#include <iostream>

#include <queue>

#include <string>

#include <chrono>

#include <thread>

using namespace std;

class Person {

public:

    string name;

    int ticket\_number;

    Person(string name, int ticket\_number) {

        this->name = name;

        this->ticket\_number = ticket\_number;

    }

};

class Queue {

private:

    queue<Person> people;

    int ticket\_number = 1;

public:

    void enqueue(string name) {

        people.push(Person(name, ticket\_number++));

        cout << name << " added to the queue with Ticket #" << ticket\_number - 1 << endl;

    }

    void autoDequeue() {

        if (!isEmpty()) {

            Person person = people.front();

            people.pop();

            cout << "Dequeue: " << person.name << " received a ticket (Ticket #" << person.ticket\_number << ")" << endl;

        }

    }

    bool isEmpty() {

        return people.empty();

    }

    int size() {

        return people.size();

    }

    void peek() {

        if (!isEmpty()) {

            Person person = people.front();

            cout << "Next in line: " << person.name << " (Ticket #" << person.ticket\_number << ")" << endl;

        }

    }

    int position(string nameOrTicketNumber) {

        int position = 1;

        for (Person person : people) {

            if (person.name == nameOrTicketNumber || to\_string(person.ticket\_number) == nameOrTicketNumber) {

                return position;

            }

            position++;

        }

        return -1; // Not found

    }

};

int main() {

    Queue queue;

    int choice;

    while (true) {

        cout << "Welcome to Olivia Rodrigo's Concert Ticketing System!" << endl;

        cout << "1. Enqueue a person" << endl;

        cout << "2. Check your position in the queue" << endl;

        cout << "3. Exit" << endl;

        cout << "Choose an option: ";

        cin >> choice;

        switch (choice) {

            case 1: {

                string name;

                cout << "Enter the name: ";

                cin >> name;

                queue.enqueue(name);

                cout << "Queue size: " << queue.size() << endl;

                break;

            }

            case 2: {

                string nameOrTicketNumber;

                cout << "Enter your name or ticket number: ";

                cin >> nameOrTicketNumber;

                int position = queue.position(nameOrTicketNumber);

                if (position != -1) {

                    cout << nameOrTicketNumber << " is currently at position " << position << " in the queue." << endl;

                } else {

                    cout << "Person not found in the queue." << endl;

                }

                break;

            }

            case 3:

                exit(0);

            default:

                cout << "Invalid choice." << endl;

        }

        this\_thread::sleep\_for(chrono::minutes(1));

        queue.autoDequeue();

    }

    return 0;

}