```
Start here
         X Linear queue.c X Circular queue.c X
    1
          #include<stdio.h>
    2
          #include<comio.h>
    3
          #include<stdlib.h>
    4
          #define size 2
    5
          int Queue[size], front=-1, rear=-1;
    6
          void insert();
    7
          void delete();
    8
          void display();
    9
          void main()
        -1
   10
         int choice;
   11
        while(1){
   12
          printf("1.INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT\n");
   13
         printf("Enter your choice\n");
   14
   15
          scanf("%d", &choice);
   16
         switch (choice)
        ⊟1
   17
   18
          case 1: insert();
   19
           break;
   20
          case 2: delete();
   21
           break;
   22
          case 3: display();
   23
                  break;
          case 4: exit(0);
   24
   25
                   break;
   26
           default: printf("Invalid choice");
   27
          - }
   28
          - }
   29
          getch();
   30
   31
          void insert()
   32
        [ int item;
   33
          if (rear == size-1)
   34
         printf("Queue is full\n");
   35
   36
          else
   37
         printf("Enter the element to be inserted:");
   38
   39
          scanf("%d", &item);
   40
         if((front==-1) && (rear==-1))
   41
   42
          front=0;
   43
          rear=0;
   44
          Queue[rear]=item;
   45
            }
   46
          else
        -1
   47
   48
          rear++;
   49
          Queue[rear]=item;
   50
```

```
Start here
        X Linear queue.c X Circular queue.c
        else
   36
        - {
   37
   38
          printf ("Enter the element to be inserted:");
          scanf("%d",&item);
   39
         if((front==-1) && (rear==-1))
   40
   41
   42
          front=0;
   43
          rear=0;
   44
          Queue[rear]=item;
   45
   46
         else
        - {
   47
   48
         rear++;
   49
          Queue[rear]=item;
   50
         -}
   51
         - }
         LI
   52
   53
         void delete()
   54
        [ int del;
   55
          if((front==-1) && (rear==-1))
   56
   57
          printf("Queue is empty\n");
   58
         int printf(const char*, ...)
   59
   60
          del=Queue[front];
          printf("The deleted element is: %d\n",del);
   61
         if(front==rear)
   62
   63
          front=-1;
   64
   65
          rear=-1;
   66
             }
   67
          else
   68
          front++;
   69
         -}
         L.
   70
   71
         void display()
   72
   73
        -{ int i;
   74
          if((front==-1) && (rear==-1))
   75
          printf("Queue is empty\n");
   76
          else
          printf ("The Queue elements are:\n");
   77
   78
          for (i=front; i<=rear; i++)
   79
   80
         printf("%d\n",Queue[i]);
         -}
   81
   82
         LI
   83
   84
   85
```

## "C:\Users\bmsce\Desktop\1BM21CS253\Linear queue.exe"

```
Enter the element to be inserted:20
1.INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT
Enter your choice
Queue is full

    INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT

Enter your choice
The Queue elements are:
10
20

    INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT

Enter your choice
The deleted element is: 10

    INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT

Enter your choice
The deleted element is: 20
1.INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT
Enter your choice
Invalid choice1.INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT
Enter your choice
Process returned 0 (0x0)
                           execution time : 73.792 s
Press any key to continue.
```

```
X Linear queue.c X *Circular queue.c X
Start here
         #include<stdio.h>
    2
          #include<comio.h>
    3
         #include<stdlib.h>
    4
         #define size 2
    5
         int Queue[size], front=-1, rear=-1;
    6
        void insert();
    7
        void delete();
         void display();
   8
   9
         void main()
  10
        □ (
  11
        int choice;
        while(1){
  12
         printf("1.INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT\n");
  13
         printf("Enter your choice\n");
   14
  15
         scanf("%d", &choice);
  16
        switch (choice)
  17
        case 1: insert();
  18
   19
           break;
   20
         case 2: delete();
   21
          break;
         case 3: display();
  22
  23
                   break;
   24
         case 4: exit(0);
   25
                   break;
  26
          default: printf("Invalid choice");
  27
  28
   29
         getch();
   30
  31
   32
        void insert()
        [ int item;
  33
         if((front==0) && (rear==size-1) || (front==rear+1))
   34
         printf("Queue is full\n");
   35
         else
  36
        =(
  37
         printf("Enter the element to be inserted:");
  38
   39
          scanf ("%d", &item);
   40
         if((front==-1) && (rear==-1))
        41
   42
         front=0;
   43
         rear=0;
         Queue[rear]=item;
   44
   45
   46
         else
   47
   48
         rear=(rear+1)%size;
   49
          Queue[rear]=item;
```

```
X Linear queue.c X *Circular queue.c X
Start here
   47
        - (
   48
          rear=(rear+1)%size;
   49
          Queue[rear]=item;
   50
         -}
   51
         -}
         L
   52
   53
          void delete()
   54
   55
        -{ int del;
   56
          if((front==-1) && (rear==-1))
   57
          printf("Queue is empty\n");
   58
         else
   59
        - {
   60
          del=Queue[front];
   61
          printf ("The deleted element is: %d\n", del);
         if(front==rear)
   62
   63
         - {
   64
          front=-1;
   65
          rear =-1;
   66
              }
   67
          front=(front+1) %size;
   68
   69
          - }
         Li
   70
   71
         void display()
   72
        -{ int i;
   73
          if((front==-1) && (rear==-1))
   74
   75
          printf("Queue is empty\n");
   76
          else
   77
          printf("The Queue elements are:\n");
   78
          if (front <= rear)
   79
         for(i=front; i<=rear; i++)
        - {
   80
         printf("%d\n",Queue[i]);
   81
         - }
   82
   83
         else
   84
         for(i=front; i<=(size-1); i++)
   85
   86
        - {
   87
          printf("%d\n",Queue[i]);
   88
         -1
         for(i=0; i<=rear; i++)
   89
   90
   91
          printf("%d\n",Queue[i]);
   92
         - }
   93
         - }
   94
   95
          }
   96
```

## "C:\Users\bmsce\Desktop\1BM21CS253\Circular queue.exe"

```
1.INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT
Enter your choice
Enter the element to be inserted:10
1.INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT
Enter your choice
Enter the element to be inserted:20
1.INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT
Enter your choice
Queue is full
1.INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT
Enter your choice
The deleted element is: 10

    I.INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT

Enter your choice
Enter the element to be inserted:30

    INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT

Enter your choice
The Queue elements are:
20
30

    INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT

Enter your choice
Invalid choice1.INSERT, 2.DELETE, 3.DISPLAY, 4.EXIT
Enter your choice
Process returned 0 (0x0)
                           execution time : 30.717 s
Press any key to continue.
```