

Classname ~~new~~ = new classname()

1) P obj = new P()

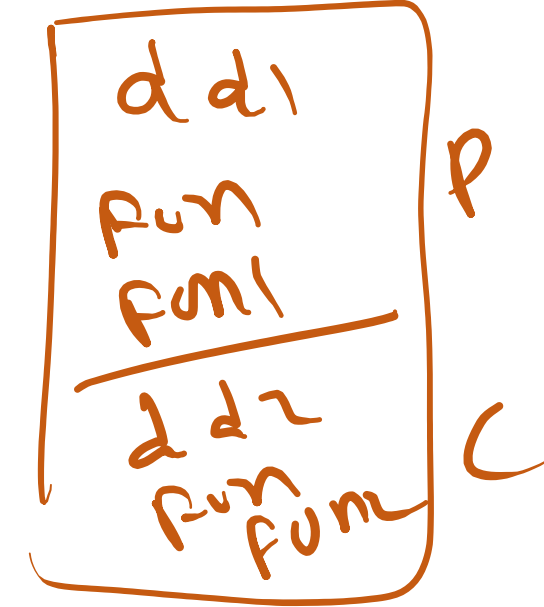
ii) P obj = new C();

iii) C obj = new P();

iv) C obj = new C();

Left < . > U = new M

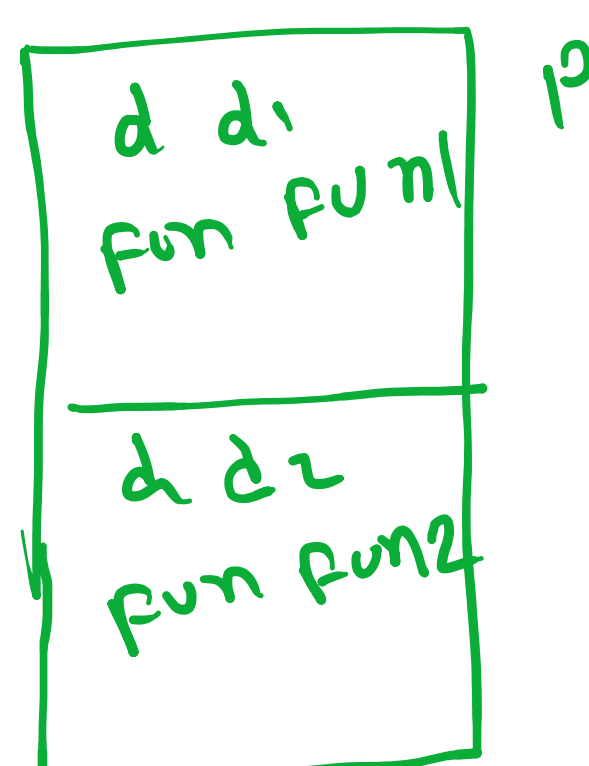
```
public static void main(String[] args) {  
    // TODO Auto-generated method stub  
    // case-1  
    // P obj = new P();  
    // System.out.println(obj.d); // 1  
    // System.out.println(obj.d1); // 10  
    // obj.fun();  
    // obj.fun1();  
    // case-2  
    P obj = new C();  
}
```



```
public static void main(String[] args) {  
    // TODO Auto-generated method stub  
    // case-1  
    // P obj = new P();  
    // System.out.println(obj.d); // 1  
    // System.out.println(obj.d1); // 10  
    // obj.fun();  
    // obj.fun1();  
    // case-2  
    P obj = new C();  
    System.out.println(obj.d);  
    System.out.println(obj.d1);  
    System.out.println(obj.d2);  
  
    obj.fun();  
    obj.fun1();  
    ((C) obj).fun2();  
}
```

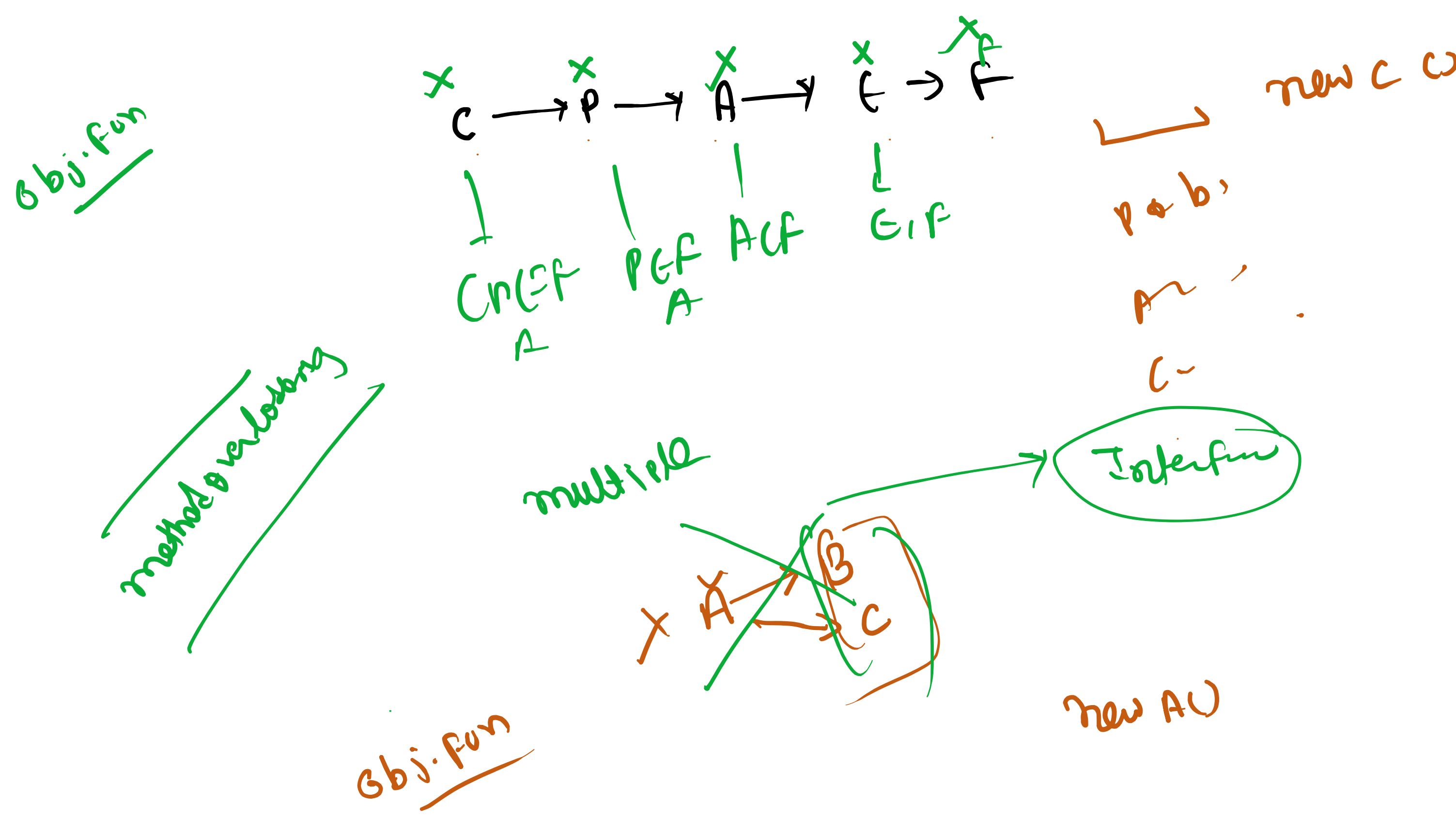
int x

String s

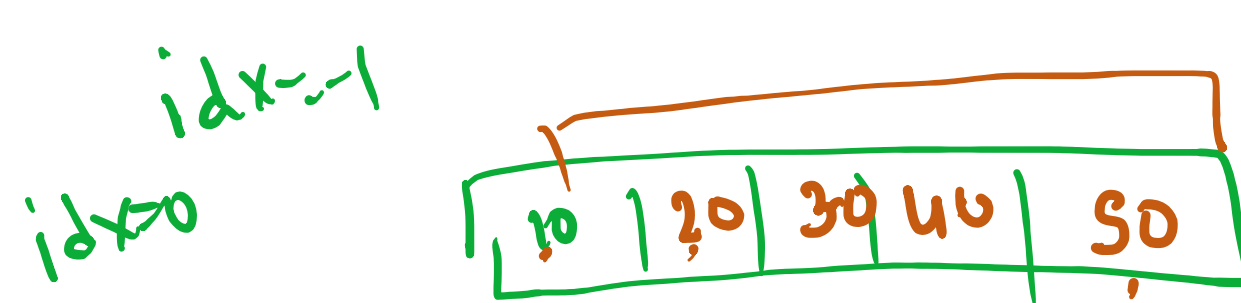


d=2
d2=30

d=1
d1=10
2K



```
public class DynamicStack extends Stack {  
    @Override  
    public void push(int item) {  
    }  
  
    public static void main(String[] args) {  
        DynamicStack ds = new DynamicStack();  
        ds.push(10);  
        ds.push(20);  
        ds.push(30);  
        ds.push(40);  
        ds.push(50);  
        ds.push(60);  
    }  
}
```

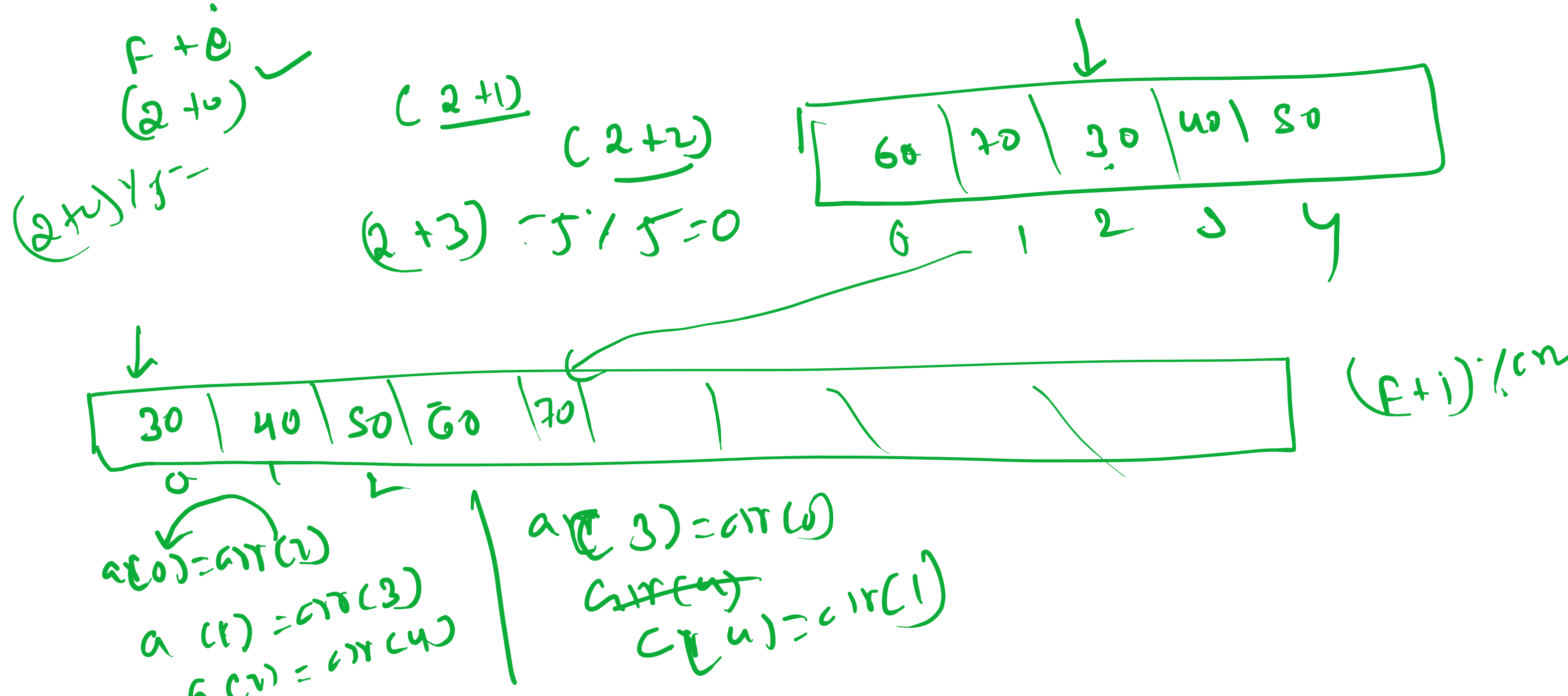
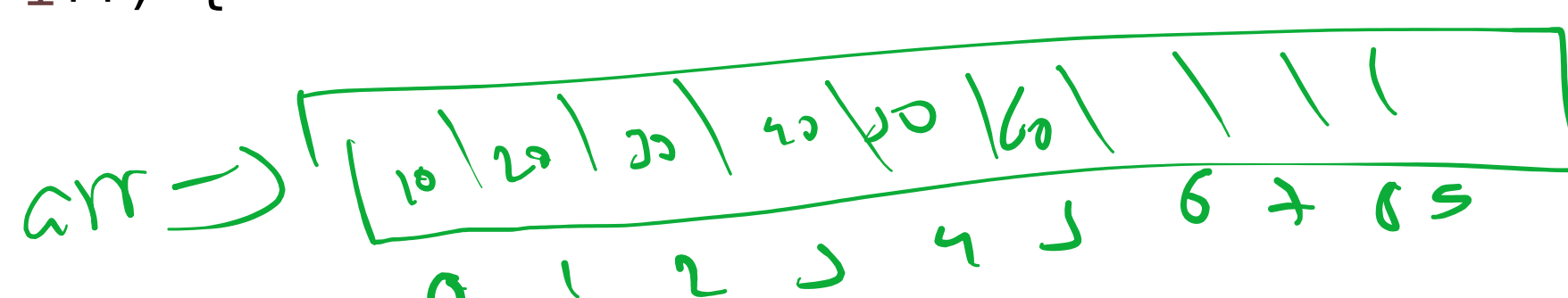
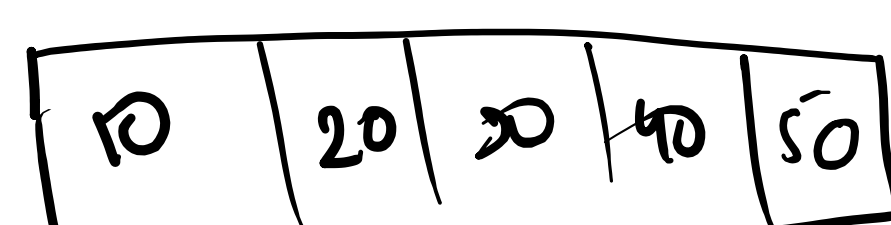


idx + arr.length = 10



```
public class DynamicStack extends Stack {  
    @Override  
    public void push(int item) throws Exception {  
        if (super.isFull()) {  
            int[] a = new int[2 * arr.length];  
            for (int i = 0; i < arr.length; i++) {  
                a[i] = arr[i];  
            }  
            arr = a;  
            super.push(item);  
        }  
    }  
  
    public static void main(String[] args) throws Exception {  
        DynamicStack ds = new DynamicStack();  
        ds.push(10);  
        ds.push(20);  
        ds.push(30);  
        ds.push(40);  
        ds.push(50);  
        ds.push(60);  
        ds.Display();  
    }  
}
```

idx=0



```
public class DynamicQueue extends Queue {  
    @Override  
    public void Enqueue(int item) throws Exception {  
        if (isFull()) {  
            int[] a = new int[2 * arr.length];  
            for (int i = 0; i < arr.length; i++) {  
                int idx = (front + i) % arr.length;  
                a[i] = arr[idx];  
            }  
            front = 0;  
            arr = a;  
            super.Enqueue(item);  
        }  
    }  
  
    public static void main(String[] args) throws Exception {  
        DynamicQueue dq = new DynamicQueue();  
        dq.Enqueue(10);  
        dq.Enqueue(20);  
        dq.Enqueue(30);  
        dq.Enqueue(40);  
        dq.Enqueue(50);  
        System.out.println(dq.dequeue());  
        System.out.println(dq.dequeue());  
        dq.Enqueue(60);  
        dq.Enqueue(70);  
        dq.Enqueue(80);  
        dq.Display();  
    }  
}
```

size=7, f=0

