Week-03

Implementation of circular Queue

#include<stdio.h>

#include<conio.h>

#define size 3

int Queue[size],front=-1,rear=-1,item;

void insert();

void delete();

void display();

void main()

{

int ch;

while(1)

{

printf("1:Insert\n2:Delete\n3:Display\n4.Exit\n");

printf("Enter your choice:");

scanf("%d",&ch);

switch(ch)

{

case 1: insert();

break;

case 2: delete();

break;

case 3: display();

break;

case 4: exit(0);

break;

default: printf("WRONG CHOICE\n");

}

getch();

}

}

void insert()

{

if(((front==0)&&(rear==size-1))||(front==rear+1))

{

printf("Queue is full\n");

}

else

{

printf("Enter an element:");

scanf("%d",&item);

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

{

front=0;

rear=0;

}

else

{

rear=(rear+1)%size;

}

Queue[rear]=item;

}

return;

}

void delete()

{

int del;

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

{

printf("Queue is empty\n");

}

else

{

del=Queue[front];

printf("deleted element is %d\n",del);

if(front==rear)

{

front=-1;

rear=-1;

}

else

{

front=(front+1)%size;

}

}

return;

}

void display()

{

int i;

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

{

printf("Queue is empty\n");

}

else

{

if(front<=rear)

{

for(i=front;i<=rear;i++)

printf("%d\n",Queue[i]);

}

else

{

for(i=front;i<=size-1;i++)

{

printf("%d\n",Queue[i]);

}

for(i=0;i<=rear;i++)

{

printf("%d\n",Queue[i]);

}

}

}

return;

}

OUTPUT:

1:Insert

2:Delete

3:Display

4.Exit

Enter your choice:1

Enter an element:2

1:Insert

2:Delete

3:Display

4.Exit

Enter your choice:1

Enter an element:3

1:Insert

2:Delete

3:Display

4.Exit

Enter your choice:1

Enter an element:4

1:Insert

2:Delete

3:Display

4.Exit

Enter your choice:2

deleted element is 2

1:Insert

2:Delete

3:Display

4.Exit

Enter your choice:1

Enter an element:6

1:Insert

2:Delete

3:Display

4.Exit

Enter your choice:3

3

4

6