CIRCULAR QUEUE USING ARRAY

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    /****    Program to Implement Circular Queue using Array    ****/

#include<stdio.h>

#define SIZE 5

void insert();
void delet();
void display();

int queue[SIZE], rear=-1, front=-1, item;

main()
{
     int ch;
     do
     {
          printf("\n\n1.\tInsert\n2.\tDelete\n3.\tDisplay\n4.\tExit\n");
          printf("\nEnter your choice: ");
          scanf("%d", &ch);

          switch(ch)
          {
               case 1:
                    insert();
                    break;

               case 2:
                    delet();
                    break;

               case 3:
                    display();
                    break;

               case 4:
                    exit(0);

               default:
                    printf("\n\nInvalid choice. Pleasr try again...\n");
          }
     } while(1);
     getch();
}
```

```
void insert()
{
     if((front==0 && rear==SIZE-1) || (front==rear+1))
          printf("\n\nQueue is full.");
     else
     {
          printf("\n\nEnter ITEM: ");
          scanf("%d", &item);

          if(rear == -1)
          {
               rear = 0;
               front = 0;
          }
          else if(rear == SIZE-1)
               rear = 0;
          else
               rear++;

          queue[rear] = item;
          printf("\n\nItem inserted: %d\n", item);
     }
}

void delet()
{
     if(front == -1)
          printf("\n\nQueue is empty.\n");
     else
     {
          item = queue[front];

          if(front == rear)
          {
               front = -1;
               rear = -1;
          }
          else if(front == SIZE-1)
               front = 0;
          else
               front++;

          printf("\n\nITEM deleted: %d", item);
     }
}
```

```
void  display()
{
      int i;

      if((front == -1) || (front==rear+1))
          printf("\n\nQueue is empty.\n");
      else
      {
          printf("\n\n");

          for(i=front; i<=rear; i++)
               printf("\t%d",queue[i]);
      }
}
```