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**TASK 1:**

#include<iostream>

using namespace std;

class c

{

public:

int capacity=4;

int arr[capacity];

int front;

int rear;

};

class queue

{

void isFull()

{

if(rear==capacity-1)

return true;

else

return false;

}

void isEmpty()

{

if(front==rear)

return true;

else

return false;

}

void enqueue(int value)

{

if(isFull())

cout<<"Queue is full."<<endl;

else

arr[++rear]=value;

if(isEmpty())

{

cout<<"Queue is empty."<<endl;

return -1;

}

else

return arr[++front];

}

void dequeue()

{

arr[rear--];

cout<<"front removed."<<endl;

}

void display()

{

if(isEmpty())

{

cout<<"Queue is empty."<<endl;

return;

}

cout<<"Queue Elements:"<<endl;

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

{

cout<<arr[i]<<" ";

}

cout<<endl;

}

};

int main()

{

Queue q;

q.enqueue(10);

q.enqueue(20);

q.enqueue(30);

q.enqueue(40);

q.enqueue(50);

q.display();

q.dequeue();

display();

q.dequeue();

display();

return 0;

}

**TASK 2:**

#include <iostream>

using namespace std;

struct Node

{

int data;

Node\* next;

};

class Queue

{

private:

Node\* front;

Node\* rear;

public:

Queue()

{

front=nullptr;

rear=nullptr;

}

bool isEmpty()

{

return front==nullptr;

}

void enqueue(int value)

{

Node \*newNode=new Node();

newNode->data=value;

newNode->next=nullptr;

if(isEmpty())

{

front=rear=newNode;

}

else

{

rear->next=newNode;

rear = newNode;

}

cout<<value<<"enqueued to queue."<<endl;

}

void dequeue()

{

if(isEmpty())

{

cout<<"Queue is empty."<<endl;

return;

}

Node \*temp=front;

cout<<"Dequeued:"<<front->data<<endl;

front=front->next;

if(front==nullptr)

{

rear=nullptr;

}

delete temp;

}

void display()

{

if(isEmpty())

{

cout<<"Queue is empty."<<endl;

return;

}

Node \*temp=front;

cout<<"Queue elements:";

while(temp!=nullptr)

{

cout<<temp->data<<" ";

temp=temp->next;

}

cout<<endl;

}

};

int main() {

Queue q;

q.enqueue(10);

q.enqueue(20);

q.enqueue(30);

q.display();

q.dequeue();

q.display();

q.dequeue();

q.display();

return 0;

}