

Question:

Write a program in C to write insertion, deletion and peek in Queue

Source Code:

```
#include<stdio.h>
#define MAXSIZE 5
int f = -1;
int r = -1;

void QPush(int queue[])
{
    int data;
    if( f == -1)
    {
        printf("Enter the Element\n");
        scanf("%d",&data);
        queue[++r] = data;
        ++f;
    }
    else if(r == MAXSIZE-1)
    {
        printf("OverFlow\n");
    }
    else
    {
        printf("Enter the Element\n");
        scanf("%d",&data);
        queue[++r] = data;
    }
}

int QPop(int queue[])
{
    if(f == -1)
    {
        printf("Queue is Empty\n");
        return -1;
    }
    int item = queue[f];
    if( f == r)
    {
        f == r == -1;
```

```

        return item;
    }
    else
        return queue[f++];
}

void QPeek(int queue[])
{
    if(f == -1)
        printf("Queue is Empty\n");
    else
    {
        for(int i = f; i<=r; i++)
        {
            printf("%d\t",queue[i]);
        }
        printf("\n");
    }
}

void main()
{
    int queue[MAXSIZE];
    int ch,item1;
    do
    {
        printf("\n");
        printf("1. Push Operation in Queue\n");
        printf("2. Pop Operation in Queue\n");
        printf("3. Peek Operation in Queue\n");
        printf("4. Exit\n");
        printf("Enter Your Choice\n");
        scanf("%d",&ch);
        switch(ch)

        {
            case 1:
                QPush(queue);
                break;
            case 2:
                item1 = QPop(queue);
                printf("The Element that was popped out: %d\n",item1);
                break;
            case 3:

```

```

        QPeek(queue);
        break;
    case 4:
        printf("Exiting from the code.....\n");
        break;
    default:
        printf("Wrong Choice\n");
        break;
    }
}while(ch != 4);
}

```

Output:

```

1. Push Operation in Queue
2. Pop Operation in Queue
3. Peek Operation in Queue
4. Exit
Enter Your Choice
3
Queue is Empty

```

```

1. Push Operation in Queue
2. Pop Operation in Queue
3. Peek Operation in Queue
4. Exit
Enter Your Choice
1
Enter the Element
10

```

```

1. Push Operation in Queue
2. Pop Operation in Queue
3. Peek Operation in Queue
4. Exit
Enter Your Choice
1
Enter the Element
20

```

```

1. Push Operation in Queue
2. Pop Operation in Queue
3. Peek Operation in Queue
4. Exit

```

Enter Your Choice

1

Enter the Element

30

1. Push Operation in Queue
2. Pop Operation in Queue
3. Peek Operation in Queue
4. Exit

Enter Your Choice

3

10 20 30

1. Push Operation in Queue
2. Pop Operation in Queue
3. Peek Operation in Queue
4. Exit

Enter Your Choice

2

The Element that was popped out: 10

1. Push Operation in Queue
2. Pop Operation in Queue
3. Peek Operation in Queue
4. Exit

Enter Your Choice

3

20 30

1. Push Operation in Queue
2. Pop Operation in Queue
3. Peek Operation in Queue
4. Exit

Enter Your Choice

4

Exiting from the code.....