

HashMap

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Chapter 1

File Index

1.1 File List

Here is a list of all files with brief descriptions:

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Chapter 2

File Documentation

2.1 hashmap.h File Reference

Typedefs

- typedef struct [HashMap](#) * [HashMap](#)
- typedef size_t(* [hash](#)) (const void *key, size_t key_size)

Functions

- [HashMap hm_create](#) (size_t hm_capacity, size_t key_size, size_t value_size)
Creates a new HashMap with a generic hash function.
- [HashMap hm_create_ch](#) (size_t hm_capacity, size_t key_size, size_t value_size, [hash](#) hash_func)
Creates a new HashMap with a custom hash function.
- int [hm_destroy](#) ([HashMap](#) hm)
Destroys the HashMap.
- void * [hm_get](#) ([HashMap](#) hm, const void *key)
Retrieves the value at the specified key.
- int [hm_set](#) ([HashMap](#) hm, const void *key, const void *value)
Updates the value at the specified key.
- int [hm_put](#) ([HashMap](#) hm, const void *key, const void *value)
Adds a new key-value pair to the HashMap.
- int [hm_remove](#) ([HashMap](#) hm, const void *key)
Removes the key-value pair from the HashMap.

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 HashMap

```
typedef struct HashMap* HashMap
```

2.1.2 Function Documentation

2.1.2.1 hm_create()

```
HashMap hm_create (
    size_t hm_capacity,
    size_t key_size,
    size_t value_size )
```

Creates a new HashMap with a generic hash function.

Parameters

<i>hm_capacity</i>	The initial capacity of the HashMap
<i>key_size</i>	The sizeof value of the key
<i>value_size</i>	The sizeof value of the value

Returns

HashMap

2.1.2.2 hm_create_ch()

```
HashMap hm_create_ch (
    size_t hm_capacity,
    size_t key_size,
    size_t value_size,
    hash hash_func )
```

Creates a new HashMap with a custom hash function.

Parameters

<i>hm_capacity</i>	The initial capacity of the HashMap
<i>key_size</i>	The sizeof value of the key
<i>value_size</i>	The sizeof value of the value
<i>hash_func</i>	The custom hash function

Returns

HashMap

2.1.2.3 hm_destroy()

```
int hm_destroy (
    HashMap hm )
```

Destroys the HashMap.

Parameters

<i>hm</i>	The HashMap
-----------	-------------

Returns

success code

2.1.2.4 hm_get()

```
void * hm_get (
    HashMap hm,
    const void * key )
```

Retrieves the value at the specified key.

Parameters

<i>hm</i>	The HashMap
<i>key</i>	The key

Returns

The value at the key

2.1.2.5 hm_put()

```
int hm_put (
    HashMap hm,
    const void * key,
    const void * value )
```

Adds a new key-value pair to the HashMap.

Parameters

<i>hm</i>	The HashMap
<i>key</i>	The key
<i>value</i>	The value

Returns

success code

2.1.2.6 hm_remove()

```
int hm_remove (
```

```

    HashMap hm,
    const void * key )

```

Removes the key-value pair from the HashMap.

Parameters

<i>hm</i>	The HashMap
<i>key</i>	The key

Returns

success code

2.1.2.7 hm_set()

```

int hm_set (
    HashMap hm,
    const void * key,
    const void * value )

```

Updates the value at the specified key.

Parameters

<i>hm</i>	The HashMap
<i>key</i>	The key
<i>value</i>	The value

Returns

success code

2.2 hashmap.h

[Go to the documentation of this file.](#)

```

00001 //
00002 // Created by Emanuel on 02.09.2024.
00003 //
00004
00005 #ifndef HASHMAP_H
00006 #define HASHMAP_H
00007
00008 typedef struct HashMap *HashMap;
00009 typedef size_t (*hash)(const void *key, size_t key_size);
00010
00019 HashMap hm_create(size_t hm_capacity, size_t key_size, size_t value_size);
00020
00030 HashMap hm_create_ch(size_t hm_capacity, size_t key_size, size_t value_size, hash hash_func);
00031
00038 int hm_destroy(HashMap hm);
00039
00047 void *hm_get(HashMap hm, const void *key);
00048
00057 int hm_set(HashMap hm, const void *key, const void *value);
00058
00067 int hm_put(HashMap hm, const void *key, const void *value);

```

```
00068
00076 int hm_remove(HashMap hm, const void *key);
00077
00078 #endif //HASHMAP_H
```


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