

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> |
```