HashSet

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Chapter 1

File Index

1.1 File List

Here is a list of all files with brief descriptions:

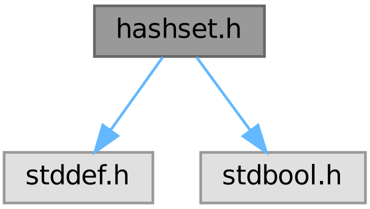
Chapter 2

File Documentation

2.1 hashset.h File Reference

```
#include <stddef.h>
#include <stdbool.h>
```

Include dependency graph for hashset.h:



Typedefs

- typedef struct HashSet ∗ HashSet
- typedef size_t(∗ hash) (const void ∗key, size_t key_size)

Functions

- HashSet hs_create (size_t hs_capacity, size_t key_size, hash hash_func)

  Creates a new HashSet with a hash function.
- int hs_destroy (HashSet hs)

  Destroys the HashSet.
- bool hs_contains (HashSet hs, const void ∗key)

  Tests if the HashSet contains the specified key.
- int hs_add (HashSet hs, const void ∗key)

  Adds a new key to the HashSet.
- size_t hs_size (HashSet hs)

  Returns the size of the HashSet.
- int hs_remove (HashSet hs, const void ∗key)

  Removes the key from the HashSet.

2.1.1 Typedef Documentation

2.1.1.1 hash

```
typedef size_t(* hash) (const void *key, size_t key_size)
```

2.1.1.2 HashSet

```
typedef struct HashSet* HashSet
```

2.1.2 Function Documentation

2.1.2.1 hs_add()

```
int hs_add (
             HashSet hs,
             const void * key )
```

Adds a new key to the HashSet.

Parameters

hs	The HashSet
key	The key

Returns

Success code

2.1.2.2 hs_contains()

```
bool hs_contains (
             HashSet hs,
             const void * key )
```

Tests if the HashSet contains the specified key.

Parameters

hs	The HashSet
key	The key

Returns

True or Falsehood

2.1.2.3 hs_create()

```
HashSet hs_create (
             size_t hs_capacity,
             size_t key_size,
             hash hash_func )
```

Creates a new HashSet with a hash function.

Parameters

hs_capacity	The initial capacity of the HashSet
key_size	The sizeof value of the key
hash_func	a custom hash function. Pass NULL for generic hashing.

Returns

HashSet

2.1.2.4 hs_destroy()

```
int hs_destroy (
             HashSet hs )
```

Destroys the HashSet.

Parameters

hs	The HashSet

Returns

Success code

2.1.2.5 hs_remove()

```
int hs_remove (
             HashSet hs,
             const void * key )
```

Removes the key from the HashSet.

Parameters

hs	The HashSet
key	The key

Returns

Success code

2.1.2.6 hs_size()

```
size_t hs_size (
             HashSet hs )
```

Returns the size of the HashSet.

Parameters

hs	The HashSet

Returns

The size

2.2 hashset.h

Go to the documentation of this file.

```
//
// Created by Emanuel on 03.09.2024.
//

#ifndef HASHSET_H
#define HASHSET_H

#include <stddef.h>
#include <stdbool.h>

typedef struct HashSet *HashSet;
typedef size_t (*hash)(const void *key, size_t key_size);

HashSet hs_create(size_t hs_capacity, size_t key_size, hash hash_func);


int hs_destroy(HashSet hs);


bool hs_contains(HashSet hs, const void *key);

int hs_add(HashSet hs, const void *key);

size_t hs_size(HashSet hs);

int hs_remove(HashSet hs, const void *key);

#endif //HASHSET_H
```

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