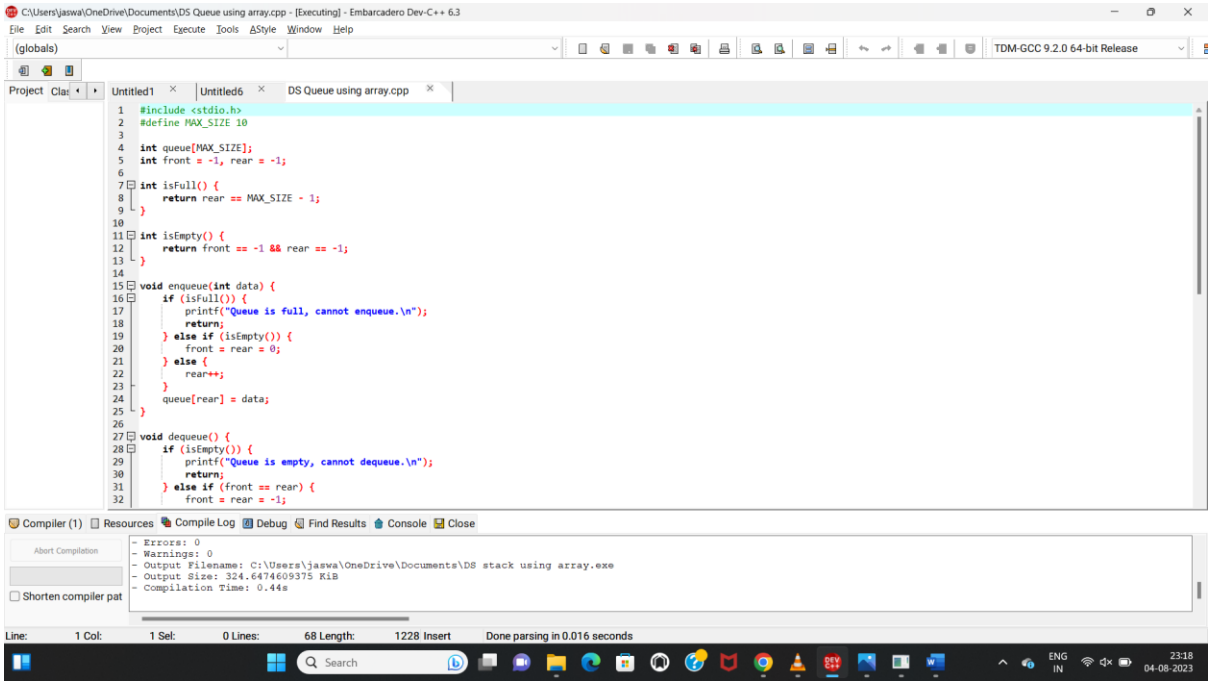
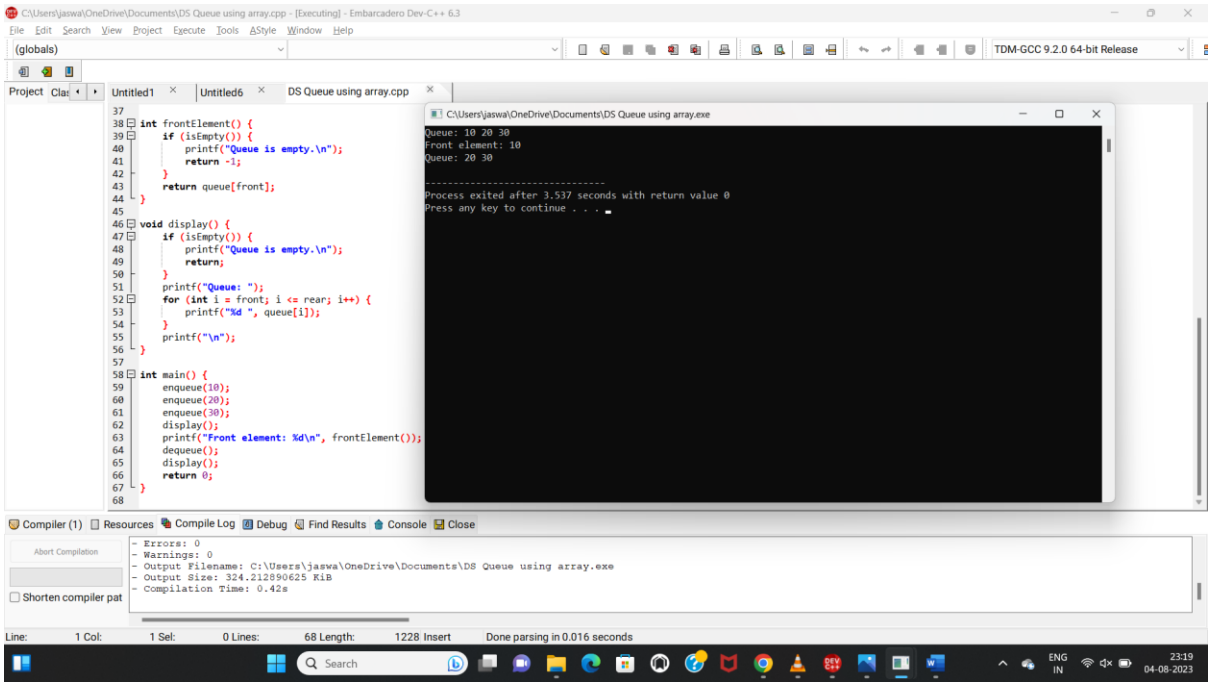
DS QUEUE USING ARRAY



```
#include <stdio.h>
#define MAX_SIZE 10

int queue[MAX_SIZE];
int front = -1, rear = -1;

int isFull() {
    return rear == MAX_SIZE - 1;
}

int isEmpty() {
    return front == -1 && rear == -1;
}

void enqueue(int data) {
    if (isFull()) {
        printf("Queue is full, cannot enqueue.\n");
        return;
    } else if (isEmpty()) {
        front = rear = 0;
    } else {
        rear++;
    }
    queue[rear] = data;
}

void dequeue() {
    if (isEmpty()) {
        printf("Queue is empty, cannot dequeue.\n");
        return;
    } else if (front == rear) {
        front = rear = -1;
```

```
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\jaswa\OneDrive\Documents\DS stack using array.exe
- Output Size: 324.6474609375 KiB
- Compilation Time: 0.44s
```



```
int frontElement() {
    if (isEmpty()) {
        printf("Queue is empty.\n");
        return -1;
    }
    return queue[front];
}

void display() {
    if (isEmpty()) {
        printf("Queue is empty.\n");
        return;
    }
    printf("Queue: ");
    for (int i = front; i <= rear; i++) {
        printf("%d ", queue[i]);
    }
    printf("\n");
}

int main() {
    enqueue(10);
    enqueue(20);
    enqueue(30);
    display();
    printf("Front element: %d\n", frontElement());
    dequeue();
    display();
    return 0;
}
```

```
C:\Users\jaswa\OneDrive\Documents\DS Queue using array.exe
Queue: 10 20 30
Front element: 10
Queue: 20 30

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Process exited after 3.537 seconds with return value 0
Press any key to continue . . .
```

```
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\jaswa\OneDrive\Documents\DS Queue using array.exe
- Output Size: 324.212890625 KiB
- Compilation Time: 0.42s
```