Final Review

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1. **Stuff on Exam**
    - UML ->Done
    - Templates classes/structs/functions -> Done
    - Ethics -> Done: Use website on the lab
    - OOP Concepts -> Done
    - stacks and queues -> Done
    - unit tests -> Done
    - Sorting -> Need to study
    - Liked Lists -> Need to study

2. **UML**
    - In UML ’-’ means private, ’+’ means public, ’#’ means protected
    - The first top box is the class name
    - The next boxes are either public, private, or protected
    - To show a class is derived from another you put an arrow from the child class to the parent class
    - The derived class only shows additional members

3. **OOP Concepts**
    - 1. Encapsulation, not giving things to you shouldnt have access to
    - 2. Abstraction, You don’t interact with all the interworkings of the class or object
    - 3.Polymorphism, using virtual you can redefine functions in the child classes
    - You can make the virtual function pure virtual, which means the function must be defined in the child class

4. **Stacks and Queues**
    - A stack is like a pile of paper V’s a queue is like shopping line
    - A queue is F.I.F.O
    - A stack is L.I.L.O
    - To access the elements you have to get the next element then pop() it off to get to the next one
    - stack <Type> "Name";
    - queue <Type> "Name";

5. **Linked list**
    - Walk = setting current node to it’s next node

6. Templates

- template<typename "name">, is how you declare a custom type
- You can declare it above classes and functions, to have a custom type
- for a class you can do: "Class Name"<type> "variable name"(values)
- You can also have two types like so: template<typename T1, typename T2>

7. Final notes

- 4 programming questions(answer 3, get rid of worst one), essay style (ethics, UML)
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