Queue Implementation #1

A queue is a ___________ data structure!

What type of implementation if this Queue?

How is the data stored in this Queue?

Which pointer is entry and which pointer is exit?

What is the running time of enqueue()?

What is the running time of dequeue()?

Queue Implementation #2

What type of implementation if this Queue?

How is the data stored in this Queue?

Example 1

```c++
Queue<int> q;
q.enqueue(3);
q.enqueue(8);
q.enqueue(4);
q.dequeue();
q.enqueue(7);
q.dequeue();
q.dequeue();
q.enqueue(2);
q.enqueue(1);
q.enqueue(3);
q.enqueue(5);
q.dequeue();
q.enqueue(9);
```
Example 2

```cpp
#include <list>
#include <string>
#include <iostream>

struct Animal {
    std::string name, food;
    bool big;
    Animal(std::string name = "blob", std::string food = "you", bool big = true) :
        name(name), food(food), big(big) { /* none */ }
};

int main() {
    Animal g("giraffe", "leaves", true), p("penguin", "fish", false), b("bear");
    std::list<Animal> zoo;
    zoo.push_back(g);
    zoo.push_back(p);   // std::list's insertAtEnd
    zoo.push_back(b);
    for ( std::list<Animal>::iterator it = zoo.begin(); it != zoo.end(); it++ ) {
        std::cout << (*it).name << " " << (*it).food << std::endl;
    }
    return 0;
}
```

Iterators

Purpose:

...on what data structures?

Operators:

Iterator Types:

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CS 225 – Things To Be Doing:

1. Exam #3 finishes today ("Theory Exam", Advanced C++)
2. MP3 is released! Complete early for up to +7 extra credit!
3. Lab Extra Credit → Attendance in your registered lab section!
4. Daily POTDs