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HOME

December 05, 2021

IMPLEMENTATION OF CIRCULAR QUEUE USING ARRAY

```
1. /*
2.  implemaintaction Of Circular Queue
3. */
4. #include<stdio.h>
5. #define N 5
6.
7. int queue[N];
8. int front=-1,rear=-1;
9. //Function Declaractions
10. void Enqueue();
11. void Dequeue();
12. void Peek();
13. void Display();
14.
15. //Driver Program
16. int main(){
17.     int choice;
18.     do{
19.         printf("\n***Circular Queue***\n");
20.         printf("1. Enqueue\n");
21.         printf("2. Dequeue\n");
22.         printf("3. Peek\n");
23.         printf("4. Display\n");
24.         printf("0 To Exit\n");
25.         printf("Enter Choice ");
26.         scanf("%d",&choice);
27.         switch(choice){
28.             case 1:
```

```

29.             Enqueue();
30.             break;
31.         case 2:
32.             Dequeue();
33.             break;
34.         case 3:
35.             Peek();
36.             break;
37.         case 4:
38.             Display();
39.             break;
40.         default:
41.             printf("\n!Wrong Choice!\n");
42.     }
43. }while(choice!=0);
44. return 0;
45. }
46.
47. void Enqueue(){
48.     int x;
49.     if(front== -1 && rear== -1){
50.         printf("\nEnter X ");
51.         scanf("%d",&x);
52.         front=rear=0;
53.         queue[rear]=x;
54.     }
55.     else if((rear+1)%N==front){
56.         printf("\nQueue Is Full\n");
57.     }
58.     else{
59.         printf("\nEnter X ");
60.         scanf("%d",&x);
61.         rear=(rear+1)%N;
62.         queue[rear]=x;
63.     }
64. }
65.
66. void Dequeue(){
67.     if(front== -1 && rear== -1){
68.         printf("\nQueue Is Empty\n");
69.     }
70.     else if(front==rear){
71.         front=rear= -1;

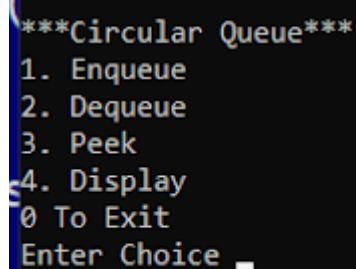
```

```

72.     }
73.     else{
74.         printf("%d",queue[front]);
75.         front=(front+1)%N;
76.     }
77. }
78.
79. void Peek(){
80.     if(front== -1 && rear== -1){
81.         printf("\nQueue Is Empty\n");
82.     }
83.     else{
84.         printf("%d ",queue[front]);
85.     }
86. }
87.
88. void Display(){
89.     int i=front;
90.     if(front== -1 && rear== -1){
91.         printf("\nQueue Is Empty\n");
92.     }
93.     else{
94.         while(i!=rear){
95.             printf("%d ",queue[i]);
96.             i=(i+1)%N;
97.         }
98.         printf("%d",queue[i]);
99.     }
100. }

```

OUTPUT



```

***Circular Queue***
1. Enqueue
2. Dequeue
3. Peek
4. Display
0 To Exit
Enter Choice _

```