The Query operation finds items based on primary key values. You can query any table or secondary index that has a composite primary key (a partition key and a sort key).

A Scan operation reads every item in a table or a secondary index. By default, a Scan operation returns all of the data attributes for every item in the table or index. You can use the ProjectionExpression parameter so thatScan only returns some of the attributes, rather than all of them.

**Performance and Cost Considerations**

1. **Operation Speed:** Query operation is expected to be very fast and only marginally slower than a get operation. The scan operation on the other hand can take anywhere from 50-100ms to a few hours to complete and depends on the size of the table.
2. **Read Unit Cost:** For a query operation the read units consumed depend on the total size of all the **items returned**. If for example, a query operation returns 20 items with a total size of 20.1K, the read units consumed would be 21 (assuming that the operation finishes within a second). Since the scan operation is performed by going through each item in the table, for any reasonably sized table the scan operation will consume all the read units until the operation finishes. Looking at it another way, the total time required for the scan operation to complete can be approximated as at least: T = S / (R \* 2), where S is the total size of the table in kilobytes and R is the read units provisioned for a table. The reads for scan are eventually consistent and consume half the read units compared to consistent reads. For a 1GB table with a provisioning of 100 read units, it would take approximately 84 minutes. Note that one scan operation wouldn't last 84 minutes because DynamoDB will only evaluate **1MB** worth of data before filtering and returning the results. The entire table scan would therefore require 1000 scan operations.
3. **Operation Overhead:** Since a scan operation can consume all read units, it can slow down other operations by starving them.

When modelling data for DynamoDB, one must try to minimize any potential scan operations.