```
#include <stdio.h>
#include <stdlib.h>
#define SIZE N

int queue[N];
int front = -1;
int rear = -1;

void enqueue(int x)
{
    if ((rear + 1) % N == front)
        printf("Queue is full");
    else if (front == -1 && rear == -1)
    {
        front = rear = 0;
        queue[rear] = x
    }
    else
    {
        rear = (rear + 1) % N;
        queue[rear] = x;
    }
}

void dequeue()
{
    if (front == -1 && rear == -1)
        printf("Queue is empty")
    else if (front == rear)
        front = rear = -1;
    else
```

```
    }
        printf("%d", queue[front]);
        front = ((front + 1) % N);
    }
}

void display()
{
    if (front == -1 && rear == -1)
        printf("Queue is empty");
    else if (front == rear)
    {
        int i;
        while (i != rear)
        {
            printf("%d", queue[i]);
            i = (i+1) % N;
        }
        printf("%d", queue[rear]);
    }
}

void peek()
{
    printf("%d", queue[front]);
}

void main()
{
    int ch;
    int x;
```

```
do
{
    printf("Enter your choice");
    scanf("%d", &choice);
    printf("Press 1: Enqueue  2: Dequeue  3: Peek  4: Display");
    switch(ch)
    {
        case 1: printf("Enter n");
                scanf("%d", &n);
                enqueue(n)
                break;

        case 2: dequeue()
                break;

        case 3: peek()
                break;

        case 4: display()
                break;

        default: printf("Invalid choice");
    }
} while(ch!=0)
}
```

→ Output

Press 1: Enqueue 2: Dequeue 3: Peek 4: Display
Enter your choice: 1
Enter the x: 23

Press 1: Enqueue 2: Dequeue 3: Peek 4: Display
Enter your choice: 1
Enter x: 45

Press 1: Enqueue 2: Dequeue 3: Peek 4: Display
Enter your choice: 1
Enter x: 23

Press 1: Enqueue 2: Dequeue 3: Peek 4: Display
Enter your choice: 2

Press 1: Enqueue 2: Dequeue 3: Peek 4: Display
Enter your choice: 4

45, 23

Sol
18/1/24