circular_queue.c

```c
#include<stdio.h>
#define maxsize 5 //defining max of the queue
int front = -1; //setting front empty
int rear = -1; //setting back empty
int queue[maxsize]; //makng array

//making insert function
void insert (int item){
    if (front == 0 && rear == maxsize - 1 || front == rear + 1)
    {
        printf("The queue is full\n");
    }

    else{
        rear = (rear + 1)%maxsize;
        queue[rear] = item;
        if (front  == -1 )
        {
            front = 0;
        }
    }
}

//making delete function
int delete(){
    if (front == -1 ){
        printf("Queue is empty\n");
        return 0;
    }
    else {
        int item = queue[front];

        if (front == rear){
            front = rear = -1;
        }

        else{
            front = (front + 1) % maxsize;
        }
        return item;
    }
}


//making delete function
void display()
    {
    if (front == -1){
```

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49          printf("Queue if empty\n");
50      }
51
52      /*this condition is for full as well as if front is ahead of rear */
53      else if (front < rear)
54      {
55              for (int i = front; i <= rear; i++)
56              {
57                  printf("The value is : %d\n",queue[i]);
58              }
59      }
60
61      //here if the front is after rear or rear is at a lower positin nhan front then we use two
    loops to break it fom 0 to rear and front to maxsize - 1
62      else {
63          for (int i = front; i < maxsize; i++)
64          {
65              printf("The value is : %d \t\n",queue[i]);
66          }
67
68          for (int i = 0; i <= rear; i++)
69              {
70                  printf("The value is : %d \t\n",queue[i]);
71              }
72      }
73  }
74
75  //main body of the code
76  int main(){
77      int choise,item,loop = 1;
78
79      while (loop)
80      {
81          printf("1. Insert\n2. Delete\n3. Display\n4. Exit\n");
82          printf("Enter your choise : ");
83          scanf("%d",&choise);
84
85          switch (choise)
86          {
87          case 1:
88              printf("ENter Data : \n");
89              scanf("%d",&item);
90              insert(item);
91              break;
92
93          case 2 :
94              item = delete();
95              printf("THe deleted item is %d\n ",item);
96              break;
97
```

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98          case 3 :
99              display();
100             break;
101
102         case 4 :
103             loop = 0;
104             break;
105
106         default:
107             printf("Invalid choise\n");
108             break;
109         }
110     }
111 }
```