and app level query are stored server side but the stored procedure will “take less time to traverse from client to server side.” (geeksforgeeks.org) In addition, “ as pre compiled code resides in a database server, stored procedure provides more security and due to complicated queries can be integrated with one form, hence it is also portable.” (2)

Resource:

<https://practice.geeksforgeeks.org/problems/what-is-difference-between-stored-proc-and-query>