

Class → blue print

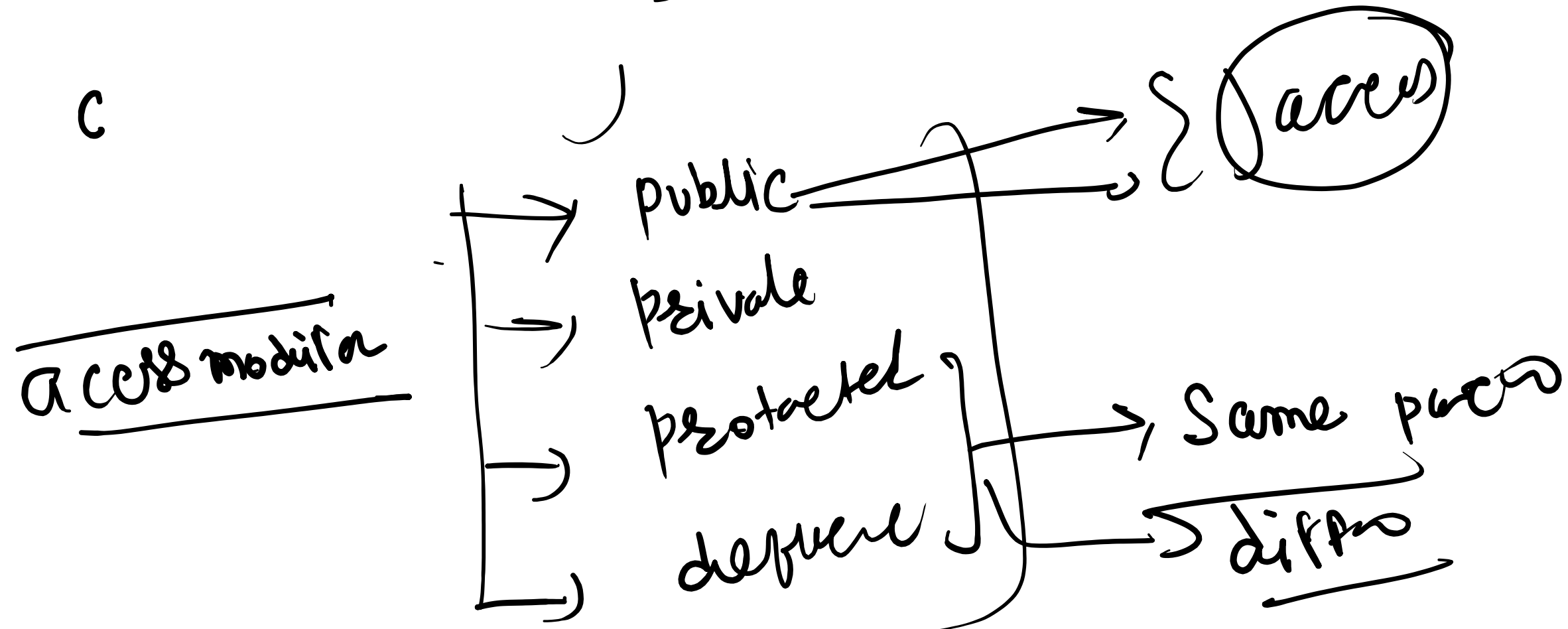
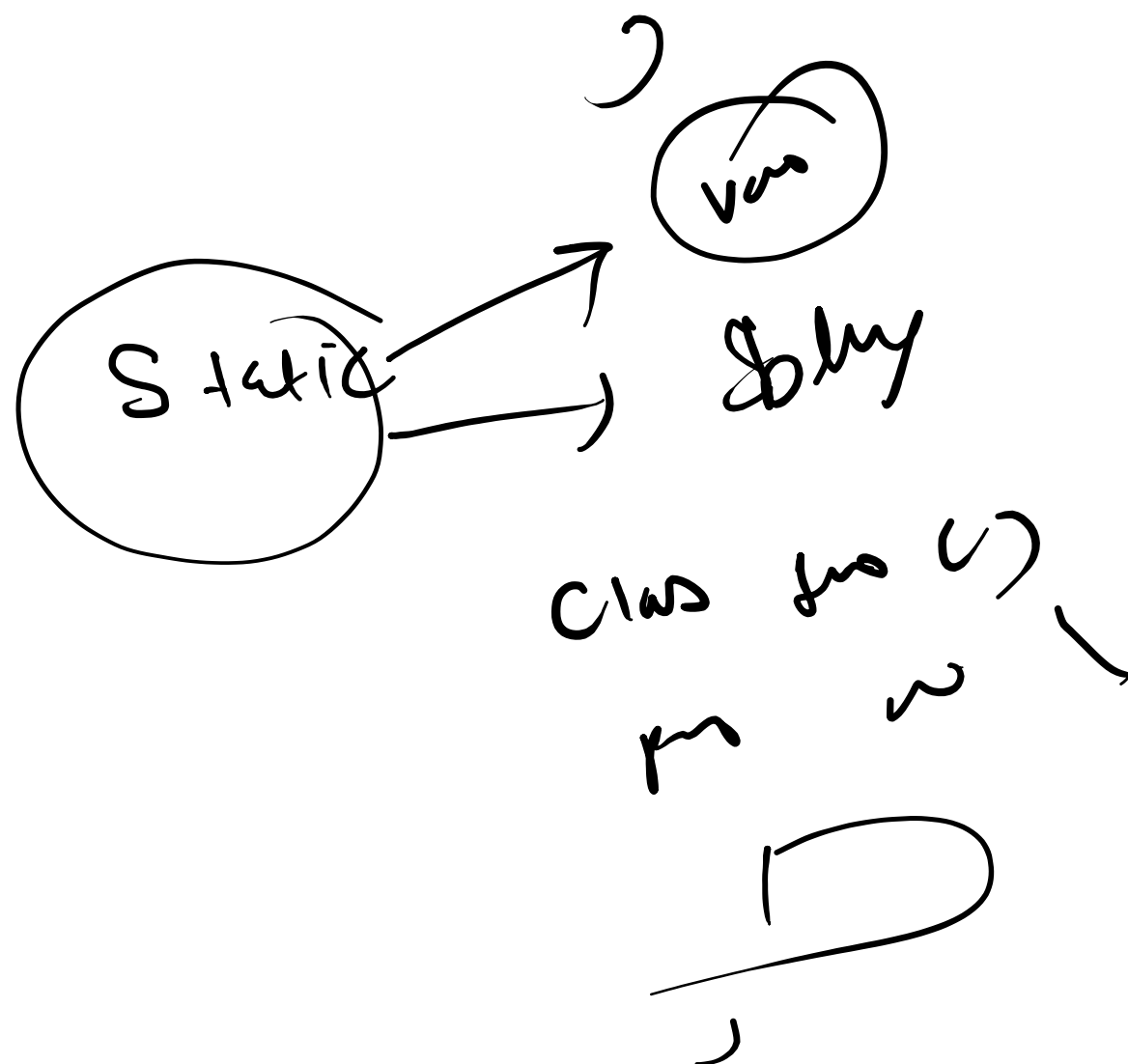
Class Student

String name
int age
[public void m1()]

① memory

demo Student class
Student s = new Student();
s.name

Stack fun()

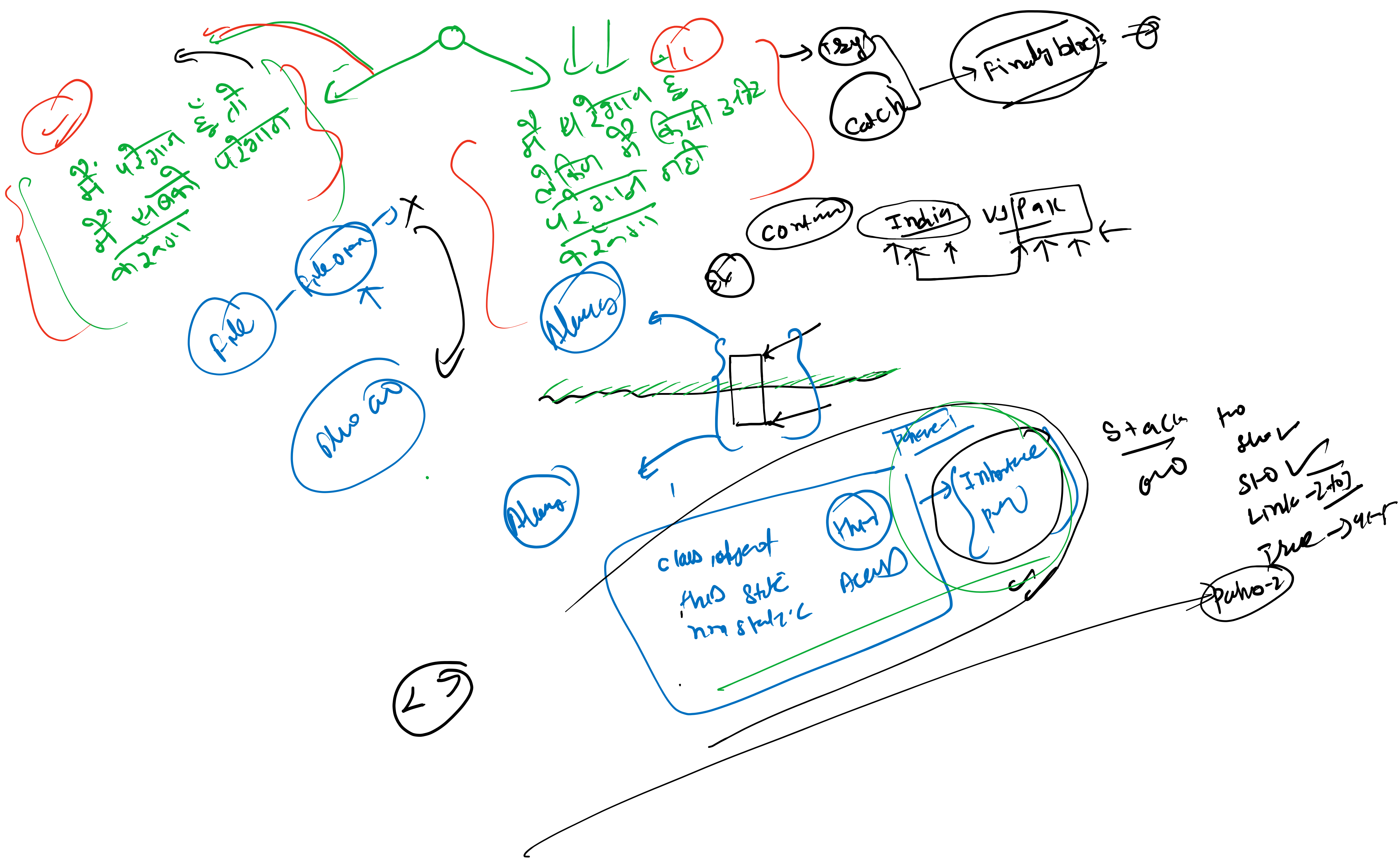


Encapsulation

Class

Exception

Copy right



Stack
push
pop

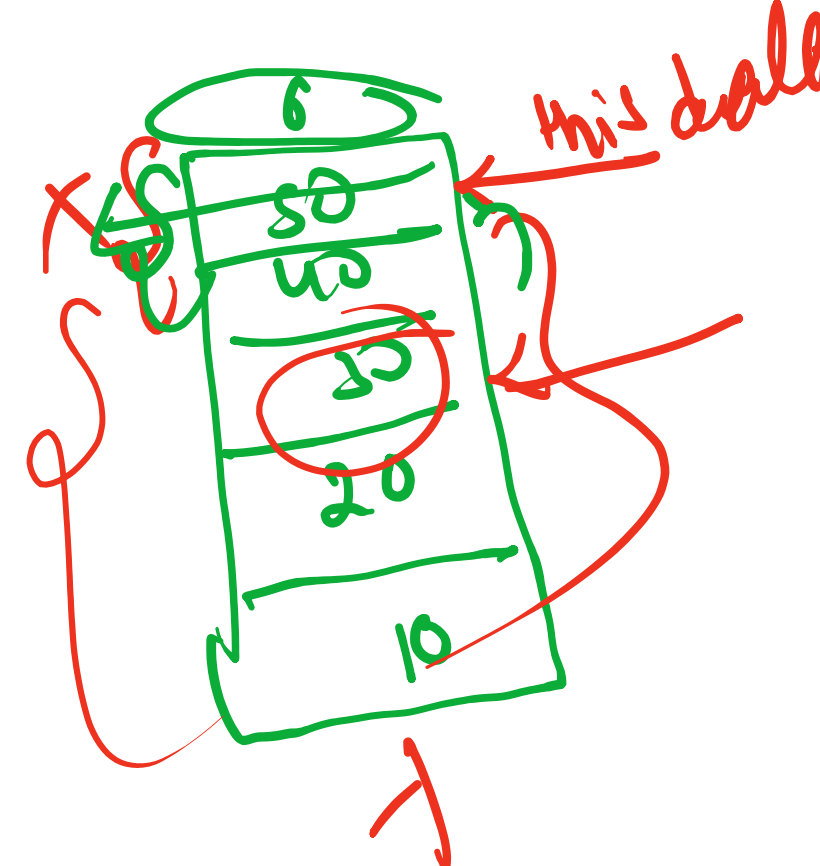
data structure

Stack → non-DT for

Class

Heap

Stack → LIFO
Last In First Out



```
public class Stack {  
    private int[] arr;  
    private int idx;  
}
```

```
public static void main(String[] args) {  
    // TODO Auto-generated method stub  
    Stack s1 = new Stack();  
}
```

idx = -1

idx = 0

idx = 1

idx = 2

idx = 3

idx = 4

public void push(int item) {
 idx++
 arr[idx] = item
}

St.push(10)
St.push(20)
St.push(30)
St.push(40)
St.push(50)

St.push(10)
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St.push(50)

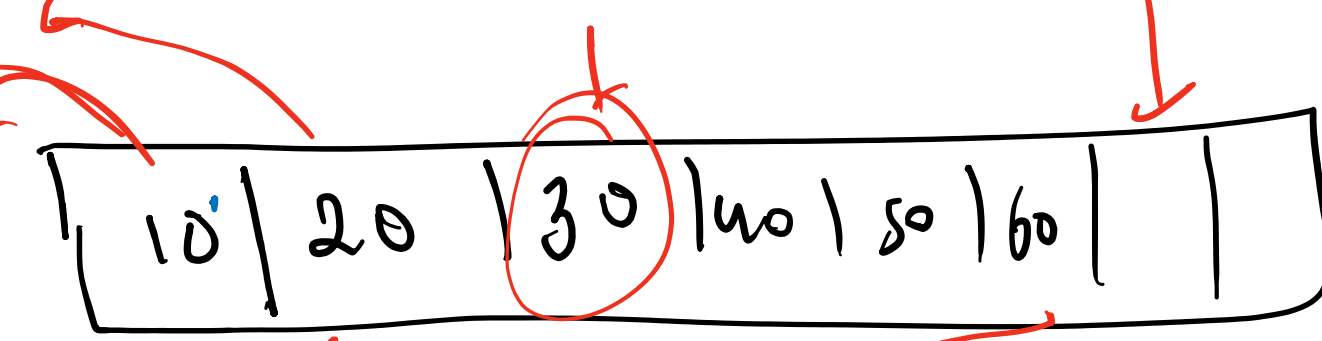
Queue q = new Queue()

Queue

FIFO

First In First Out

Linear Queue



Adv: Enqueue
Disadv: dequeue
It is not possible to delete an element from the queue without deleting all the elements in the queue.

```
public void Enqueue(int item) {  
    arr[size] = item;  
    size++;  
}
```

```
public int Dequeue() {  
    int v = arr[front];  
    front++;  
    size--;  
    return v;  
}
```



2nd > 0 < 5

Front = 2

5th element

size = 5

q.enqueue(10)

q.enqueue(20)

q.enqueue(30)

q.enqueue(40)

q.enqueue(50)

q.dequeue()

q.dequeue()

q.dequeue()

q.dequeue()

q.dequeue()

q.dequeue()

q.dequeue()

q.dequeue()

q.dequeue()

Front = 0
Rear = 0
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2 + 3 = 5
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