Trmm< T > Class Template Reference

`#include <cublas_trmm_test.h>`

Public Member Functions

	Trmm (int A_row, int A_col, int B_row, int B_col, int C_row, int C_col, T alpha, char mode)
void	**FreeMemory** ()
int	**TrmmApiCall** ()

Detailed Description

template<class T>
class Trmm< T >

Class **Trmm** contains **Trmm** API which performs Triangular matrix - matrix multiplication : C = alpha * A * B

Parameters

A - m x m triangular matrix in lower mode ,

B - m x n general matrix

C - m x n general matrix

alpha - scalar

Constructor & Destructor Documentation

◆ Trmm()

```
template<class T >
Trmm< T >::Trmm ( int    A_row,
                  int    A_col,
                  int    B_row,
                  int    B_col,
                  int    C_row,
                  int    C_col,
                  T      alpha,
                  char   mode
                )
```

Trmm constructor - To initialize the class varibles using initializer list, sets up the API mode, alpha and dimension of matrices

Member Function Documentation

◆ FreeMemory()

```
template<class T >
void Trmm< T >::FreeMemory (  )
```

FreeMemory function - To free the allocated memory when program is ended or in case of any error

Free Host Memory

Free Device Memory

Destroy CuBLAS context

◆ TrmmApiCall()

template<class T >

int **Trmm**< T >::TrmmApiCall ( )

TrmmAPICall function - To allocate Host and Device memory, sets up matrices and calls **Trmm** API based on the mode passed

Allocating Host Memory for Matrices

Switch Case - To Initialize and Print input matrices based on mode passed, A is a Triangular Matrix, B and C are Normal Matrices

Allocating Device Memory for Matrices using cudaMalloc()

Initializing CUBLAS context

Copying values of Host matrices to Device matrices using cublasSetMatrix()

API call to performs Triangular matrix - matrix multiplication : C = alpha * A * B

Copy Matrix C, holding resultant matrix, from Device to Host using cublasGetMatrix()

Print the final resultant Matrix C

Print Latency and Throughput of the API

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

- cublasTest/**cublas_trmm_test.h**
- cublasTest/**cublas_trmm_test.cc**