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Roll No: 06

```
#include <stdio.h>
```

```
#define max 6
```

```
int queue[max];
```

```
int front = -1;
```

```
int rear = -1;
```

```
void enqueue(int element)
```

```
{
```

```
    if (front == -1 && rear == -1)
```

```
    {
```

```
        front = 0;
```

```
        rear = 0;
```

```
        queue[rear] = element;
```

```
    }
```

```
    else if ((rear + 1) % max == front)
```

```
    {
```

```
        printf("Queue is overflow..");
```

```
    }
```

```
    else
```

```
    {
```

```
        rear = (rear + 1) % max;
```

```
        queue[rear] = element;
```

```

    }
}

int dequeue()
{
    if ((front == -1) && (rear == -1))
    {
        printf("\nQueue is underflow..");
    }
    else if (front == rear)
    {
        printf("\nThe dequeued element is %d", queue[front]);
        front = -1;
        rear = -1;
    }
    else
    {
        printf("\nThe dequeued element is %d", queue[front]);
        front = (front + 1) % max;
    }
}

void display()
{

```

```

int i = front;

if (front == -1 && rear == -1)
{
    printf("\n Queue is empty..");
}

else
{
    printf("\nElements in a Queue are :");
    while (i <= rear)
    {
        printf("%d\t", queue[i]);
        i = (i + 1) % max;
    }
}
}

int main()
{
    int choice = 1, x;
    while (choice < 4 && choice != 0)
    {
        printf("\n\nPress 1: Insert an element");
        printf("\nPress 2: Delete an element");
        printf("\nPress 3: Display the element");
        printf("\n\nEnter your choice: ");
    }
}

```

```
scanf("%d", &choice);

switch (choice)
{
case 1:

    printf("Enter the element which is to be inserted: ");

    scanf("%d", &x);

    enqueue(x);

    break;

case 2:

    dequeue();

    break;

case 3:

    display();

}

}

return 0;

}
```

Press 1: Insert an element
Press 2: Delete an element
Press 3: Display the element

Enter your choice: 1
Enter the element which is to be inserted: 23

Press 1: Insert an element
Press 2: Delete an element
Press 3: Display the element

Enter your choice: 1
Enter the element which is to be inserted: 41

Press 1: Insert an element
Press 2: Delete an element
Press 3: Display the element

Enter your choice: 3

Elements in a Queue are :23 41

Press 1: Insert an element
Press 2: Delete an element
Press 3: Display the element

Enter your choice: 2

The dequeued element is 23

Press 1: Insert an element
Press 2: Delete an element
Press 3: Display the element

Enter your choice: 3

Elements in a Queue are :41