Assignment #03: CP::Vector

0. Basic Information

Due

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Contact

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1. Introduction

Forget the standard `std::vector`; it's time to craft our own `CP::Vector`.

2. Task

Your task is to implement the functions outlined in the `Vector.hpp` header by referencing the behavior and documentation of std::vector available on `cppreference.com`.

You must not alter the function definitions provided in the header.

To aid in your understanding and debugging, we have provided example.cpp that utilizes `CP::Vector`.

Please note, although `example.cpp` is provided to help you understand how to implement and use the vector, grading will encompass additional functionalities not demonstrated in the example.

Ensure that all functions defined in `CP::Vector` behave identically to their `std::vector` counterparts, except where `CP::Vector` lacks specific functions present in `std::vector`.

However, variations in capacity growth and the complexity or execution time of functions compared to `std::vector` are permissible. Also, unlike `std::vector`, `CP::Vector` does not throw any exceptions. It's up to you to decide what happens when a user attempts an unauthorized operation.

You are not allowed to add any include in `Vector.hpp`. The only include allowed in `CP::Vector` is `#include <cstddef>`