

<https://github.com/cs-ubbcluj-ro/lab-work-computer-science-2024-dragosgavrus1/tree/main/1-Mini-Language-And-Scanner/Lab%202>

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## Classes:

### ConstantSymbolTable

- **Purpose:** Stores constants with a name-value pair.
- **Methods:**
  - `add_constant(name, value)`: Adds a constant with the specified name and value.
  - `get_constant(name)`: Retrieves the value of a constant by its name.

### IdentifierSymbolTable

- **Purpose:** Stores identifiers with a name-value pair.
- **Methods:**
  - `add_identifier(name, value)`: Adds an identifier with the specified name and value.
  - `get_identifier_value(name)`: Retrieves the value of an identifier by its name.

### HashNode

- **Purpose:** Represents a single node in the hash table's linked list for each bucket.
- **Methods:** None (used to store key and value pairs).

### HashTable

- **Purpose:** Implements a hash table with dynamic resizing and collision handling using linked lists.
- **Methods:**
  - `compute_hash(key)`: Computes the hash for a given key, supporting both integers and strings.
  - `insert(key, value)`: Inserts a key-value pair into the hash table. Automatically resizes and rehashes the table if needed.
  - `get(key)`: Retrieves the value associated with a given key or returns None if the key is not found.
  - `resize_and_rehash()`: Resizes the hash table by doubling its capacity and rehashing all elements.

In main I test the HashTable and SymbolTable

