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Program : BSCS3-1

Question : 1

```cpp
#include <iostream>
#include <queue>
using namespace std;

class Queue {
private:
    queue<string> q;

public:
    void enqueue(const string& element) {
        q.push(element);
    }

    string dequeue() {
        if (q.empty()) {
            cout << "Error: Queue underflow!" << endl;
            return "";
        }
        string element = q.front();
        q.pop();
        return element;
    }

    void display() {
        queue<string> temp = q;
        while (!temp.empty()) {
            cout << temp.front() << " ";
            temp.pop();
```

```cpp
        }
        cout << endl;
    }
};

int main() {
    Queue q;
    q.enqueue("Peach");
    q.enqueue("Orange");
    q.enqueue("Blackberry ");
    q.display();

    cout << "Dequeued: " << q.dequeue() << endl;
    cout << "Dequeued: " << q.dequeue() << endl;
    q.display();

    return 0;
}
```

```
Peach Orange Blackberry
Dequeued: Peach
Dequeued: Orange
Blackberry
```

Question : 2

```cpp
#include <iostream>
using namespace std;
```

```cpp
int main() {
    string input;
    cout << "Enter a string: ";
    getline(cin, input);

    string word;
    string queue;

    for (int i = 0; i < input.length(); i++) {
        if (input[i] == ' ') {
            queue += "Q" + to_string(i + 1) + "-" + word + " ";
            word.clear();
        } else {
            word += input[i];
        }
    }

    queue += "Q" + to_string(input.length()) + "-" + word;

    cout << "Concatenated queue: " << queue << endl;

    return 0;
}
```

```
Enter a string: my name is Abdullah
Concatenated queue: Q3-my Q8-name Q11-is
      Q20-Abdullah Q20-
```