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#include <iostream>
#include <stack>
using namespace std;
// Queue using Stack class
class QueueUsingStacks
{
private:
    stack<int> inputStack;
    stack<int> outputStack;

public:
    // Enqueue Function
    void enqueue(int x)
    {
        inputStack.push(x);
        cout << x << " enqueued." << endl;
    }

    // Dequeue Function
    void dequeue()
    {
        if (outputStack.empty() && inputStack.empty())
        {
            cout << "Error: Queue Underflow (Empty)." << endl;
            return;
        }
        if (outputStack.empty())
        {
            while (!inputStack.empty())
            {
                outputStack.push(inputStack.top());
                inputStack.pop();
            }
        }
        int val = outputStack.top();
        outputStack.pop();
        cout << val << " dequeued." << endl;
    }

    // Peek Function
    void peek()
    {
        if (outputStack.empty() && inputStack.empty())

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{
    cout << "Queue is Empty." << endl;
    return;
}
if (outputStack.empty())
{
    while (!inputStack.empty())
    {
        outputStack.push(inputStack.top());
        inputStack.pop();
    }
}
cout << "Front element: " << outputStack.top() << endl;
}

// Is Empty Function
bool isEmpty()
{
    return inputStack.empty() && outputStack.empty();
}
};

// Main Function
int main()
{
    QueueUsingStacks q;
    int choice, val;

    do
    {
        cout << "\n--- QUEUE VIA STACKS MENU ---" << endl;
        cout << "1. Enqueue" << endl;
        cout << "2. Dequeue" << endl;
        cout << "3. Peek" << endl;
        cout << "4. Exit" << endl;
        cout << "Enter choice: ";
        cin >> choice;

        switch (choice)
        {
            case 1:
                cout << "Enter value: ";
                cin >> val;
                q.enqueue(val);
        }
    }
}
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        break;
    case 2:
        q.dequeue();
        break;
    case 3:
        q.peek();
        break;
    case 4:
        cout << "Exiting..." << endl;
        break;
    default:
        cout << "Invalid choice." << endl;
    }
} while (choice != 4);

return 0;
}
```