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Class:- DSA

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

```
struct Node {  
    int data;  
    Node* next;  
};
```

```
class Queue {  
    Node* front;  
    Node* rear;
```

```
public:  
    Queue() {  
        front = rear = NULL;  
    }
```

```
void Enqueue(int data) {  
    Node* newNode = new Node;  
    newNode->data = data;  
    newNode->next = NULL;  
  
    if (rear == NULL) {  
  
        front = rear = newNode;  
    } else {  
        rear->next = newNode;  
        rear = newNode;  
    }  
    cout << data << " enqueued to queue." << endl;  
}
```

```
void Dequeue() {  
    if (front == NULL) {  
        cout << "Queue Underflow!" << endl;  
        return;  
    }  
}
```

```
Node* temp = front;
```

```
front = front->next;
```

```
if (front == NULL) {
```

```
    rear = NULL;
```

```
}
```

```
cout << "Dequeued: " << temp->data << endl;
```

```
delete temp;
```

```
}
```

```
void Display() {
```

```
    if (front == NULL) {
```

```
        cout << "Queue is empty." << endl;
```

```
        return;
```

```
}
```

```
Node* temp = front;
```

```
cout << "Queue contents: ";
```

```
while (temp != NULL) {
```

```
    cout << temp->data << " ";
```

```
    temp = temp->next;
```

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

```
int main() {  
    Queue q;  
  
    q.Enqueue(1);  
    q.Enqueue(2);  
    q.Enqueue(3);  
  
    q.Display();  
  
    q.Dequeue();  
    q.Dequeue();  
  
    q.Display();  
  
    q.Dequeue();
```

return 0;

}

The screenshot displays the Programiz Online C++ Compiler web application. The browser's address bar shows the URL `programiz.com/cpp-programming/online-compiler/`. The page header includes the Programiz logo, a banner for "Premium Coding Courses by Programiz", and a "Programiz PRO" button. The main workspace is divided into two panes. The left pane, titled "main.cpp", contains the following C++ code:

```
69 Queue q;
70
71 q.Enqueue(1);
72 q.Enqueue(2);
73 q.Enqueue(3);
74
75 q.Display();
76
77
78 q.Dequeue();
79 q.Dequeue();
80
81 q.Display();
82
83 q.Dequeue();
84
85 return 0;
86 }
87
```

The right pane, titled "Output", shows the execution results:

```
/tmp/MU4abqLM7a.o
1 enqueued to queue.
2 enqueued to queue.
3 enqueued to queue.
Queue contents: 1 2 3
Dequeued: 1
Dequeued: 2
Queue contents: 3
Dequeued: 3

=== Code Execution Successful ===
```

The bottom of the image shows a Windows taskbar with various application icons and a system clock indicating 8:21 PM on 10/23/2024.