```
#include <iostream>
#include <string>
using namespace std;
struct Node {
  string data;
  Node* next;
};
class Queue {
private:
  Node* front;
  Node* rear;
public:
  Queue(): front(nullptr), rear(nullptr) {}
  void push(string item) {
     Node* newNode = new Node;
     newNode->data = item;
     newNode->next = nullptr;
     if (front == nullptr) {
       front = rear = newNode;
     } else {
       rear->next = newNode;
       rear = newNode;
     }
  }
  void pop() {
     if (front == nullptr) {
       cout << "The queue is empty" << endl;
       return;
     }
     Node* temp = front;
     front = front->next;
     delete temp;
     if (front == nullptr) {
       rear = nullptr;
     }
  }
```

```
void printQueue() {
     Node* temp = front;
     while (temp != nullptr) {
       cout << temp->data << " ";
       temp = temp->next;
     cout << endl;
  }
  bool isEmpty() {
     return front == nullptr;
  }
  int size() {
     int count = 0;
     Node* temp = front;
     while (temp != nullptr) {
       count++;
       temp = temp->next;
     return count;
  }
  string frontElement() {
     if (front == nullptr) {
       cout << "The queue is empty" << endl;
       return "";
     return front->data;
};
int main() {
  Queue students;
  students.push("Alden");
  cout << "Inserting an item into an empty queue: " << endl;
  students.printQueue();
  cout << "\n";
  students.push("Ben");
  students.push("Charles");
  cout << "Inserting an item into a non-empty queue: " << endl;</pre>
  students.printQueue();
```

```
cout << "\n";

students.pop();
cout << "Deleting an item from a queue of more than one item: " << endl;
students.printQueue();
cout << "\n";

students.pop();
students.pop();
cout << "Deleting an item from a queue with one item: " << endl;
students.printQueue();
cout << NULL;
return 0;
}</pre>
```