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| --- |
| /\* Pizza parlor accepting maximum M orders. |
| Orders are served in first come first served basis. Order once placed can not be cancelled. |
| Write C++ program to simulate the system using circular queue using array. |
| \*/ |
|  |
| #include<iostream> |
| #include<cstdlib> |
| using namespace std; |
| class pizza |
| { |
| int front,rear,q[5]; |
| public: |
| pizza() |
| { |
| front=-1; |
| rear=-1; |
| } |
| int isfull() |
| { |
|  |
| if((front==0&&rear==4)||front==rear+1) |
| { |
| return 1; |
| } |
| else |
| { |
| return 0; |
| } |
| } |
| int isempty() |
| { |
| if(front==-1&&rear==-1) |
| { |
| return 1; |
| } |
| else |
| { |
| return 0; |
| } |
| } |
| void add() |
| { |
| if(isfull()==0) |
| { |
| cout<<"\n Enter the Pizza ID: "; |
| if(front==-1&&rear==-1) |
| { |
| front=0; |
| rear=0; |
| cin>>q[rear]; |
| } |
| else |
| { |
| rear=(rear+1)%5; |
| cin>>q[rear]; |
| } |
| char c; |
| cout<<" Do you want to add another order ? "; |
| cin>>c; |
| if(c=='y'||c=='Y') |
| add(); |
| } |
| else |
| { |
| cout<<"\n Orders are full "; |
| } |
|  |
| } |
| void serve() |
| { |
| if(isempty()==0) |
| { |
| if(front==rear) |
| { |
| cout<<"\n Order served is : "<<q[front]; |
| front=-1; |
| rear=-1; |
| } |
| else |
| { |
| cout<<"\n Order served is : "<<q[front]; |
| front=(front+1)%5; |
| } |
| } |
| else |
| { |
| cout<<"\n Orders are empty "; |
| } |
| } |
| void display() |
| { |
| if(isempty()==0) |
| { |
| for(int |
| i=front;i!=rear;i=(i+1)%5) |
| { |
| cout<<q[i]<<" |
| <- "; |
| } |
| cout<<q[rear]; |
| } |
| else |
| { |
| cout<<"\n Orders are empty"; |
| } |
| } |
| void check() |
| { |
| int ch; |
| cout<<"\n\n \* \* \* \* PIZZA PARLOUR \* \* \* \* \n\n"; |
| cout<<"\n 1. Add a Pizza \n 2. Display the Orders \n 3. Serve a pizza \n 4. Exit \n Enter your choice : "; |
| cin>>ch; |
| switch(ch) |
| { |
| case 1: |
| add(); |
| break; |
|  |
| case 2: |
|  |
| display(); |
| break; |
|  |
| case 3: |
|  |
| serve(); |
| break; |
|  |
| case 4: |
|  |
| exit(0); |
|  |
| default: |
| cout<<"Invalid choice "; |
|  |
| check(); |
| } |
| char ch1; |
| cout<<"\n Do you want to continue? "; |
| cin>>ch1; |
| if(ch1=='y'||ch1=='Y') |
| check(); |
| } |
| }; |
| int main() |
| { |
| pizza p1; |
| p1.check(); |
| return 0; |
| } |