Queue

Assignment

```
class Queue {

    private int front;
    private int rear;
    private int maxSize;
    private int arr[];

    Queue(int maxSize) {
        this.front = 0;
        this.rear = -1;
        this.maxSize = maxSize;
        this.arr = new int[this.maxSize];
    }

    public boolean isFull() {
        return rear == maxSize - 1;
    }

    public boolean enqueue(int data) {
        if (isFull()) {
            return false;
        } else {
            arr[++rear] = data;
```

```
        return true;
    }
}

public void display() {
    if(isEmpty())
        System.out.println("Queue is empty!");
    else {
        for (int index = front; index <= rear; index++) {
            System.out.println(arr[index]);
        }
    }
}

public boolean isEmpty() {
    return front > rear;
}

public int dequeue() {
    if (isEmpty()) {
        return Integer.MIN_VALUE;
    } else {
        int data = arr[front++];
        if (front > rear) {
            front = 0;
            rear = -1;
        }
```

```
            return data;
        }
    }

    public int getMaxSize() {
        return maxSize;
    }
}

class Tester {

    public static void main(String[] args) {

        Queue queue = new Queue(7);
        queue.enqueue(13983);
        queue.enqueue(10080);
        queue.enqueue(7113);
        queue.enqueue(2520);
        queue.enqueue(2500);

        Queue outputQueue = findEvenlyDivisibleNumbers(queue);

        System.out.println("Evenly divisible numbers");
        outputQueue.display();
    }

    public static Queue findEvenlyDivisibleNumbers(Queue queue) {
```

```
        Queue resultQueue = new Queue(queue.getMaxSize());

        while (!queue.isEmpty()) {
            int number = queue.dequeue();
            if (isDivisibleByAllTen(number)) {
                resultQueue.enqueue(number);
            }
        }

        return resultQueue;
    }

    private static boolean isDivisibleByAllTen(int number) {
        for (int i = 1; i <= 10; i++) {
            if (number % i != 0) {
                return false;
            }
        }
        return true;
    }
}
```

Output-

```
C:\Users\Sarvesh\OneDrive\Desktop>java Tester6
Evenly divisible numbers
10080
2520
```