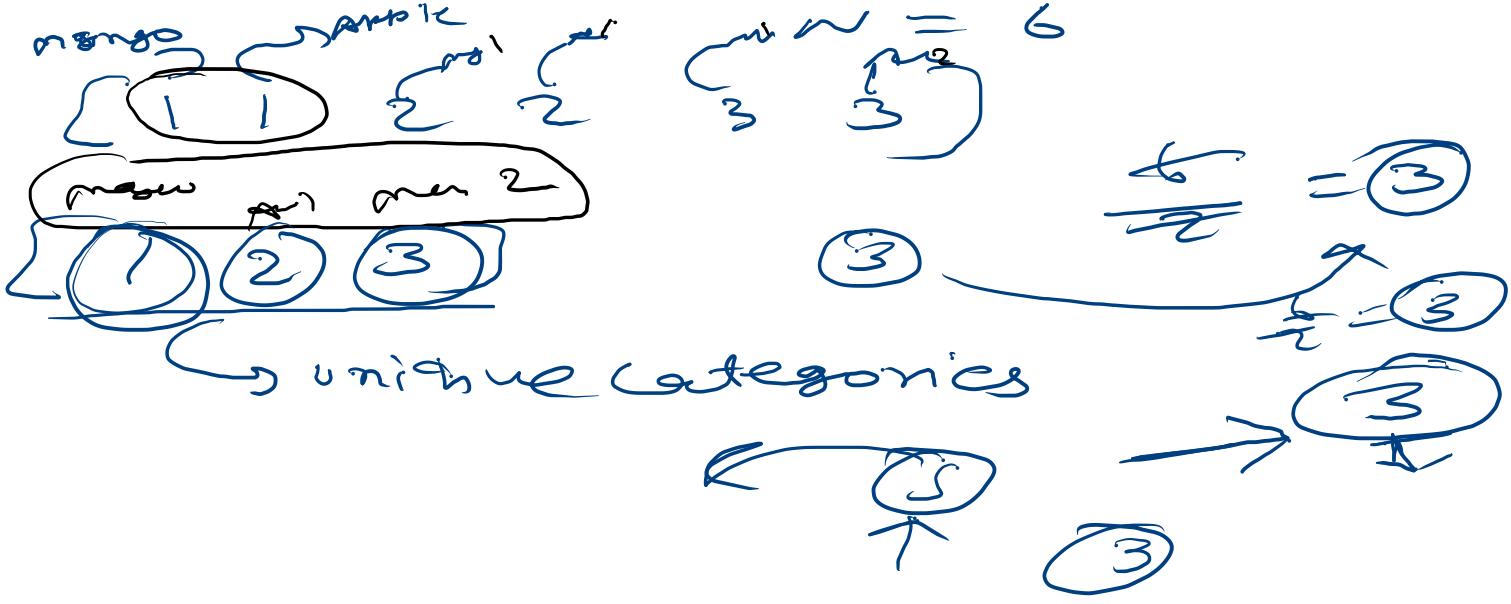
Alice

→ n is always even

→ Hashset



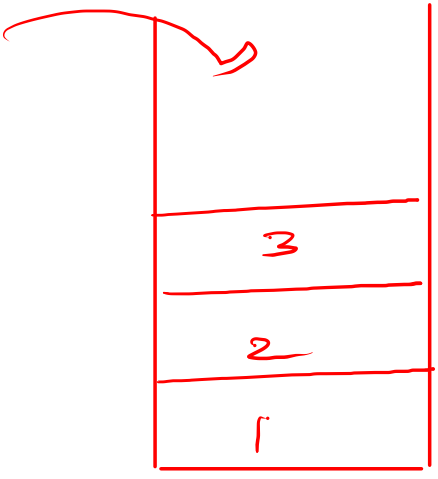
HW_Distribute Candies

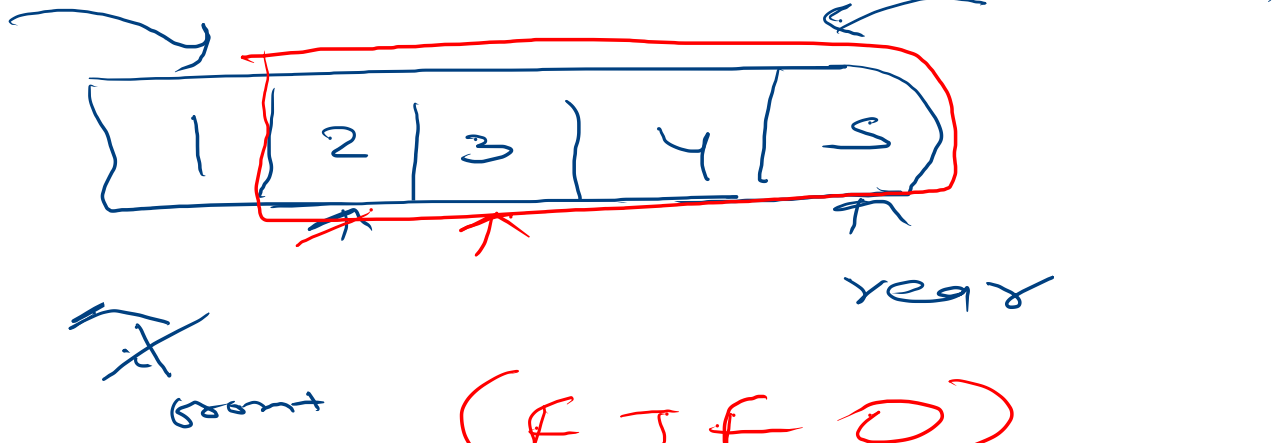
```java
public int distributeCandies(int[] candyType) {
    HashSet<Integer> hs = new HashSet<>();
    for(int i=0;i<candyType.length;i++){
        if(hs.add(candyType[i]));
    }
    return Math.min(candyType.length/2,hs.size());
}
```

Queue

[1, 2, 3, 4, 5]

LIFO





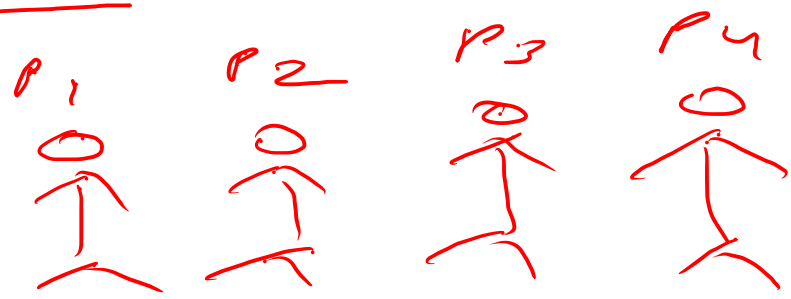
(FIFO)

Queue → NO

→ Java (1.5) → S

Coffee Shop

Shop



FIFO

Toll plaza Lines (FIF

ArrayList ⟶ Class

Stack ⟶ Class

Hashmap ⟶ Class

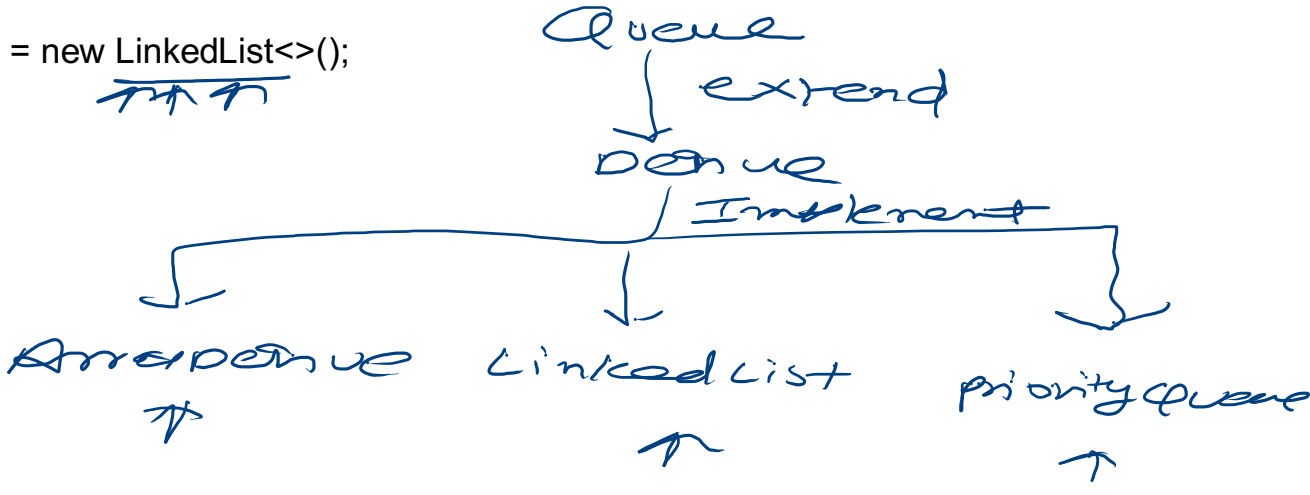
Hashset ⟶ Class

Queue ⟶ X (Interface)

ArrayList Class

```
ArrayList<Integer> arr = new ArrayList<>();
```

```
Queue<Integer> que = new LinkedList<>();
```



Methods

Insertion

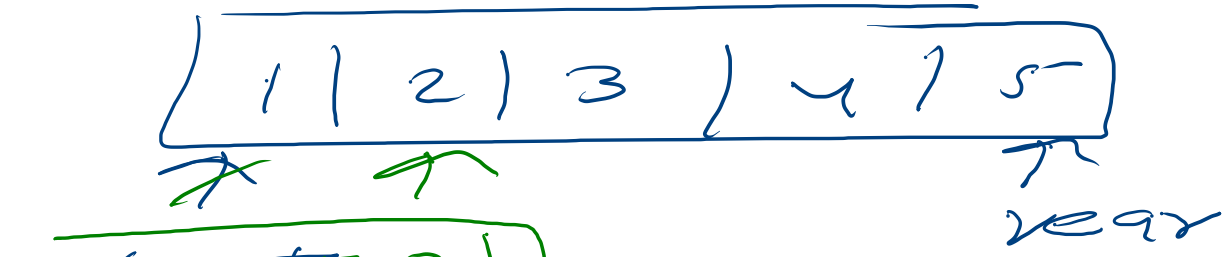
- add / push

Deletion

- poll / remove

Get top element

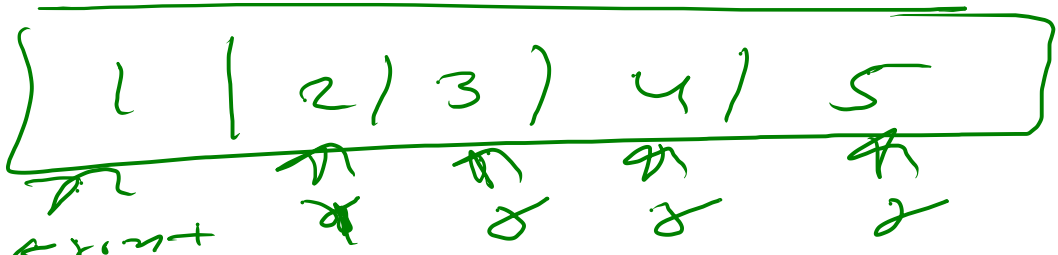
- peek




```
pop() {
    front++;
    return arr[front-1];
}
```

u - 1 ⓪

arr[front]
arr[0]




```
add ( ) {
    int val = x
    qar[rear+1] = val;
    rear++;
}
```

```
5
1
2
3 9
4
1
```

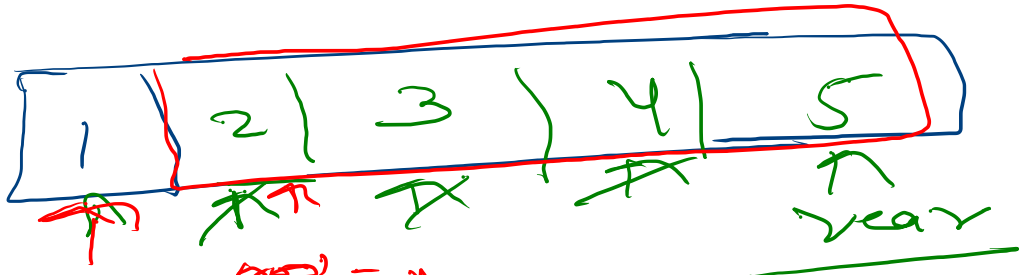
1. **Declare an Empty** $queue\ s$**.**
2. Take Single Integer T as input.
3. For next T Lines format $(case, x(optional))$

- case 1. $Print$ the $size$ of the $queue$ in a separate line.
- case 2. $Remove$ an element from the queue. If the queue is empty then print -1 in a separate line.
- case 3. Add Integer x to the $queue\ s$.
- case 4. $Print$ an element at the $front$ of the $queue$. If queue is empty print -1 in a seperate line.

while(t-->0){

0
-1
9
1

[1, 2, 3, 4, 5]



year

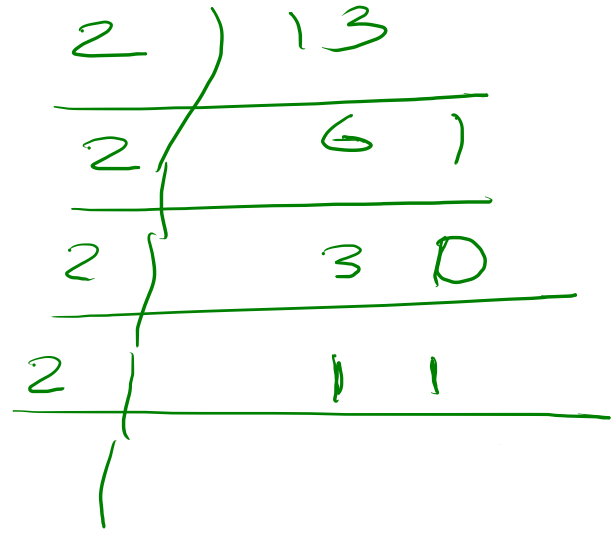
0

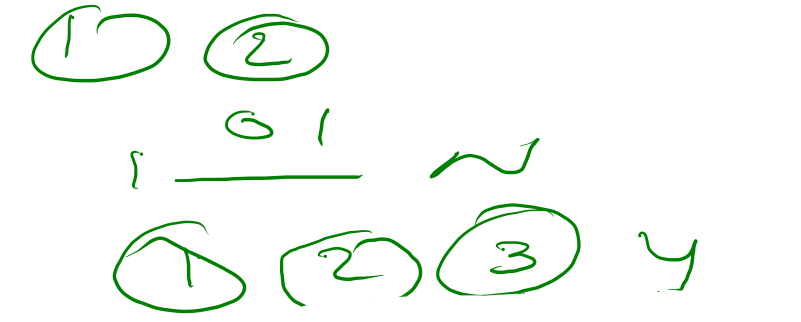
year : Insertion

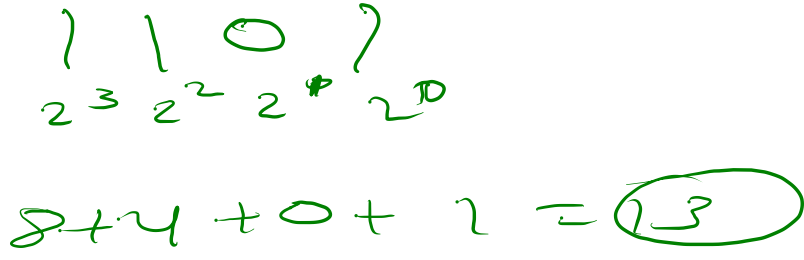
4

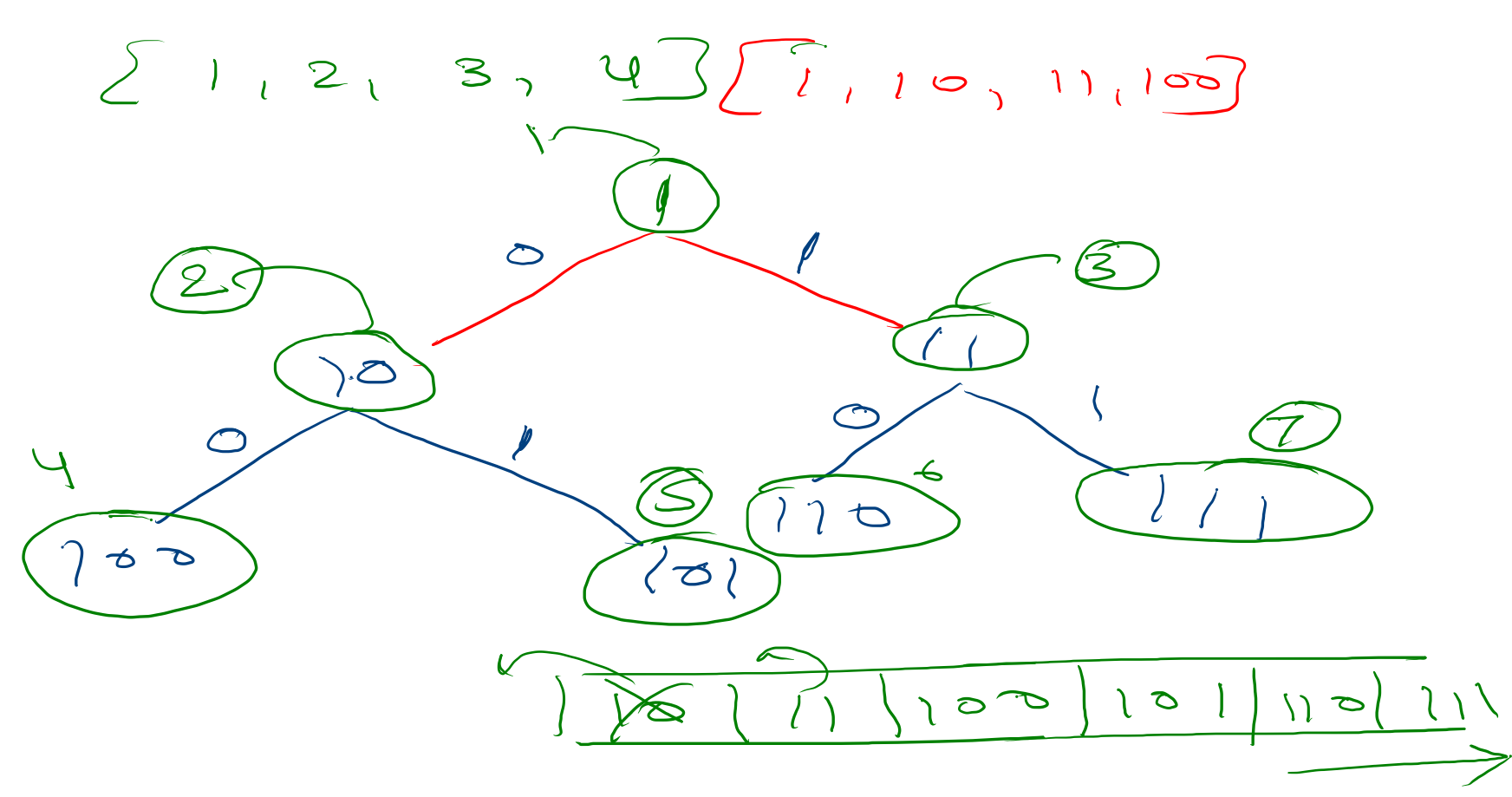
Sample Output 0

```
1 10 11 100
```








{ 1, 2, 3, 4 }
[1, 10, 11, 100]
1
0
1
2
3
10
11
0
1
0
1
4
5
6
7
100
101
110
111
1
00
11
100
101
110
111

Print Binary

Language: Java 7

Open in editor

```java
import java.io.*;
import java.util.*;
import java.text.*;
import java.math.*;
import java.util.regex.*;

public class Solution {

    public static void main(String[] args) {
        /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
        Scanner sc = new Scanner(System.in);
        int n = sc.nextInt();
        for(int i=1;i<=n;i++){
            String s = Integer.toBinaryString(i);
            System.out.print(s+" ");
        }

    }
}
```