PRACTICAL-5

Write a program to implement QUEUE using arrays that performs the following operations

(a)INSERT (b)DELETE (c)DISPLAY

SOURCE CODE:

```
#include<stdio.h>
#include<conio.h>
#define MAX 10
int queue[MAX];
int front = -1,rear = -1;
void insert(void);
int delete_element(void);
int peek(void);
void display(void);
void main()
{
int option, val;
do
{
printf("\n 1. Insert an element");
printf("\n 2. Delete an element");
printf("\n 3. Peek");
printf("\n 4. Display the queue");
printf("\n 5. EXIT");
printf("\n \n Enter your option: ");
```

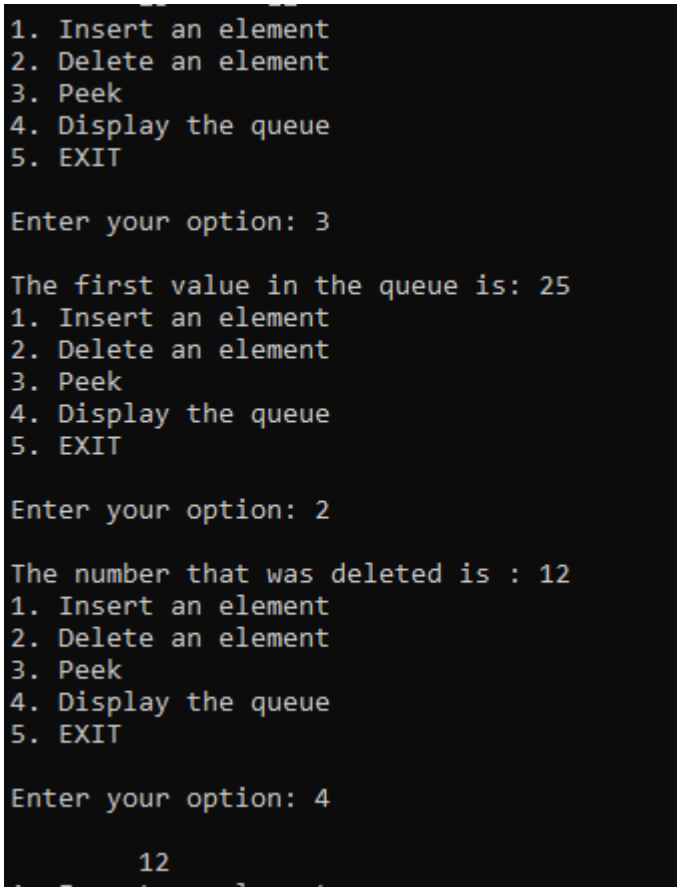
```
scanf("%d",&option);
switch(option)
{
case 1:
_insert();
break;
case 2:
val= delete_element();
printf("\n The number that was deleted is : %d",val);
break;
case 3:
val=peek();
printf("\n The first value in the queue is: %d",val);
break;
case 4:
display();
break;
}
}while(option != 5);
__getch();
__return 0;
}
void insert()
{
int num;
printf(" \n Enter the number to be inserted in the queue : ");
scanf("%d", &num);
```

```
if(rear == MAX-1)
printf("\n OVERFLOW");
if (front == -1 && rear == -1)
front = rear=0;
else
____rear++;
___queue[rear] = num;
}
int delete_element()
{
int val;
if(front == -1 || front>rear)
{

printf("\n UNDERFLOW");
return -1;
}
__else
{

front++;
val = queue[front];
return val;

}
}
int peek()
```

```
{
return queue[front];
}
void display()
{
__int i;
printf("\n");
for(i = front; i<=rear;i++)
printf("\t %d",queue[i]);
}
```

OUTPUT:

```
1. Insert an element
2. Delete an element
3. Peek
4. Display the queue
5. EXIT

Enter your option: 1

Enter the number to be inserted in the queue : 25

1. Insert an element
2. Delete an element
3. Peek
4. Display the queue
5. EXIT

Enter your option: 1

Enter the number to be inserted in the queue : 12

1. Insert an element
2. Delete an element
3. Peek
4. Display the queue
5. EXIT

Enter your option: 4

        25      12
```


1. Insert an element
2. Delete an element
3. Peek
4. Display the queue
5. EXIT
Enter your option: 3
The first value in the queue is: 25
1. Insert an element
2. Delete an element
3. Peek
4. Display the queue
5. EXIT
Enter your option: 2
The number that was deleted is : 12
1. Insert an element
2. Delete an element
3. Peek
4. Display the queue
5. EXIT
Enter your option: 4
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