

CS381/780 Midterm Spring 2021

This exam consists of two problems.

Memory Management

In class we worked through the code for the “fast and dumb” allocator. We also saw how we can take over memory management on a class by class basis.

1. Implement memory management for a one dimensional templated safe array using the “fast and dumb” method.
2. Use this safe array to implement a templated safe matrix.

Polynomial Arithmetic Redux

One of the programs that you worked on this semester was polynomial arithmetic using a “home-grown” list implementation. It turns out that using a map to represent the polynomials simplifies the solution significantly.

Redo the polynomial arithmetic problem using the C++ map to represent the polynomials.

```
#include<map>
map<int,int> poly1,poly2,sum;
```

Where the *key value* is the exponent and the *mapped value* is the coefficient.