Report PA4

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In my allocator library I used list from the c++ library to make a linked list which would be our heap. In my classes private I created one mutex which will allow the library work as if atomic. The pseudocode is simple:

```
myMalloc called:
    mutex is locked
    myMalloc is done (if enough space in id -1 adding a new node to the linkedlist)
    mutex is unlocked
myFree called:
    mutex is locked
    myFree is done (freeing from list and if -1 are next to each other combining them in list)
    mutex is unlocked
```

With this simple algorithm I was able to change the list one at a time so when malloc was called from any thread all other threads were not able to malloc or free in the shared linked list. So by this we made the library atomic by changing the same variable in sequential order with concurrency.