11/1/2024

WEEK-4

```
#include <stdio.h>
#define size 5

void insertq (int [], int);
void deleteq (int []);
void display (int []);

int front =-1;
int rear =-1;

int main()
{
    int n, ch;
    int queue [size];
    do
    {
        printf ("\n\n Circular Queue :\n1. Insert \n2.
              Delete\n 3. Display \n 0. Exit ");
        printf ("\n Enter choice : ");
        scanf ("%d", &ch);
        switch (ch)
        {

          case 1:
            printf ("\n Enter no :");
            scanf ("%d", &n);
    insertq(queue,n);
      break;
    case 2:
      deleteq(queue);
      break;
    case 3:
      display (queue);
      break;
  }
 }while (ch!=0);
}


void insertq (int queue [],int item)
 {
   if ((front==0 && rear==size-1)||(front==rear+1))
   {
     printf ("circular queue is full");
     return;
   }
   else if (rear==-1)
   {
     rear++;
     front++;
   }
 else if (rear==size-1 && front>0)
 {
        rear=0;
      }
      else
      {
        rear++
      }
      queue[rear]=item;
  }
  void display(int queue[])
  {
      int i;
      printf("\n");
      if(front>rear)
      {
        for(i=front;i<size;i++)
         {
            printf("%d",queue[i]);
         }
        for(i=0;i<=rear;i++)
           printf("%d",queue[i]);
      }
      else
      {
        for(i=front;i<=rear;i++)
           printf("%d",queue[i]);
      }
}
```

```
void deleteq (int queue[])
{
   if (front ==-1)
    {
      printf ("Circular Queue is empty");
    }
   else if (front== rear)
   {
     printf("\n %d deleted",queue[front]);
     front =-1;
     rear =-1;
   }
   else
   {
     printf ("\n %d deleted", queue [front]);
       front ++;
   }
}
```

Output :-

```
Circular Queue:
        1. Insert
        2. Delete
        3. Display

     Enter ur choice: 1
     Enter no: 27
Enter choice : 1
Enter no : 37

Enter choice : 3
27 37

Enter choice : ~~4~~ 2
27 deleted

Enter choice : 1
Circular Queue is full
```

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