SOURCE CODE: QUEUE USING ARRAY:

```
#include<stdio.h>
#include<conio.h>
#define size 3
int front=-1,rear=-1;
void insert(int queue[],int val);
void delete(int queue[]);
void display(int queue[]);
int peak(int queue[]);
void main()
{
	int queue[size],value,ch,i;
	clrscr();
	do
	{
		printf("\n**********Main Menu**********\n");
		printf("1-Insert\n2-Delete\n3-Display\n4-
Peak\n**************************************************\n");
		printf("Enter your choice\n");
		scanf("%d",&ch);
		switch(ch)
		{
			case 1:
				printf("Enter the number to be insert to queue\n");
				scanf("%d",&value);
				insert(queue,value);
				break;
			case 2:
				delete(queue);
				break;
			case 3:
```

```
                display(queue);
                break;
            case 4:
                value=peak(queue);
                printf("Value at the rear of queue= %d",value);
                break;
            default:
                printf("Invalid Choice");
        }
    }while(ch<=4&&ch>=1);
    getch();
}
void insert(int queue[],int val)
{
    if(rear==size-1)
    {
        printf("Queue is full\n");
        return;
    }
    else if(front==-1&&rear==-1)
      {
        front=0;
        rear=0;
      }
      else
            rear++;
    queue[rear]=val;
}
void delete(int queue[])
{
    int val;
```

```
	if((front==-1)||(front>rear))
	{
		printf("The queue is empty\n");
	}
	else
	{
		val=queue[front];
		front++;
		printf("Deleted item=%d",val);
	}
}
void display(int queue[])
{
	int i;
	if((front==-1)||(front>rear))
	{
		printf("Queue is empty\n");
		return;
	}
	else
	{
		for(i=front;i<=rear;i++)
		{
			printf("%d\t",queue[i]);
		}
	}
}
int peak(int queue[])
{
	int i;
	if((front==-1)&&(rear==-1))
```

```
        {
                printf("Queue is empty\n");
                return -1;
        }
        else
                return (queue[rear]);
}
```

OUTPUT:

```
**********Main Menu**********
1-Insert
2-Delete
3-Display
4-Peak
**************************************************
Enter your choice
1
Enter the number to be insert to queue
10

**********Main Menu**********
1-Insert
2-Delete
3-Display
4-Peak
**************************************************
Enter your choice
1
Enter the number to be insert to queue
20

**********Main Menu**********
1-Insert
2-Delete
3-Display
4-Peak
**************************************************
Enter your choice
1
Enter the number to be insert to queue
30
```

```
**********Main Menu**********
1-Insert
2-Delete
3-Display
4-Peak
**************************************************
Enter your choice
3
20      30
**********Main Menu**********
1-Insert
2-Delete
3-Display
4-Peak
**************************************************
Enter your choice
4
Value at the rear of queue= 30
**********Main Menu**********
1-Insert
2-Delete
3-Display
4-Peak
**************************************************
Enter your choice
5
Invalid Choice
```