Dexter

0.01

Generated by Doxygen 1.8.17

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Namespace Index

1.1 Namespace List

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2.1 Class List

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3.1 File List

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Namespace Documentation

4.1 Dexter Namespace Reference

Classes

- class Tensor

Functions

- template<class T , std::size_t N>
  Tensor< T, N > entryWiseAdd (const Tensor< T, N > &lhs, const Tensor< T, N > &rhs)
- template<class T , std::size_t N>
  Tensor< T, N > entryWiseSub (const Tensor< T, N > &lhs, const Tensor< T, N > &rhs)
- template<class T , std::size_t N>
  Tensor< T, N > entryWiseProd (const Tensor< T, N > &lhs, const Tensor< T, N > &rhs)
- template<class T , std::size_t N>
  Tensor< T, N > entryWiseDiv (const Tensor< T, N > &lhs, const Tensor< T, N > &rhs)
- template<class T , std::size_t N>
  Tensor< T, N > entryWiseExp (const Tensor< T, N > &lhs, const Tensor< T, N > &rhs)
- template<class T , std::size_t N>
  Tensor< T, N > entryWiseLog (const Tensor< T, N > &lhs, const Tensor< T, N > &rhs)

4.1.1 Function Documentation

4.1.1.1 entryWiseAdd()

```
template<class T , std::size_t N>
Tensor<T, N> Dexter::entryWiseAdd (
            const Tensor< T, N > & lhs,
            const Tensor< T, N > & rhs )
```

4.1.1.2 entryWiseDiv()

```
template<class T , std::size_t N>
Tensor<T, N> Dexter::entryWiseDiv (
             const Tensor< T, N > & lhs,
             const Tensor< T, N > & rhs )
```

4.1.1.3 entryWiseExp()

```
template<class T , std::size_t N>
Tensor<T, N> Dexter::entryWiseExp (
             const Tensor< T, N > & lhs,
             const Tensor< T, N > & rhs )
```

4.1.1.4 entryWiseLog()

```
template<class T , std::size_t N>
Tensor<T, N> Dexter::entryWiseLog (
             const Tensor< T, N > & lhs,
             const Tensor< T, N > & rhs )
```

4.1.1.5 entryWiseProd()

```
template<class T , std::size_t N>
Tensor<T, N> Dexter::entryWiseProd (
             const Tensor< T, N > & lhs,
             const Tensor< T, N > & rhs )
```

4.1.1.6 entryWiseSub()

```
template<class T , std::size_t N>
Tensor<T, N> Dexter::entryWiseSub (
             const Tensor< T, N > & lhs,
             const Tensor< T, N > & rhs )
```

Chapter 5

Class Documentation

5.1 Dexter::Tensor< T, N > Class Template Reference

`#include <dxtrTensor.hxx>`

Public Types

- typedef std::array< std::size_t, N > uarr
- typedef std::unordered_map< std::size_t, T > dat_map

Public Member Functions

- Tensor (T default_val=0)
- Tensor (const uarr &dims, T default_val=0)
- ~Tensor ()=default
- std::size_t n_elem () const
- uarr idtoad (const std::size_t &) const
- uarr idtoad_nocheck (const std::size_t &) const
- std::size_t adtoid (const uarr &) const
- std::size_t adtoid_nocheck (const uarr &) const
- T & at (std::size_t id)
- T & at_nocheck (std::size_t id)
- T & at (const uarr &address)
- std::string adtostr (const uarr &) const
- std::string adtostr_nocheck (const uarr &) const
- std::string idtostrad (const std::size_t &) const
- std::string idtostrad_nocheck (const std::size_t &) const
- void print () const

5.1.1 Member Typedef Documentation

5.1.1.1 dat_map

```
template<class T , std::size_t N>
typedef std::unordered_map<std::size_t, T> Dexter::Tensor< T, N >::dat_map
```

5.1.1.2 uarr

```
template<class T , std::size_t N>
typedef std::array<std::size_t, N> Dexter::Tensor< T, N >::uarr
```

5.1.2 Constructor & Destructor Documentation

5.1.2.1 Tensor() [1/2]

```
template<class T , std::size_t N>
Dexter::Tensor< T, N >::Tensor (
            T default_val = 0 )
```

5.1.2.2 Tensor() [2/2]

```
template<class T , std::size_t N>
Dexter::Tensor< T, N >::Tensor (
            const uarr & dims,
            T default_val = 0 )
```

5.1.2.3 ~Tensor()

```
template<class T , std::size_t N>
Dexter::Tensor< T, N >::~Tensor ( )  [default]
```

5.1.3 Member Function Documentation

5.1.3.1 adtoid()

```
template<class T , std::size_t N>
std::size_t Dexter::Tensor< T, N >::adtoid (
            const uarr &  ) const
```

5.1.3.2 adtoid_nocheck()

```
template<class T , std::size_t N>
std::size_t Dexter::Tensor< T, N >::adtoid_nocheck (
            const uarr &  ) const
```

5.1.3.3 adtostr()

```
template<class T , std::size_t N>
std::string Dexter::Tensor< T, N >::adtostr (
            const uarr &  ) const
```

5.1.3.4 adtostr_nocheck()

```
template<class T , std::size_t N>
std::string Dexter::Tensor< T, N >::adtostr_nocheck (
            const uarr &  ) const
```

5.1.3.5 at() [1/2]

```
template<class T , std::size_t N>
T& Dexter::Tensor< T, N >::at (
            const uarr & address )
```

5.1.3.6 at() [2/2]

```
template<class T , std::size_t N>
T& Dexter::Tensor< T, N >::at (
            std::size_t id )
```

5.1.3.7 at_nocheck()

```
template<class T , std::size_t N>
T& Dexter::Tensor< T, N >::at_nocheck (
            std::size_t id )
```

5.1.3.8 idtoad()

```
template<class T , std::size_t N>
uarr Dexter::Tensor< T, N >::idtoad (
            const std::size_t &  ) const
```

5.1.3.9 idtoad_nocheck()

```
template<class T , std::size_t N>
uarr Dexter::Tensor< T, N >::idtoad_nocheck (
            const std::size_t &  ) const
```

5.1.3.10 idtostrad()

```
template<class T , std::size_t N>
std::string Dexter::Tensor< T, N >::idtostrad (
            const std::size_t &  ) const
```

5.1.3.11 idtostrad_nocheck()

```
template<class T , std::size_t N>
std::string Dexter::Tensor< T, N >::idtostrad_nocheck (
            const std::size_t &  ) const
```

5.1.3.12 n_elem()

```
template<class T , std::size_t N>
std::size_t Dexter::Tensor< T, N >::n_elem ( ) const
```

5.1.3.13 print()

```
template<class T , std::size_t N>
void Dexter::Tensor< T, N >::print ( ) const
```

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

- Dexter/include/dxtrTensor.hxx

Chapter 6

File Documentation

6.1 Dexter/include/dxtrTensor.hxx File Reference

```
#include <array>
#include <vector>
#include <unordered_map>
#include <exception>
#include <string>
#include <sstream>
#include <iostream>
#include "dxtrTensor.txx"
```

Classes

- class Dexter::Tensor< T, N >
- class Dexter::Tensor< T, N >

Namespaces

- Dexter

Functions

- template<class T , std::size_t N>
  Tensor< T, N > Dexter::entryWiseAdd (const Tensor< T, N > &lhs, const Tensor< T, N > &rhs)
- template<class T , std::size_t N>
  Tensor< T, N > Dexter::entryWiseSub (const Tensor< T, N > &lhs, const Tensor< T, N > &rhs)
- template<class T , std::size_t N>
  Tensor< T, N > Dexter::entryWiseProd (const Tensor< T, N > &lhs, const Tensor< T, N > &rhs)
- template<class T , std::size_t N>
  Tensor< T, N > Dexter::entryWiseDiv (const Tensor< T, N > &lhs, const Tensor< T, N > &rhs)
- template<class T , std::size_t N>
  Tensor< T, N > Dexter::entryWiseExp (const Tensor< T, N > &lhs, const Tensor< T, N > &rhs)
- template<class T , std::size_t N>
  Tensor< T, N > Dexter::entryWiseLog (const Tensor< T, N > &lhs, const Tensor< T, N > &rhs)

6.2 Dexter/main.cxx File Reference

```
#include <iostream>
#include <chrono>
#include "dxtrTensor.hxx"
```

Functions

- bool Test1 ()
- int main ()

6.2.1 Function Documentation

6.2.1.1 main()

```
int main ( )
```

6.2.1.2 Test1()

```
bool Test1 ( )
```

6.3 Dexter/src/dxtrTensor.cxx File Reference

```
#include "dxtrTensor.hxx"
```

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