

DATA STRUCTURE AND PROGRAM DESIGN LAB – 03

3. Design, Develop and Implement a menu driven Program in C for the following operations on QUEUE of Characters (Array Implementation of Queue with maximum size MAX)

- a. Insert an Element on to QUEUE
- b. Delete an Element from QUEUE
- c. Demonstrate Overflow and Underflow situations on QUEUE
- d. Display the status of QUEUE
- e. Exit

Support the program with appropriate functions for each of the above operations.

SAMPLE OUTPUT:

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\prach\OneDrive\Attachments\Desktop\DSPD LAB> gcc Practical-3.c
PS C:\Users\prach\OneDrive\Attachments\Desktop\DSPD LAB> ./a.exe
```

```
--QUEUE OPERATION--
```

```
Choose Operation
```

- 1.Insert
- 2.Delete
- 3.Display
- 4.Exit
- 5.Check Overflow or Underflow

```
1
```

```
Enter Value to Insert
```

```
54
```

```
54 is Inserted
```

```
Queue is:
```

```
54
```

```
--QUEUE OPERATION--
```

```
Choose Operation
```

- 1.Insert
- 2.Delete
- 3.Display
- 4.Exit
- 5.Check Overflow or Underflow

```
1
```

```
Enter Value to Insert
```

```
85
```

```
85 is Inserted
```

```
Queue is:
```

```
54
```

```
85
```

```
--QUEUE OPERATION--
```

```
Choose Operation
```

- 1.Insert
- 2.Delete

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
Queue is:  
54  
85  
  
---QUEUE OPERATION---  
Choose Operation  
1.Insert  
2.Delete  
3.Display  
4.Exit  
5.Check Overflow or Underflow  
2  
54 is Deleted From QUEUE  
Queue is:  
85  
  
---QUEUE OPERATION---  
Choose Operation  
1.Insert  
2.Delete  
3.Display  
4.Exit  
5.Check Overflow or Underflow  
85  
  
---QUEUE OPERATION---  
Choose Operation  
1.Insert  
2.Delete  
3.Display  
4.Exit  
5.Check Overflow or Underflow  
3  
Queue is:  
85
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Queue is:

35

--QUEUE OPERATION---

choose Operation

- 1.Insert
- 2.Delete
- 3.Display
- 4.Exit
- 5.Check Overflow or Underflow

35

--QUEUE OPERATION---

choose Operation

- 1.Insert
- 2.Delete
- 3.Display
- 4.Exit
- 5.Check Overflow or Underflow

1

Enter Value to Insert

95

95 is Inserted

Queue is:

35

95

--QUEUE OPERATION---

choose Operation

- 1.Insert
- 2.Delete
- 3.Display
- 4.Exit
- 5.Check Overflow or Underflow

5

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
1.Insert  
2.Delete  
3.Display  
4.Exit  
5.Check Overflow or Underflow
```

1

Enter Value to Insert

95

95 is Inserted

Queue is:

85

95

---QUEUE OPERATION---

Choose Operation

```
1.Insert  
2.Delete  
3.Display  
4.Exit  
5.Check Overflow or Underflow
```

5

Have Space with:

front:-1

rear:-2

---QUEUE OPERATION---

Choose Operation

```
1.Insert  
2.Delete  
3.Display  
4.Exit  
5.Check Overflow or Underflow
```

4

PS C:\Users\prach\OneDrive\Attachments\Desktop\DSPD LAB> █