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CISC 3320

Homework 3

### Background

Author: SK

Roles: all

Restatement of the problem statement:

Create a data structure for allocating and releasing process identifiers. Create 50 threads and with each thread allocate a new PID, print to the console, and release the PID.

Assumptions:

1. Implement a PID manager using a `dynamic_bitset` from the boost library.
2. Use a class as a wrapper around the bitset data structure. The dynamic bitset library is necessary as you can't store a regular bitset in a class.
3. Mutex locks are necessary in the threads to keep the output uniform.
4. The `allocate_map` function is unnecessary because of the class constructor.