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--------------------------------------------------------------------------
Assignment Name: Implement Circular Queue for integer
Class: MCA I
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#include<iostream.h>
#include<conio.h>
class queue
{
      int a[5],r,f;
public:

      queue()
      {
            f=r=-1;
      }
      void push();
      void pop();
      void show();
};

void queue::push()
{
      int item;

      if(f==0 &&r==4 || f==r+1)
      {
            cout<<"\n Overflow";
      }
      else
      {
            if(r==4)
            r=-1;
            r++;
            cout<<"\nEnter item :";
            cin>>item;
            a[r]=item;

            if(f==-1)
            {
                  f=0;
            }
      }
}

void queue::pop()
{
      if(f==-1)
      {
            cout<<"\n Underflow";
      }
      else
      {
            cout<<"\nDeleted element is :"<<a[f];
            if(f==r)
            {
                  f=-1;
                  r=-1;
            }
            else
            {
                  if(f==4)
                   f=0;
                  else
```

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                  f++;
            }
      }
}

void queue::show()
{
      if(f==-1)
      {
            cout<<"\nEmpty :";
      }
      else if(f<=r)
      {
            for(int i=f;i<r;i++)
            {
                  cout<<"\n"<<a[i];
            }
      }
      else
      {
            for(int i=f;i<=4;i++)
            {
                  cout<<"\n"<<a[i];
            }
            for(int j=0;j<=r;j++)
            {
                  cout<<"\n"<<a[i];
            }
      }
}
void main()
{
      queue s;
      int ch;
      clrscr();

      do
      {       cout<<"\n 1: Push 2: Pop 3:show 4:exit ";
            cout<<"\nEnter choice";
            cin>>ch;

            switch(ch)
            {
                  case 1: s.push(); break;
                  case 2: s.pop(); break;
                  case 3: s.show(); break;
                  default: cout<<"\n Wrong Choice";
            }
      }while(ch<=3);
}


*/ Output */

1: Push 2: Pop 3:show 4:exit
Enter choice1

 Overflow
 1: Push 2: Pop 3:show 4:exit
Enter choice3

10
20
30
40
```

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50
 1: Push 2: Pop 3:show 4:exit
Enter choice2

Deleted element is :10
 1: Push 2: Pop 3:show 4:exit
Enter choice2

Deleted element is :20
 1: Push 2: Pop 3:show 4:exit
Enter choice3

30
40
50
 1: Push 2: Pop 3:show 4:exit
Enter choice1

Enter item :44

 1: Push 2: Pop 3:show 4:exit
Enter choice1

Enter item :55

 1: Push 2: Pop 3:show 4:exit
Enter choice1

 Overflow
 1: Push 2: Pop 3:show 4:exit
Enter choice3

30
40
50
44
55
 1: Push 2: Pop 3:show 4:exit
Enter choice 4
```