

# Lab 2

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<https://github.com/Tom3s/langs>

## Hash Table Implementation

- hash function:

```
hash(key: string): number {
  let hash = 0;
  for (let i = 0; i < key.length; i++) {
    hash += key.charCodeAt(i);
  }
  return hash % this.fullSize;
}
```

- collision solution:
- find index, move to right if occupied, throw error if not unique, resize if full

```
add(key: string, value: string | number): void {
  let index = this.hash(key);
  while (this.keys[index] !== undefined) {
    if (this.keys[index] === key) {
      throw new Error('Key must be unique');
    }
    index++;
    if (index >= this.fullSize) {
      this.resize()
      index = 0;
      this.add(key, value);
    }
  }
  this.keys[index] = key;
  this.values[index] = value;
}
```