1.

template <class ElemType>

class CyQueue {

public:

int front;//queue[front]是头结点，不存数据

int rear;

int MaxSize;

bool flag;

ElemType\* queue;

CyQueue(int ms) {

flag = 0; front = 0; rear = 0;

MaxSize = ms;

queue = new ElemType[ms + 5]; //分配一个足够大的空间

}

void EnQueue(CyQueue& Q, ElemType x);

ElemType OutQueue(CyQueue& Q);

};

template <class ElemType>

void CyQueue<ElemType>::EnQueue(CyQueue& Q, ElemType x) //入队操作

{

    if(Q.flag==1&&(Q.rear+1)%Q.MaxSize==Q.front)

    {

        cout<<"Queue overflow"<<endl;

    }

    else

    {

        Q.rear=(Q.rear+1)%Q.MaxSize;

        Q.queue[Q.rear]=x;

        Q.flag=1;

    }

}

template <class ElemType>

ElemType CyQueue<ElemType>::OutQueue(CyQueue& Q) //出队操作

{

    if(Q.rear==Q.front)

    {

        cout<<"Queue empty"<<endl;

        Q.flag=0;

    }

    else

    {

        Q.front=(Q.front+1)%Q.MaxSize;

    }

}



