Lab Program - 3

```
#include <stdio.h>
#include <stdlib.h>
#define N 5

int queue[N];

void enqueue(int value, int *front, int *rear)
{
    if(*rear == N-1)
        printf("\nQueue is full!");
    else {
        if(*front == -1)
            *front = 0;
        (*rear)++;
        queue[*rear] = value;
        printf("Element have been INSERTED");
    }
}

void dequeue(int *front, int *rear)
{
    if(*rear == *front && *front == -1)
        printf("Queue is Empty\n");
    else if(*front == *rear)
    {
        printf("Deleted Element is: %d", queue[*front]);
        *front = *rear + 1;
    }
    else {
        printf("Deleted Element is: %d",
                                queue[*front]);
        *front += 1;
    }
}
```

```
void display(int *front, int *rear)
{
  if (*rear == -1)
    printf("Queue is Empty\n");
  else {
    int i;
    printf("Queue Elements are:\n");
    for (i=*front; i<=*rear; i++)
      printf("%d\t", queue[i]);
  }
}

int main()
{
  int value, choice;
  int front = -1, rear = -1;
  while(1)
  {
    printf("\n\t MENU");
    printf("1. INSERT element to queue\n");
    printf("2. DELETE element from queue\n");
    printf("3. DISPLAY the queue\n");
    printf("4. EXIT\n");
    printf("Enter your choice correctly:\n");
    scanf("%d", &choice);
    switch(choice)
    {
      case 1: printf("Enter the value to insert:");
              scanf("%d", &value);
              enqueue(value, &front, &rear);
              break;
      case 2: dequeue(&front, &rear);
              break;
      case 3: display(&front, &rear);
              break;
```

```
        case 4: exit(0);
        default: printf("INCORRECT choice\n");
    }
}
return 0;
}
```