

Q) WAP implementing insert, delete and display operation of circular queue.

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

```
#define MAX 5
```

```
int queue_arr[MAX];
```

```
int front = 0;
```

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

```
int count = 0;
```

```
int insert(int item)
```

```
{
```

```
    if (count == MAX)
```

```
    {
```

```
        printf("Queue Overflow !!\n");
```

```
        return;
```

```
    }
```

```
    else
```

```
    {
```

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

```
        queue_arr[rear] = item;
```

```
        count = count + 1;
```

```
        return;
```

```
    }
```

```
}
```

October 2017						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

27

Wednesday

270-95

Dashain Festival (Phulpati/Fulpaati) (Nepal)

September

Week-39

```

void deletion()
{
    if (count == 0)
    {
        printf("Queue Underflow !!\n");
        return;
    }
    else
    {
        printf("Element deleted from queue is:
        %d\n", queue_arr[front]);

        front = (front + 1) % MAX;
        count = count - 1;
    }
}

```

```

void display()
{
    int i, j;
    if (count == 0)
    {
        printf("Circular Queue
        is empty\n");
    }
}

```

September 2017

S M T W T F S

1 2

3 4 5 6 7 8 9

10 11 12 13 14 15 16

17 18 19 20 21 22 23

24 25 26 27 28 29 30

else

```

8  ("Enter the element to be inserted") printf
printf ("Elements in the circular queue are:\n");
9  j = front;
for (i = 0; i < count; i++)
10 {
    printf ("%d\t", queue_arr[j]);
11    j = (j + 1) % MAX;
}
12 }

```

```

1  int main()
    {
2      int choice, item;
      printf ("**** CIRCULAR QUEUE ****\n");
3      do {
          printf ("\n1. Insertion\n");
          printf ("2. Deletion\n");
          printf ("3. Display\n");
          printf ("4. Quit\n");
          printf ("Enter your choice:");
6          switch (choice)
          {
              case 1:

```

October 2017

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```

8 printf("Enter the element for insertion.");
9 scanf("%d", &item);
10 insert(item);
11 break;

```

Case 2:

```

11 deletion();
12 break;

```

Case 3:

```

1 display();
2 break;

```

Case 4:

```

3 break;

```

default:

```

4 printf("Wrong choice\n");

```

```

5 }

```

```

6 while(choice != 4);

```

```

7 return 0;

```

```

8 }

```