**Integer Constants**

In most programming languages, an integer constant (or literal) is a sequence of digits without any decimal point or exponent part. It can be positive or negative, but for simplicity, we will consider only non-negative integers here.

**Finite Automaton for Integer Constants**

A finite automaton (FA) for recognizing integer constants can be defined as follows:

- **States**:

- `q0`: Initial state

- `q1`: Accepting state

- **Transitions:**

- From `q0` to `q1` on any digit (`0-9`)

- From `q1` to `q1` on any digit (`0-9`)

- **Accepting State:** `q1`

**Implementation in Python**

Here is a Python implementation of the finite automaton for recognizing integer constants:

A screen shot of a computer program

Description automatically generated

This automaton starts in the initial state `q0` and transitions to the accepting state `q1` upon encountering a digit. It remains in the accepting state as long as it continues to encounter digits. If a non-digit character is encountered, it transitions back to the initial state.

This automaton can be integrated into a lexical analyzer to recognize integer constants in a given input.