

## Data Members

The `HashtableEntry` template class has two data members.

- `string m_key;` – The key of the hash table entry.
- `T m_value;` – The data object stored in the hash table.

## Member Functions

### Constructors

- `HashtableEntry(const string& k = "", const T& v = T());`  
Constructs a `HashtableEntry` object with key `k` and data value `v`.

### Inspectors

- `string key() const;`  
Returns the key of the hash table entry.
- `T value() const;`  
Returns the data value of the hash table entry.

### Mutators

- `void key(const string& k);`  
Sets the key of the hash table entry to `k`.
- `void value(const T& v);`  
Sets the data value of the hash table entry to `v`.

### Facilitators

- `void output(ostream& out) const;`  
Writes a `HashtableEntry` to the output stream. The output format is  
$$(m\_key, m\_value)$$
- `bool isEqual(const HashtableEntry<T>& he) const;`  
Determines whether the specified hash table entry equals this entry. They are equal if their keys are equal.
- `bool isLessThan(const HashtableEntry<T>& he) const;`  
Determines whether the specified hash table entry is less than this entry. One entry is less than another entry if the `m_value` data member (not the key) is less than the `m_value` data member of the other entry.

## Non-member Operators

- `ostream& operator<<(ostream& out, const HashtableEntry<T>& he)`  
Writes a hash table entry to the output stream using the format specified in the `output()` function.
- `bool operator==(const HashtableEntry<T>& he1, const HashtableEntry<T>& he2)`  
Returns `true` if the two hash table entries are equal and `false` otherwise.
- `bool operator!=(const HashtableEntry<T>& he1, const HashtableEntry<T>& he2)`  
Returns `true` if the two hash table entries are not equal and `false` otherwise.
- `bool operator<(const HashtableEntry<T>& he1, const HashtableEntry<T>& he2)`  
Returns `true` if entry `he1` is less than entry `he2` and `false` otherwise.