**CIRCULAR QUEUE**

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#include<stdio.h>

void enqueue(int );

void display();

void dequeue();

# define N 5

int queue[N];

int front=-1;

int rear=-1;

void main()

{int choice;

int num;

int x;

do

{printf("enter the operation press: 1.enqueue 2.dequeue 3.display=\n");

scanf("%d",&choice);

switch (choice)

{

case 1 :

printf("enter the value u want to insert=\n");

scanf("%d",&x);

enqueue(x);

break;

case 2 :dequeue();

break;

case 3:display();

break;

default:

printf("enter valid number\n");

break;

}

printf("want to continue press 1 otherwise 0\n");

scanf("%d",&num);}

while(num);

}

void enqueue(int x){

if (front==-1 && rear==-1)

{

front=rear=0;

queue[rear]=x;

printf("enqueued value is=%d\n",x);

}

else if ((rear+1)%N==front)

{

printf("queue is full..!!\n");

}

else{

rear=(rear+1)%N;

queue[rear]=x;

printf("enqueued value is=%d\n",x);

}

}

void dequeue(){

if (front==-1 && rear==-1)

{

printf("queue is empty..!!");

}

else if (front==rear)

{printf("the dequeued element is= %d",queue[front]);

front=rear=-1;

}

else{

printf("the dequeued element is= %d",queue[front]);

front=(front+1)%N;

}

}

void display(){

if (front==-1 && rear==-1)

{

printf("queue is empty...!!\n");

}

else{

int i=front;

while (i!=rear)

{

printf("%dth element of queue is=%d\n",i,queue[i]);

i=(i+1)%N;

}

printf("%dth element of queue is=%d\n",rear,queue[rear]);

    }

}