# Garbage Collector - Dremák Gergely

EREDETI SPECIFIKÁCIÓ

## Leírás

3 fajta “okos” pointer osztály a <memory> analógiájára:

* **Unique pointer**: Egyetlen példány van belőle, amint kikerül a scope-ból feltakarít maga után.
* **Shared pointer**: Egy counter van a háttérben ami számon tartja a referenciák számát a memória területre. Ha ez 0 a memória felszabadul.
* **Weak pointer**: Effektíve egy átlagos pointer, de meg lehet kérdezni tőle, hogy a memória amire mutat tartalmaz-e még értelemes adatot (törölve lett-e), illetve lehet promotálni a másik 2 pointer típussá.

### Deklarálás példa (a név és szintaxis változtatás jogát fenntartom):

class T {

T(…args);

void doSomething();

};

int main(void) {

SharedPointer<T> ptr = SharedPointer::Init<T>(…args);

// vagy

SharedPointer<T> ptr(new T(…args));

ptr->doSomething();

// <- Destruktor hívás

}

## Tulajdonságok

* ~~STL kollekciók~~

## Teszt

A *memtrace* a nagyrészét intézi, nyilván a shared pointer a trükkösebb, mert lehet, hogy több thread is használja illetve függvényekben megfelelően inicializálódik = növekszik-e a counter.

Egyéb kérdés esetén a <memory> könyvárral történő konzultálást javasolom mert sok lesz a párhuzam.

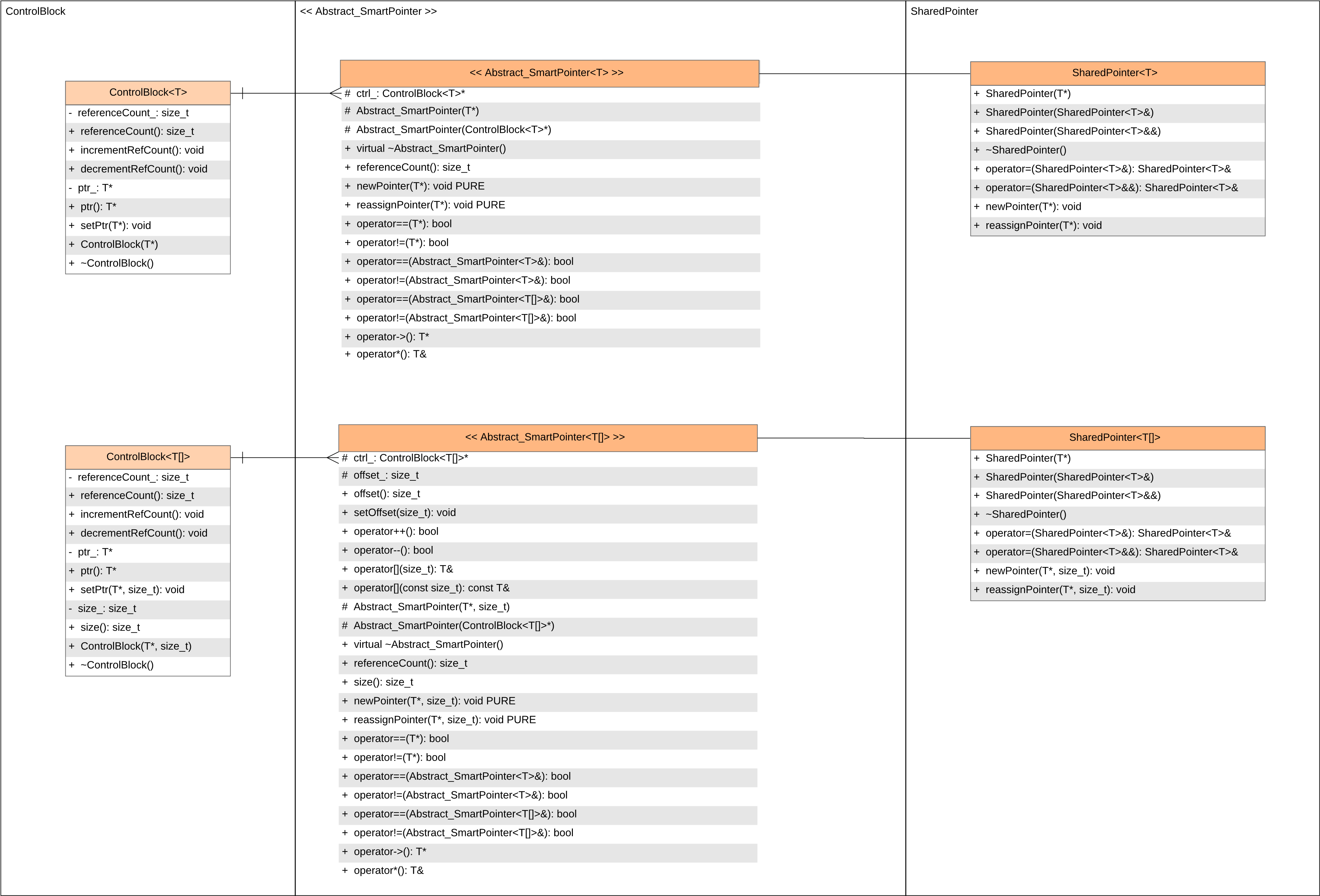
EREDETI SPECIFIKÁCIÓ VÉGE

# Class Hierarchy

|  |  |
| --- | --- |
| CHF2::Abstract\_SmartPointer< T > | Skaláris okospointer alaposztály |
| CHF2::SharedPointer< T > | Autómatikusan törlődő pointer |
| CHF2::Abstract\_SmartPointer< T[]> | Vektorális okospointer alaposztály |
| CHF2::SharedPointer< T[]> | Autómatikusan törlődő tömb pointer |
| CHF2::ControlBlock< T > | Skaláris Pointer tárolására |
| CHF2::ControlBlock< T[]> | Vektorális Pointer tárolására |

# File List

|  |  |
| --- | --- |
| ▼ [NHF2](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\dir_81e1991b93718e598153472981e8ceeb.html) |  |
| garbage\_collector\_test.cpp |  |
| hf2.hpp |  |
| hf2\_control\_block.hpp |  |
| hf2\_shared\_ptr.cpp |  |
| hf2\_shared\_ptr.hpp |  |
| hf2\_smart\_ptr.hpp |  |
|  |  |



### **- a -**

* Abstract\_SmartPointer() : [**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a444f625fb673f13587a2e54605373216) , [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a1d9aa157a2a06c74cc8b4d06b9d8daaa)

### **- c -**

* ControlBlock() : [**HF2::ControlBlock< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#aad5b04d3d880050cd817ce6b43c3722d) , [**HF2::ControlBlock< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#ae5df0f210dfba1a0766cbf61535695ed)
* ctrl\_ : [**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#aadb168907a96d07de642ecf06c5ce278) , [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#add76813d6f6718146ad7af678bec396f)

### **- d -**

* decrementRefCount() : [**HF2::ControlBlock< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#a7007750c05017719aadc5e4c43d95c8b) , [**HF2::ControlBlock< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#ae1d95791a04e368b50e89ed11fa17995)

### **- i -**

* incrementRefCount() : [**HF2::ControlBlock< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#a0f3a6d247268f79775f75b9e299b29bf) , [**HF2::ControlBlock< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#a72c010a179acae91b8bb502e14e98677)

### **- n -**

* newPointer() : [**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#acaabc270dc2b32f5f0e5a9c413fff3e1) , [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a98a0c77688074fa4fcfc2faef125f5b8) , [**HF2::SharedPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#ac388bc5437c242bc88b1b78bd627627c) , [**HF2::SharedPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#abfa45a18235bbd3eead5bb3a09cdb639)

### **- o -**

* offset() : [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a458dc4d5acd43c45c592237384592e4e)
* offset\_ : [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a98d733eee1c42f21242573e1c8d79730)
* operator!=() : [**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ad97c2ab535e95eb3f2a9195115f5d8be) , [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a999ad2f8d5030f18ae86dd21563058ff)
* operator\*() : [**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ab6bbf65c510a08af0c854a3d63cfde1c) , [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a45bf6a1bf2c8385919b1f6d26bb8b4ce)
* operator++() : [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a27998451370d1cb9093e0777490e786b)
* operator--() : [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a60e056fe4cb7e5cc509bb698954a9e8e)
* operator->() : [**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ac2f37c555ae05688e0a08f95bf9fc238) , [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a41aef4ceecb96364282518d026d74107)
* operator=() : [**HF2::SharedPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#adf94c3885b7f0ddb89c48e06693ca887) , [**HF2::SharedPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#ab22c25dfc967f421a2b2739eb8ef6279)
* operator==() : [**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a00c7ca0a9a5d49971d91961633867722) , [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a3d4b587020f61b5b6015b230c559fbb4)
* operator[]() : [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#acdff5e5f7e43b6a8e8d41eff7295913a)

### **- p -**

* ptr() : [**HF2::ControlBlock< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#aaa3abf96df41f2a2b472a74bc63766ad) , [**HF2::ControlBlock< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#a21ad6dd82bdc04f1c36c32dead6c80fd)

### **- r -**

* reassignPointer() : [**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#acb50a05d8a18d629a7acd75a6d1c80d2) , [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a71e6e4c25f3293d723736032ea00ca74) , [**HF2::SharedPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#a0b47739ea5cf672211dc897564450bc7) , [**HF2::SharedPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#a8daeb1d7dabfeb26c1832a58e81cfaa0)
* referenceCount() : [**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ac4f171388ae59c84279a1412bbdff377) , [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#ad7361041665fe1b1e8912ddf312defe7) , [**HF2::ControlBlock< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#a960e7bea0a392f987be34ff42981eff4) , [**HF2::ControlBlock< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#aac76cbd94be3e369ebaa46f3e8f1484b)

### **- s -**

* setOffset() : [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a94a61344905d70cc42dc5e20bc66b6fa)
* setPtr() : [**HF2::ControlBlock< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#aba52c3d253b0e2024f418491be689177) , [**HF2::ControlBlock< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#a1558ec9a2af3d3eba362d90d25389b7a)
* SharedPointer() : [**HF2::SharedPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#a97af4cfee23fb58f4953fb315fe2afe8) , [**HF2::SharedPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#a396541524c230b4bc1d62d3928a1c20c)
* size() : [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a5e1ec17166170f9416da76e3e1643a4e) , [**HF2::ControlBlock< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#a50a6c4dfedf71bd16a302134f00e45ee)

### **- ~ -**

* ~Abstract\_SmartPointer() : [**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ad054db662c60d13e29730093f634b6af) , [**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a3d31132d4cb570d8b13446ec96de1a2e)
* ~ControlBlock() : [**HF2::ControlBlock< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#a31c1d05241b8400ae5f72b0defdf0e56) , [**HF2::ControlBlock< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#a16d4329ec13132641663cd22568a0980)
* ~SharedPointer() : [**HF2::SharedPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#a4e7c1e1fbc831f2fca188ec0f0bf651f) , [**HF2::SharedPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#a374ef70f59fb58dd255c6a2e045ff5f6)

**HF2::ControlBlock< T > Class Template Reference**

Skaláris Pointer tárolására.

#include <[**hf2\_control\_block.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__control__block_8hpp_source.html)>

|  |  |
| --- | --- |
| Public Member Functions | |
|  | [**ControlBlock**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#aad5b04d3d880050cd817ce6b43c3722d) (T \*t) |
|  | explicit konstruktor |
|  | |
|  | [**~ControlBlock**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#a31c1d05241b8400ae5f72b0defdf0e56) () noexcept |
|  | destruktor |
|  | |
| T \* | [**ptr**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#aaa3abf96df41f2a2b472a74bc63766ad) () const |
|  | ptr\_ getter |
|  | |
| void | [**setPtr**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#aba52c3d253b0e2024f418491be689177) (T \***[ptr](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block.html" \l "aaa3abf96df41f2a2b472a74bc63766ad)**) |
|  | ptr\_ setter |
|  | |
| std::size\_t | [**referenceCount**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#a960e7bea0a392f987be34ff42981eff4) () const |
|  | referenceCount\_ getter |
|  | |
| void | [**incrementRefCount**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#a0f3a6d247268f79775f75b9e299b29bf) () const |
|  | inkrementálja a referenceCount\_ értékét |
|  | |
| void | [**decrementRefCount**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html#a7007750c05017719aadc5e4c43d95c8b) () const |
|  | dekrementálja a referenceCount\_ értékét |
|  | |

### Detailed Description

### template<class T> class HF2::ControlBlock< T >

Skaláris Pointer tárolására.

Definition at line [**15**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__control__block_8hpp_source.html#l00015) of file [**hf2\_control\_block.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__control__block_8hpp_source.html).

The documentation for this class was generated from the following file:

* [**hf2\_control\_block.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__control__block_8hpp_source.html)

**HF2::ControlBlock< T[]> Class Template Reference**

Vektorális Pointer tárolására.

#include <[**hf2\_control\_block.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__control__block_8hpp_source.html)>

|  |  |
| --- | --- |
| **Public Member Functions** | |
|  | [**ControlBlock**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#ae5df0f210dfba1a0766cbf61535695ed) (T \*t, std::size\_t **[size](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html" \l "a50a6c4dfedf71bd16a302134f00e45ee)**) |
|  | explicit konstruktor |
|  | |
|  | [**~ControlBlock**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#a16d4329ec13132641663cd22568a0980) () noexcept |
|  | Destruktor. |
|  | |
| T \* | [**ptr**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#a21ad6dd82bdc04f1c36c32dead6c80fd) () const |
|  | ptr\_ getter |
|  | |
| void | [**setPtr**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#a1558ec9a2af3d3eba362d90d25389b7a) (T \***[ptr](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html" \l "a21ad6dd82bdc04f1c36c32dead6c80fd)**, std::size\_t **[size](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html" \l "a50a6c4dfedf71bd16a302134f00e45ee)**) |
|  | ptr\_ setter |
|  | |
| std::size\_t | [**referenceCount**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#aac76cbd94be3e369ebaa46f3e8f1484b) () const |
|  | referenceCount\_ getter |
|  | |
| void | [**incrementRefCount**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#a72c010a179acae91b8bb502e14e98677) () const |
|  | inkrementálja a referenceCount\_ értékét |
|  | |
| void | [**decrementRefCount**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#ae1d95791a04e368b50e89ed11fa17995) () const |
|  | dekrementálja a referenceCount\_ értékét |
|  | |
| std::size\_t | [**size**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html#a50a6c4dfedf71bd16a302134f00e45ee) () const |
|  | size\_ getter |
|  | |

## **Detailed Description**

### template<class T> class HF2::ControlBlock< T[]>

Vektorális Pointer tárolására.

A setPtr<T[]>(...) potenciálisan a blokkot használó objektumok offsetjének a túlindexelését jelentheti, exception-t meg inkább nem dobatok vele mert általános használat közben könnyen elkerülhető egy ilyen probléma, feliratkozós; callbackes; event emitteres; frissítés meg már sok lenne ide. Szóval bízok a felhasználóban. Mellesleg javallott a ++/– operátorokat csak loopokon belül használni és a végén 0-ba állítani

Definition at line [**74**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__control__block_8hpp_source.html#l00074) of file [**hf2\_control\_block.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__control__block_8hpp_source.html).

The documentation for this class was generated from the following file:

* F:/Programming/Uni/Prog2/NHF/NHF2/[**hf2\_control\_block.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__control__block_8hpp_source.html)

**HF2::Abstract\_SmartPointer< T > Class Template Referenceabstract**

Skaláris okospointer alaposztály.

#include <[**hf2\_smart\_ptr.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__smart__ptr_8hpp_source.html)>

+ Inheritance diagram for HF2::Abstract\_SmartPointer< T >:

|  |  |
| --- | --- |
| **Public Member Functions** | |
| virtual | [**~Abstract\_SmartPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ad054db662c60d13e29730093f634b6af) () |
|  | virtuális destruktor, hogy biztosan meghívódjon a leszármazotté |
|  | |
| std::size\_t | [**referenceCount**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ac4f171388ae59c84279a1412bbdff377) () const |
|  | ctrl\_->**[referenceCount()](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html" \l "ac4f171388ae59c84279a1412bbdff377" \o "ctrl_->referenceCount() facade)** facade |
|  | |
| virtual void | [**newPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#acaabc270dc2b32f5f0e5a9c413fff3e1) (T \*t)=0 |
|  | új **[ControlBlock](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block.html" \o "Skaláris Pointer tárolására.)** inicializálása a példánynak. |
|  | |
| virtual void | [**reassignPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#acb50a05d8a18d629a7acd75a6d1c80d2) (T \*t)=0 |
|  | új pointer beállítása az összes pointernek ami ezt a **[ControlBlock](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block.html" \o "Skaláris Pointer tárolására.)** -ot használja. |
|  | |
| T \* | [**operator->**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ac2f37c555ae05688e0a08f95bf9fc238) () |
|  | arrow |
|  | |
| T & | [**operator\***](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ab6bbf65c510a08af0c854a3d63cfde1c) () |
|  | dereferálás |
|  | |
| bool | [**operator==**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a00c7ca0a9a5d49971d91961633867722) (const T \*t) const |
|  | t == ctrl\_->t |
|  | |
| bool | [**operator!=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a8ef1f2d0715f8462b966d3d7e3e43b57) (const T \*t) const |
|  | t != ctrl\_->t |
|  | |
| bool | [**operator==**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a0755496b8dba09da1628e46ef4b77fd5) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T > &sp) const |
|  | sp.ctrl\_->t != ctrl\_->t |
|  | |
| bool | [**operator!=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ad97c2ab535e95eb3f2a9195115f5d8be) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T > &sp) const |
|  | sp.ctrl\_->t != ctrl\_->t |
|  | |
| bool | [**operator==**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a87ce32eb840c22a0d96989b8579b2953) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T[]> &sp) const |
|  | sp.ctrl\_->t + offset == ctrl\_->t |
|  | |
| bool | [**operator!=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a37f9ac82955d6fccb62307de6d36f60d) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T[]> &sp) const |
|  | sp.ctrl\_->t + offset != ctrl\_->t |
|  | |

|  |  |
| --- | --- |
| **Protected Member Functions** | |
|  | [**Abstract\_SmartPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a444f625fb673f13587a2e54605373216) (T \*t) |
|  | "új" pointer inicializálás |
|  | |
|  | [**Abstract\_SmartPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a41834a42d7e2ddc5636e5188714e4698) (**[ControlBlock](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block.html)**< T > \*ctrl) |
|  | létező pointerrel osztozkodás |
|  | |

|  |  |
| --- | --- |
| **Protected Attributes** | |
| [**ControlBlock**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html)< T > \* | [**ctrl\_**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#aadb168907a96d07de642ecf06c5ce278) = nullptr |
|  | Pointer kontrollblokkra. |
|  | |

## **Detailed Description**

### template<class T> class HF2::Abstract\_SmartPointer< T >

Skaláris okospointer alaposztály.

Definition at line [**13**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__smart__ptr_8hpp_source.html#l00013) of file [**hf2\_smart\_ptr.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__smart__ptr_8hpp_source.html).

The documentation for this class was generated from the following file:

* F:/Programming/Uni/Prog2/NHF/NHF2/[**hf2\_smart\_ptr.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__smart__ptr_8hpp_source.html)

**HF2::Abstract\_SmartPointer< T[]> Class Template Referenceabstract**

Vektorális okospointer alaposztály.

#include <[**hf2\_smart\_ptr.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__smart__ptr_8hpp_source.html)>

+ Inheritance diagram for HF2::Abstract\_SmartPointer< T[]>:

|  |  |
| --- | --- |
| **Public Member Functions** | |
| virtual | [**~Abstract\_SmartPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a3d31132d4cb570d8b13446ec96de1a2e) () |
|  | virtuális destruktor, hogy biztosan meghívódjon a leszármazotté |
|  | |
| std::size\_t | [**referenceCount**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#ad7361041665fe1b1e8912ddf312defe7) () const |
|  | ctrl\_->**[referenceCount()](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "ad7361041665fe1b1e8912ddf312defe7" \o "ctrl_->referenceCount() facade)** facade |
|  | |
| std::size\_t | [**size**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a5e1ec17166170f9416da76e3e1643a4e) () const |
|  | ctrl\_->**[size()](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e" \o "ctrl_->size() facade)** facade |
|  | |
| std::size\_t | [**offset**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a458dc4d5acd43c45c592237384592e4e) () const |
|  | offset\_ getter |
|  | |
| void | [**setOffset**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a94a61344905d70cc42dc5e20bc66b6fa) (std::size\_t **[offset](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a458dc4d5acd43c45c592237384592e4e)**) const |
|  | offset\_ setter |
|  | |
| virtual void | [**newPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a98a0c77688074fa4fcfc2faef125f5b8) (T \*t, std::size\_t **[size](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e)**)=0 |
|  | új **[ControlBlock<T[]>](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html" \o "Vektorális Pointer tárolására.)** inicializálása a példánynak. |
|  | |
| virtual void | [**reassignPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a71e6e4c25f3293d723736032ea00ca74) (T \*t, std::size\_t **[size](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e)**)=0 |
|  | új pointer beállítása az összes pointernek ami ezt a **[ControlBlock<T[]>](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html" \o "Vektorális Pointer tárolására.)** -ot használja. |
|  | |
| T & | [**operator[]**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#acdff5e5f7e43b6a8e8d41eff7295913a) (const std::size\_t idx) |
|  | indexelés 0. elemtől | const \*char exception-t dob túlindexelésnél |
|  | |
| const T & | [**operator[]**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a6b84827f6669c7fbf0019da10e37ee3b) (const std::size\_t idx) const |
|  | Pont arra jó mint a másik csak ez még const is. |
|  | |
| bool | [**operator++**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a27998451370d1cb9093e0777490e786b) () const |
|  | ++offset\_ | nincs post-increment | ha eléri a ctrl\_->**[size()](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e" \o "ctrl_->size() facade)** -t akkor 0-ra áll vissza és false-t dob |
|  | |
| bool | [**operator--**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a60e056fe4cb7e5cc509bb698954a9e8e) () const |
|  | –offset\_ | nincs post-decrement | ha elérné a -1 -t akkor **[size()](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e" \o "ctrl_->size() facade)** - 1-re áll vissza és false-t dob |
|  | |
| T \* | [**operator->**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a41aef4ceecb96364282518d026d74107) () const |
|  | jelenleg offsettel kiválaszott elem tagjának hozzáférése |
|  | |
| T & | [**operator\***](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a45bf6a1bf2c8385919b1f6d26bb8b4ce) () const |
|  | jelenleg offsettel kiválaszott elem dereferálása |
|  | |
| bool | [**operator==**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a3d4b587020f61b5b6015b230c559fbb4) (const T \*t) const |
|  | t != ctrl\_->t + offset |
|  | |
| bool | [**operator!=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a1e14d8e2f9fe6865268abed716d83fc4) (const T \*t) const |
|  | t != ctrl\_->t + offset |
|  | |
| bool | [**operator==**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#ae8cbdac3b87bbcce5da2c337d2903173) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T > &sp) const |
|  | sp.ctrl\_->t == ctrl\_->t + offset |
|  | |
| bool | [**operator!=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#afa0190facfe5b943a28e143091a44fa4) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T > &sp) const |
|  | sp.ctrl\_->t != ctrl\_->t + offset |
|  | |
| bool | [**operator==**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a4a5ef89ff06425576c3ab17c20fe9e0f) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T[]> &sp) const |
|  | sp.ctrl\_->t + sp.offset == ctrl\_->t + offset |
|  | |
| bool | [**operator!=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a999ad2f8d5030f18ae86dd21563058ff) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T[]> &sp) const |
|  | sp.ctrl\_->t + sp.offset != ctrl\_->t + offset |
|  | |

|  |  |
| --- | --- |
| **Protected Member Functions** | |
|  | [**Abstract\_SmartPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a1d9aa157a2a06c74cc8b4d06b9d8daaa) (T \*t, std::size\_t **[size](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e)**) |
|  | "új" pointer inicializálás |
|  | |
|  | [**Abstract\_SmartPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a3669dd494a833fe1ea98502c2f387f12) (**[ControlBlock](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block.html)**< T[]> \*ctrl) |
|  | létező pointerrel osztozkodás |
|  | |

|  |  |
| --- | --- |
| **Protected Attributes** | |
| [**ControlBlock**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html)< T[]> \* | [**ctrl\_**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#add76813d6f6718146ad7af678bec396f) = nullptr |
|  | Pointer kontrollblokkra. |
|  | |
| std::size\_t | [**offset\_**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a98d733eee1c42f21242573e1c8d79730) = 0U |
|  | Bármikor módosítható offset. |
|  | |

## **Detailed Description**

### template<class T> class HF2::Abstract\_SmartPointer< T[]>

Vektorális okospointer alaposztály.

javallott a ++/– operátorokat csak loopokon belül használni és a végén 0-ba állítani

Definition at line [**66**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__smart__ptr_8hpp_source.html#l00066) of file [**hf2\_smart\_ptr.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__smart__ptr_8hpp_source.html).

The documentation for this class was generated from the following file:

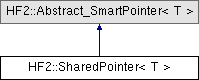
* F:/Programming/Uni/Prog2/NHF/NHF2/[**hf2\_smart\_ptr.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__smart__ptr_8hpp_source.html)

**HF2::SharedPointer< T > Class Template Reference**

Autómatikusan törlődő pointer.

#include <[**hf2\_shared\_ptr.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__shared__ptr_8hpp_source.html)>

+ Inheritance diagram for HF2::SharedPointer< T >:



|  |  |
| --- | --- |
| **Public Member Functions** | |
|  | [**SharedPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#a97af4cfee23fb58f4953fb315fe2afe8) (T \*t) |
|  | "új" pointer inicializálás |
|  | |
|  | [**SharedPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#a86217686acbaa1dfd722e28ba486c250) (**[SharedPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_shared_pointer.html)**< T > &&sp) noexcept |
|  | mozgató konstruktor |
|  | |
|  | [**SharedPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#a4d9e0af179c075d6205b4ed4b7c27324) (const **[SharedPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_shared_pointer.html)**< T > &sp) |
|  | másoló konstruktor |
|  | |
|  | [**~SharedPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#a4e7c1e1fbc831f2fca188ec0f0bf651f) () |
|  | destruktor |
|  | |
| void | [**newPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#ac388bc5437c242bc88b1b78bd627627c) (T \*t) override |
|  | új **[ControlBlock](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block.html" \o "Skaláris Pointer tárolására.)** inicializálása a példánynak. |
|  | |
| void | [**reassignPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#a0b47739ea5cf672211dc897564450bc7) (T \*t) override |
|  | új pointer beállítása az összes pointernek ami ezt a **[ControlBlock](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block.html" \o "Skaláris Pointer tárolására.)** -ot használja. |
|  | |
| [**SharedPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html)< T > & | [**operator=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#adf94c3885b7f0ddb89c48e06693ca887) (**[SharedPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_shared_pointer.html)**< T > &&sp) |
|  | mozgató értékadás |
|  | |
| [**SharedPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html)< T > & | [**operator=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html#a87a4f17417c820689855044c9bc9b609) (const **[SharedPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_shared_pointer.html)**< T > &sp) |
|  | másoló értékadás |
|  | |
| **- Public Member Functions inherited from**[**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html) | |
| virtual | [**~Abstract\_SmartPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ad054db662c60d13e29730093f634b6af) () |
|  | virtuális destruktor, hogy biztosan meghívódjon a leszármazotté |
|  | |
| std::size\_t | [**referenceCount**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ac4f171388ae59c84279a1412bbdff377) () const |
|  | ctrl\_->**[referenceCount()](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html" \l "ac4f171388ae59c84279a1412bbdff377" \o "ctrl_->referenceCount() facade)** facade |
|  | |
| T \* | [**operator->**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ac2f37c555ae05688e0a08f95bf9fc238) () |
|  | arrow |
|  | |
| T & | [**operator\***](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ab6bbf65c510a08af0c854a3d63cfde1c) () |
|  | dereferálás |
|  | |
| bool | [**operator==**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a00c7ca0a9a5d49971d91961633867722) (const T \*t) const |
|  | t == ctrl\_->t |
|  | |
| bool | [**operator!=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a8ef1f2d0715f8462b966d3d7e3e43b57) (const T \*t) const |
|  | t != ctrl\_->t |
|  | |
| bool | [**operator==**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a0755496b8dba09da1628e46ef4b77fd5) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T > &sp) const |
|  | sp.ctrl\_->t != ctrl\_->t |
|  | |
| bool | [**operator!=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#ad97c2ab535e95eb3f2a9195115f5d8be) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T > &sp) const |
|  | sp.ctrl\_->t != ctrl\_->t |
|  | |
| bool | [**operator==**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a87ce32eb840c22a0d96989b8579b2953) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T[]> &sp) const |
|  | sp.ctrl\_->t + offset == ctrl\_->t |
|  | |
| bool | [**operator!=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a37f9ac82955d6fccb62307de6d36f60d) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T[]> &sp) const |
|  | sp.ctrl\_->t + offset != ctrl\_->t |
|  | |

|  |  |
| --- | --- |
| **Additional Inherited Members** | |
| **- Protected Member Functions inherited from**[**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html) | |
|  | [**Abstract\_SmartPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a444f625fb673f13587a2e54605373216) (T \*t) |
|  | "új" pointer inicializálás |
|  | |
|  | [**Abstract\_SmartPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#a41834a42d7e2ddc5636e5188714e4698) (**[ControlBlock](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block.html)**< T > \*ctrl) |
|  | létező pointerrel osztozkodás |
|  | |
| **- Protected Attributes inherited from**[**HF2::Abstract\_SmartPointer< T >**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html) | |
| [**ControlBlock**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html)< T > \* | [**ctrl\_**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer.html#aadb168907a96d07de642ecf06c5ce278) = nullptr |
|  | Pointer kontrollblokkra. |
|  | |

## **Detailed Description**

### template<class T> class HF2::SharedPointer< T >

Autómatikusan törlődő pointer.

Lehetőleg ne dinamikusan allokáljuk. Mozgató konstruktorok és operátorok az std::move()-val használhatók

Definition at line [**16**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__shared__ptr_8hpp_source.html#l00016) of file [**hf2\_shared\_ptr.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__shared__ptr_8hpp_source.html).

The documentation for this class was generated from the following files:

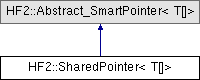
* F:/Programming/Uni/Prog2/NHF/NHF2/[**hf2\_shared\_ptr.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__shared__ptr_8hpp_source.html)
* F:/Programming/Uni/Prog2/NHF/NHF2/[**hf2\_shared\_ptr.cpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__shared__ptr_8cpp_source.html)

**HF2::SharedPointer< T[]> Class Template Reference**

Autómatikusan törlődő tömb pointer.

#include <[**hf2\_shared\_ptr.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__shared__ptr_8hpp_source.html)>

+ Inheritance diagram for HF2::SharedPointer< T[]>:



|  |  |
| --- | --- |
| **Public Member Functions** | |
|  | [**SharedPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#a994fe5971454512a4c887cc0f03f5496) (T \*t, std::size\_t **[size](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e)**) |
|  | "új" pointer inicializálás |
|  | |
|  | [**SharedPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#a396541524c230b4bc1d62d3928a1c20c) (**[SharedPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_shared_pointer.html)**< T[]> &&sp) noexcept |
|  | mozgató konstruktor |
|  | |
|  | [**SharedPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#a5c59b9d6adf3801bfbb0eaf67be70097) (const **[SharedPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_shared_pointer.html)**< T[]> &sp) |
|  | másoló konstruktor |
|  | |
|  | [**~SharedPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#a374ef70f59fb58dd255c6a2e045ff5f6) () |
|  | destruktor |
|  | |
| void | [**newPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#abfa45a18235bbd3eead5bb3a09cdb639) (T \*t, std::size\_t **[size](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e)**) override |
|  | új **[ControlBlock<T[]>](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html" \o "Vektorális Pointer tárolására.)** inicializálása a példánynak. |
|  | |
| void | [**reassignPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#a8daeb1d7dabfeb26c1832a58e81cfaa0) (T \*t, std::size\_t **[size](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e)**) override |
|  | új pointer beállítása az összes pointernek ami ezt a **[ControlBlock<T[]>](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block_3_01_t_0f_0e_4.html" \o "Vektorális Pointer tárolására.)** -ot használja. |
|  | |
| [**SharedPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html)< T[]> & | [**operator=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#ab22c25dfc967f421a2b2739eb8ef6279) (**[SharedPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_shared_pointer.html)**< T[]> &&sp) noexcept |
|  | mozgató értékadás |
|  | |
| [**SharedPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer.html)< T[]> & | [**operator=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_shared_pointer_3_01_t_0f_0e_4.html#abbf6ba3493a697437ac685bd45b0795e) (const **[SharedPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_shared_pointer.html)**< T[]> &sp) |
|  | másoló értékadás |
|  | |
| **- Public Member Functions inherited from**[**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html) | |
| virtual | [**~Abstract\_SmartPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a3d31132d4cb570d8b13446ec96de1a2e) () |
|  | virtuális destruktor, hogy biztosan meghívódjon a leszármazotté |
|  | |
| std::size\_t | [**referenceCount**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#ad7361041665fe1b1e8912ddf312defe7) () const |
|  | ctrl\_->**[referenceCount()](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "ad7361041665fe1b1e8912ddf312defe7" \o "ctrl_->referenceCount() facade)** facade |
|  | |
| std::size\_t | [**size**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a5e1ec17166170f9416da76e3e1643a4e) () const |
|  | ctrl\_->**[size()](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e" \o "ctrl_->size() facade)** facade |
|  | |
| std::size\_t | [**offset**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a458dc4d5acd43c45c592237384592e4e) () const |
|  | offset\_ getter |
|  | |
| void | [**setOffset**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a94a61344905d70cc42dc5e20bc66b6fa) (std::size\_t **[offset](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a458dc4d5acd43c45c592237384592e4e)**) const |
|  | offset\_ setter |
|  | |
| T & | [**operator[]**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#acdff5e5f7e43b6a8e8d41eff7295913a) (const std::size\_t idx) |
|  | indexelés 0. elemtől | const \*char exception-t dob túlindexelésnél |
|  | |
| const T & | [**operator[]**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a6b84827f6669c7fbf0019da10e37ee3b) (const std::size\_t idx) const |
|  | Pont arra jó mint a másik csak ez még const is. |
|  | |
| bool | [**operator++**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a27998451370d1cb9093e0777490e786b) () const |
|  | ++offset\_ | nincs post-increment | ha eléri a ctrl\_->**[size()](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e" \o "ctrl_->size() facade)** -t akkor 0-ra áll vissza és false-t dob |
|  | |
| bool | [**operator--**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a60e056fe4cb7e5cc509bb698954a9e8e) () const |
|  | –offset\_ | nincs post-decrement | ha elérné a -1 -t akkor **[size()](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e" \o "ctrl_->size() facade)** - 1-re áll vissza és false-t dob |
|  | |
| T \* | [**operator->**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a41aef4ceecb96364282518d026d74107) () const |
|  | jelenleg offsettel kiválaszott elem tagjának hozzáférése |
|  | |
| T & | [**operator\***](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a45bf6a1bf2c8385919b1f6d26bb8b4ce) () const |
|  | jelenleg offsettel kiválaszott elem dereferálása |
|  | |
| bool | [**operator==**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a3d4b587020f61b5b6015b230c559fbb4) (const T \*t) const |
|  | t != ctrl\_->t + offset |
|  | |
| bool | [**operator!=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a1e14d8e2f9fe6865268abed716d83fc4) (const T \*t) const |
|  | t != ctrl\_->t + offset |
|  | |
| bool | [**operator==**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#ae8cbdac3b87bbcce5da2c337d2903173) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T > &sp) const |
|  | sp.ctrl\_->t == ctrl\_->t + offset |
|  | |
| bool | [**operator!=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#afa0190facfe5b943a28e143091a44fa4) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T > &sp) const |
|  | sp.ctrl\_->t != ctrl\_->t + offset |
|  | |
| bool | [**operator==**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a4a5ef89ff06425576c3ab17c20fe9e0f) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T[]> &sp) const |
|  | sp.ctrl\_->t + sp.offset == ctrl\_->t + offset |
|  | |
| bool | [**operator!=**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a999ad2f8d5030f18ae86dd21563058ff) (const **[Abstract\_SmartPointer](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer.html)**< T[]> &sp) const |
|  | sp.ctrl\_->t + sp.offset != ctrl\_->t + offset |
|  | |

|  |  |
| --- | --- |
| **Additional Inherited Members** | |
| **- Protected Member Functions inherited from**[**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html) | |
|  | [**Abstract\_SmartPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a1d9aa157a2a06c74cc8b4d06b9d8daaa) (T \*t, std::size\_t **[size](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html" \l "a5e1ec17166170f9416da76e3e1643a4e)**) |
|  | "új" pointer inicializálás |
|  | |
|  | [**Abstract\_SmartPointer**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a3669dd494a833fe1ea98502c2f387f12) (**[ControlBlock](file:///F:\\Programming\\Uni\\Prog2\\NHF\\DOC\\html\\class_h_f2_1_1_control_block.html)**< T[]> \*ctrl) |
|  | létező pointerrel osztozkodás |
|  | |
| **- Protected Attributes inherited from**[**HF2::Abstract\_SmartPointer< T[]>**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html) | |
| [**ControlBlock**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_control_block.html)< T[]> \* | [**ctrl\_**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#add76813d6f6718146ad7af678bec396f) = nullptr |
|  | Pointer kontrollblokkra. |
|  | |
| std::size\_t | [**offset\_**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\class_h_f2_1_1_abstract___smart_pointer_3_01_t_0f_0e_4.html#a98d733eee1c42f21242573e1c8d79730) = 0U |
|  | Bármikor módosítható offset. |
|  | |

## **Detailed Description**

### template<class T> class HF2::SharedPointer< T[]>

Autómatikusan törlődő tömb pointer.

Lehetőleg ne dinamikusan allokáljuk. Mozgató konstruktorok és operátorok az std::move()-val használhatók

Definition at line [**70**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__shared__ptr_8hpp_source.html#l00070) of file [**hf2\_shared\_ptr.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__shared__ptr_8hpp_source.html).

The documentation for this class was generated from the following files:

* F:/Programming/Uni/Prog2/NHF/NHF2/[**hf2\_shared\_ptr.hpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__shared__ptr_8hpp_source.html)
* F:/Programming/Uni/Prog2/NHF/NHF2/[**hf2\_shared\_ptr.cpp**](file:///F:\Programming\Uni\Prog2\NHF\DOC\html\hf2__shared__ptr_8cpp_source.html)