13.Write a C program to implement Queue operations such as ENQUEUE, DEQUEUE and Display

```
#include <stdio.h>
#define SIZE 5
int queue[SIZE];
int front = -1, rear = -1;
void enqueue(int value) {
   if (rear == SIZE - 1) {
      printf("\nQueue is Full (Overflow)\n");
   } else {
      if (front == -1) front = 0;
      queue[++rear] = value;
      printf("\nInserted %d into queue\n", value);
   }
}

void dequeue() {
   if (front == -1 || front > rear) {
      printf("\nQueue is Empty (Underflow)\n");
   } else {
      printf("\nDeleted %d from queue\n", queue[front]);
      front++;
   }
}
void display() {
   if (front == -1 || front > rear) {
      printf("\nQueue is Empty\n");
   } else {
      printf("\nQueue elements are: ");
      for (int i = front; i <= rear; i++) {
         printf("%d ", queue[i]);
```

```
        }
        printf("\n");
    }
}
int main() {
    int choice, value;
    while (1) {
        printf("\n---- Queue Menu ----");
        printf("\n1. ENQUEUE");
        printf("\n2. DEQUEUE");
        printf("\n3. DISPLAY");
        printf("\n4. EXIT");
        printf("\nEnter your choice: ");
        scanf("%d", &choice);
        switch (choice) {
        case 1:
            printf("Enter value to insert: ");
            scanf("%d", &value);
            enqueue(value);
            break;
        case 2:
            dequeue();
            break;
        case 3:
            display();
            break;
        case 4:
            return 0;
        default:
            printf("\nInvalid Choice!\n");
        }
```

```
    }
    return 0;
}
```

main.c

```c
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#define SIZE 5
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void enqueue(int value) {
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void dequeue() {
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    }
}
void display() {
    if (front == -1 || front > rear) {
        printf("\nQueue is Empty\n");
    } else {
        printf("\nQueue elements are: ");
        for (int i = front; i <= rear; i++) {
            printf("%d ", queue[i]);
```

Output

```
---- Queue Menu ----
1. ENQUEUE
2. DEQUEUE
3. DISPLAY
4. EXIT
Enter your choice: 1
Enter value to insert: 23

Inserted 23 into queue

---- Queue Menu ----
1. ENQUEUE
2. DEQUEUE
3. DISPLAY
4. EXIT
Enter your choice: 3

Queue elements are: 23

---- Queue Menu ----
1. ENQUEUE
2. DEQUEUE
3. DISPLAY
4. EXIT
Enter your choice:
```