Queue using an Array

```
#include <stdio.h>
#define MAX 50
int queue_array[MAX];
int rear = - 1;

int front = - 1;

main()

{
   int choice;

   while (1)

   {
      printf("1.Insert element to queue \n");
      printf("2.Delete element from queue \n");
     printf("3.Display all elements of queue \n");
      printf("4.Quit \n");
      printf("Enter your choice : ");
      scanf("%d", &choice);
      switch (choice)
      {
         case 1:
         insert();
         break;

         case 2:
         delete();
         break;

         case 3:
         display();
         break;

         case 4:
         exit(1);

         default:
         printf("Wrong choice \n");

      } /*End of switch*/
```

```
    } /*End of while*/

} /*End of main()*/

insert()

{
    int add_item;
    if (rear == MAX - 1)
    printf("Queue Overflow \n");
    else
    {
        if (front == - 1)
        /*If queue is initially empty */
        front = 0;
        printf("Inset the element in queue : ");
        scanf("%d", &add_item);
        rear = rear + 1;
        queue_array[rear] = add_item;
    }

} /*End of insert()*/



delete()
{
    if (front == - 1 || front > rear)
    {
        printf("Queue Underflow \n");
        return ;
    }

    else
    {
        printf("Element deleted from queue is : %d\n", queue_array[front]);
        front = front + 1;
    }
} /*End of delete() */

display()
{
    int i;
    if (front == - 1)
        printf("Queue is empty \n");
```

```
    else
    {
        printf("Queue is : \n");
        for (i = front; i <= rear; i++)
            printf("%d ", queue_array[i]);
        printf("\n");
    }
} /*End of display() */
```