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\\183215

\\Queue implementation using Arrays

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

```
#include <stdlib.h>
```

```
#define MAX 5
```

```
void insert(void);
```

```
void delete(void);
```

```
void display(void);
```

```
int queue_array[MAX];
```

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

```
int front = - 1;
```

```
int main()
```

```
{
```

```
    int choice;
```

```
    printf("Queue using Arrays: MAX SIZE-5\n");
```

```
    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() */

```

```

void 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() */

```

```

void delete()
{
    if (front == -1)
    {
        printf("Queue Underflow \n");
    }
    else
    {
        printf("Element deleted from queue is : %d\n", queue_array[front]);
    }
}

```

```
if(rear == front){  
front = -1;  
rear = -1;  
}else{  
front = front+1;}  
} /* End of delete() */
```

```
void display()  
{  
    int i;  
    if (front == - 1 && rear == -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() */
```