

LAB-3-Program

```
1) #include <stdio.h>
#include <stdlib.h>
#define Q_SIZE 3
int item, front = 0, rear = -1, q[5];
Void insert()
{
    if (rear == Q_SIZE - 1)
    {
        printf("Queue overflow\n");
        printf("Contents of queue are:\n");
        for (int i = front; i <= rear; i++)
        {
            printf("%d\n", q[i]);
        }
        return;
    }
    rear = rear + 1;
    q[rear] = item;
}

int delete()
{
    if (front > rear)
    {
        front = 0;
        rear = -1;
        return -1;
    }
    return q[front++];
}
```

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```
void display()
```

```
{  
    int i;  
    if (front > rear)
```

```
{  
        printf("queue is empty");  
        return;  
    }
```

```
    printf("Contents of queue are : \n");  
    for (i = front; i <= rear; i++)
```

```
{  
        printf("%d \n", q[i]);  
    }
```

```
}  
void main()
```

```
{  
    int choice;  
    for(;;)
```

```
{  
        printf("\n 1. insert rear \n");  
        printf(" 2. Delete front \n");  
        printf(" 3. display \n");  
        printf(" 4. Exit \n");
```

```
        printf("\n Enter your choice : ");
```

```
        scanf("%d", &choice);
```

```
        switch(choice)
```

```
{  
    case 1 : printf("Enter item to be inserted : \n");  
             scanf("%d", &item);  
             insert();  
             break;
```

```
Case 2: item = delete();  
if (item == -1)  
    printf("queue is empty");  
else  
    printf("item deleted is %d \n", item);  
    break;
```

```
Case 3: display();  
break;  
default: exit(0);
```

```
}  
}  
}
```