DSA

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Q.Implement a circular queue using an array and perform enqueue, and peek operations.

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#include <iostream>

using namespace std;

const int SIZE = 5;

int arr[SIZE];

int front = -1, rear = -1;

void **enQueue**(int *value*) {

if ((front == 0 && rear == SIZE - 1) || (rear == (front - 1) % (SIZE - 1))) {

cout << "Queue is Full" << **endl**;

return;

}

else if (front == -1) {

front = rear = 0;

arr[rear] = *value*;

}

else if (rear == SIZE - 1 && front != 0) {

rear = 0;

arr[rear] = *value*;

}

else {

rear++;

arr[rear] = *value*;

}

}

int **peek**() {

if (front == -1) {

cout << "Queue is Empty" << **endl**;

return -1;

}

return arr[front];

}

int **main**() {

int choice, value;

while (true) {

cout << "1. Enqueue\n2. Peek\n3. Exit\nEnter your choice: ";

cin >> choice;

switch (choice) {

case 1:

cout << "Enter the value to be enqueued: ";

cin >> value;

**enQueue**(value);

break;

case 2:

cout << "Peek value: " << **peek**() << **endl**;

break;

case 3:

**exit**(0);

default:

cout << "Invalid choice" << **endl**;

}

}

return 0;

}