**Introduction of rucgraph**

[Folder: build\_in\_progress 2](#_Toc122181796)

[Folder: data\_structures 2](#_Toc122181797)

[PairingHeapYS.h 2](#_Toc122181798)

[PairingHeapYS\_with\_offset.h 2](#_Toc122181799)

[Union\_Find.h 2](#_Toc122181800)

[Folder: graph\_hash\_of\_mixed\_weighted 2](#_Toc122181801)

[Folder: graph\_hash\_of\_vectors\_unweighted 2](#_Toc122181802)

[Folder: graph\_hash\_of\_vectors\_weighted 2](#_Toc122181803)

[Folder: graph\_v\_of\_v\_idealID 3](#_Toc122181804)

[Folder: text\_mining 3](#_Toc122181805)

[Folder: tool\_functions 3](#_Toc122181806)

[Combinations\_Permutations.h 3](#_Toc122181807)

[Current\_Memory\_Consumption\_of\_This\_Process.h 3](#_Toc122181808)

[ThreadPool.h 3](#_Toc122181809)

# Folder: build\_in\_progress

This folder contains informal codes.

# Folder: data\_structures

This folder contains some special data structures.

## PairingHeapYS.h

This file contains a pairing heap.

## PairingHeapYS\_with\_offset.h

This file contains an augmented pairing heap. In this heap, there is an offset value for every inside node. Using these values, we can change the key values of all inside nodes in O(1) time!

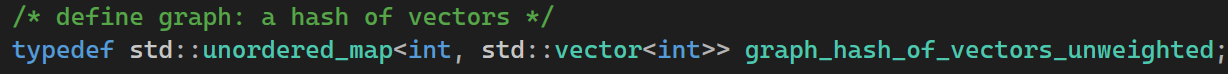
## Union\_Find.h

This file contains the Union Find data structure.

# Folder: graph\_hash\_of\_mixed\_weighted

# Folder: graph\_hash\_of\_vectors\_unweighted

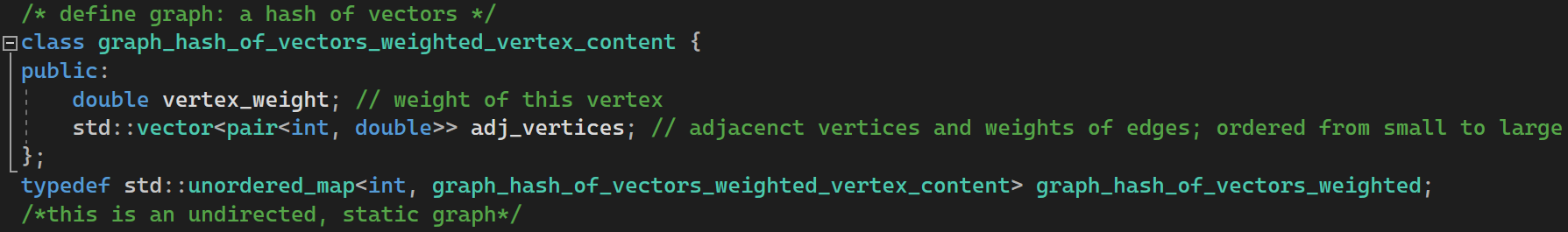
This is an adjacency list build using a hash of vectors:



This adjacency list does not contain vertex or edge weights.

# Folder: graph\_hash\_of\_vectors\_weighted

This is an adjacency list build using a hash of vectors:



This adjacency list contains vertex or edge weights.

# Folder: graph\_v\_of\_v\_idealID

# Folder: text\_mining

## binary\_save\_read\_vector

This is to save and read vectors in binary format. Notably, the elements in vectors should have fixed sizes.

## binary\_save\_read\_vector\_of\_vectors.h

This is similar to the above file, for saving and reading vectors of vectors.

## convert\_number\_to\_array\_of\_binary.h

This is to concert a number to an array of binary values, e.g., from 3 to 11.

# Folder: tool\_functions

This folder contains some tool functions.

## Combinations\_Permutations.h

This file contains codes to enumerate every possible permutation of a set of elements.

## Current\_Memory\_Consumption\_of\_This\_Process.h

This file is to check how many RAM has been allocated by the OS to the current process.

## ThreadPool.h

This is a widely adopted ThreadPool.h implementation.