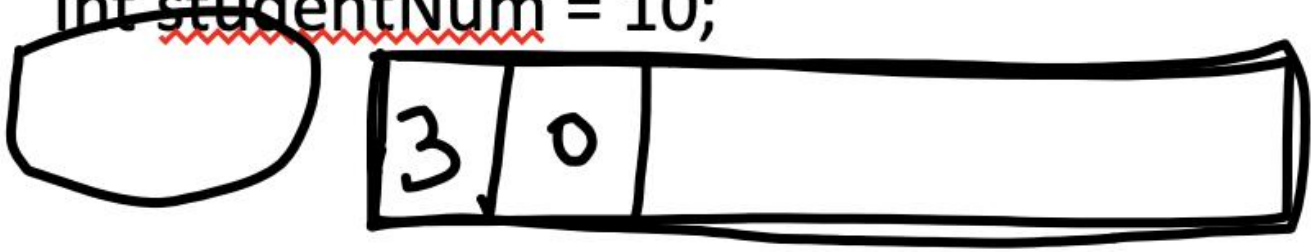
Arrays

Thursday, 14 October 2021 8:56 PM

Int , char, byte, boolean

int numOfLines = 5;

Int studentNum = 10;



{3,0,1}

Declaration

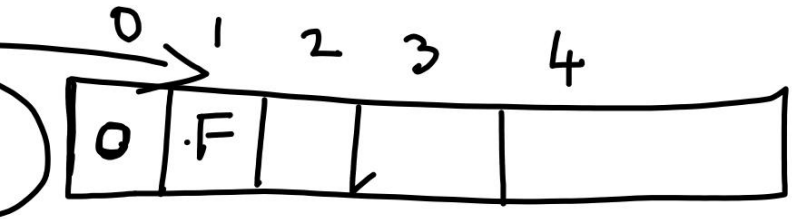
data_type var_name[];

data_type[] var_name;

//ex: int nums[];

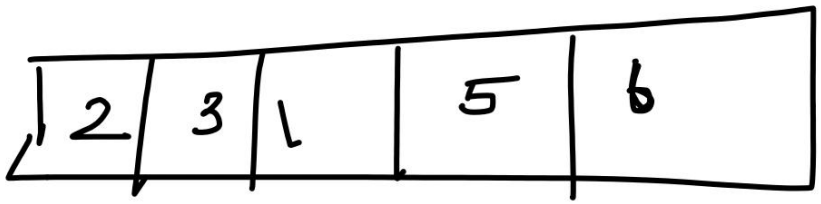
Initialization

var_name = new data_type[10];

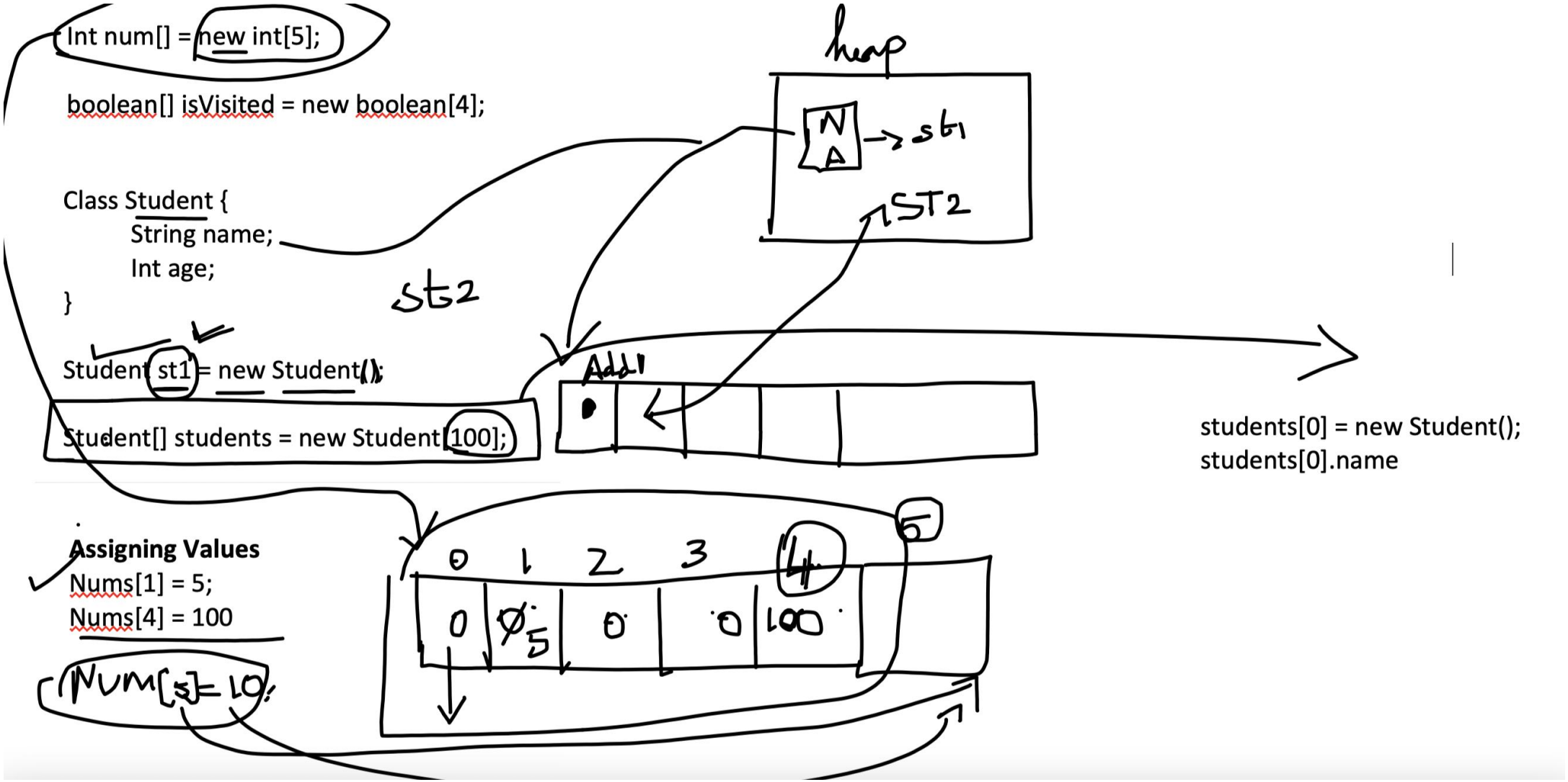


num[0] = 10

Nums = new int[]{2,3,1,5,6,}



nums[4]; //O(1)


Int num[] = new int[5];
boolean[] isVisited = new boolean[4];
Class Student {
String name;
Int age;
}
Student st1 = new Student();
Student[] students = new Student[100];
heap
st1
ST2
st2
Add1
students[0] = new Student();
students[0].name
Assigning Values
Nums[1] = 5;
Nums[4] = 100
Num[5] = 10;
0 1 2 3 4
0 5 0 0 100

Int num = nums[4];

Int num = new int[100];

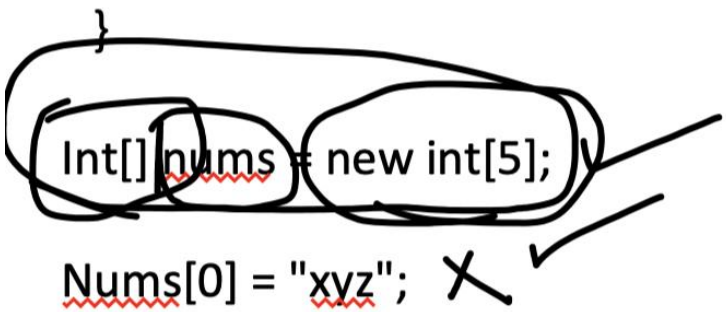
:

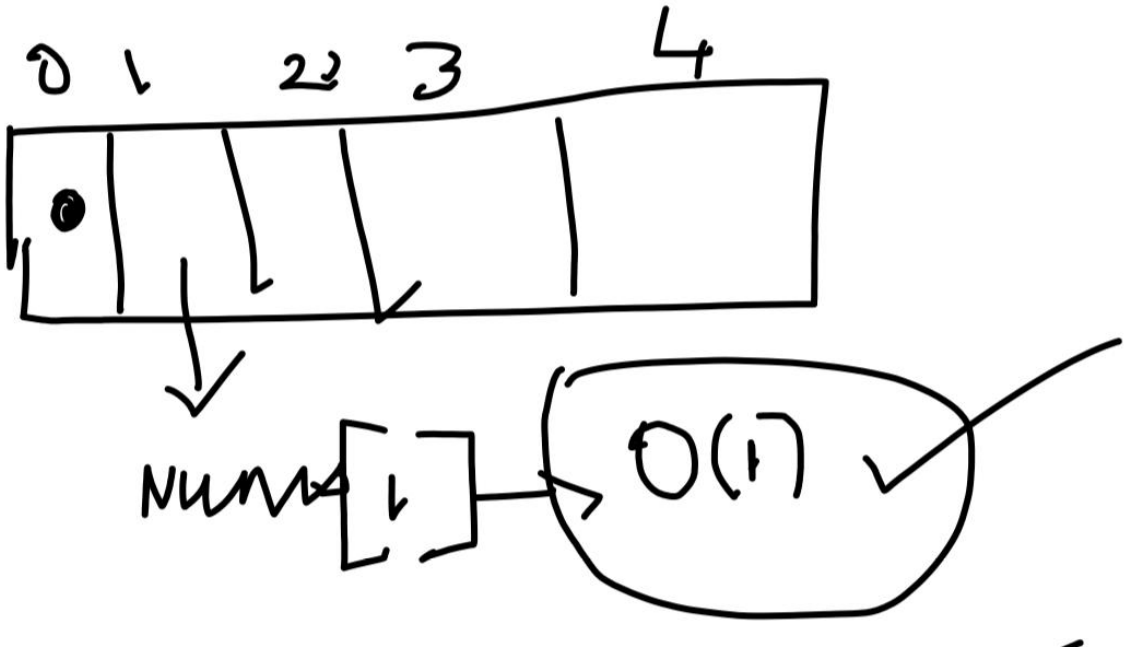
Iteration - For Loop

```
for(int j = 0; j <= nums.length - 1; j++) {
        System.out.print(nums[j]);
}
// 3 1 4 6
```

Iteration - For Each Loop

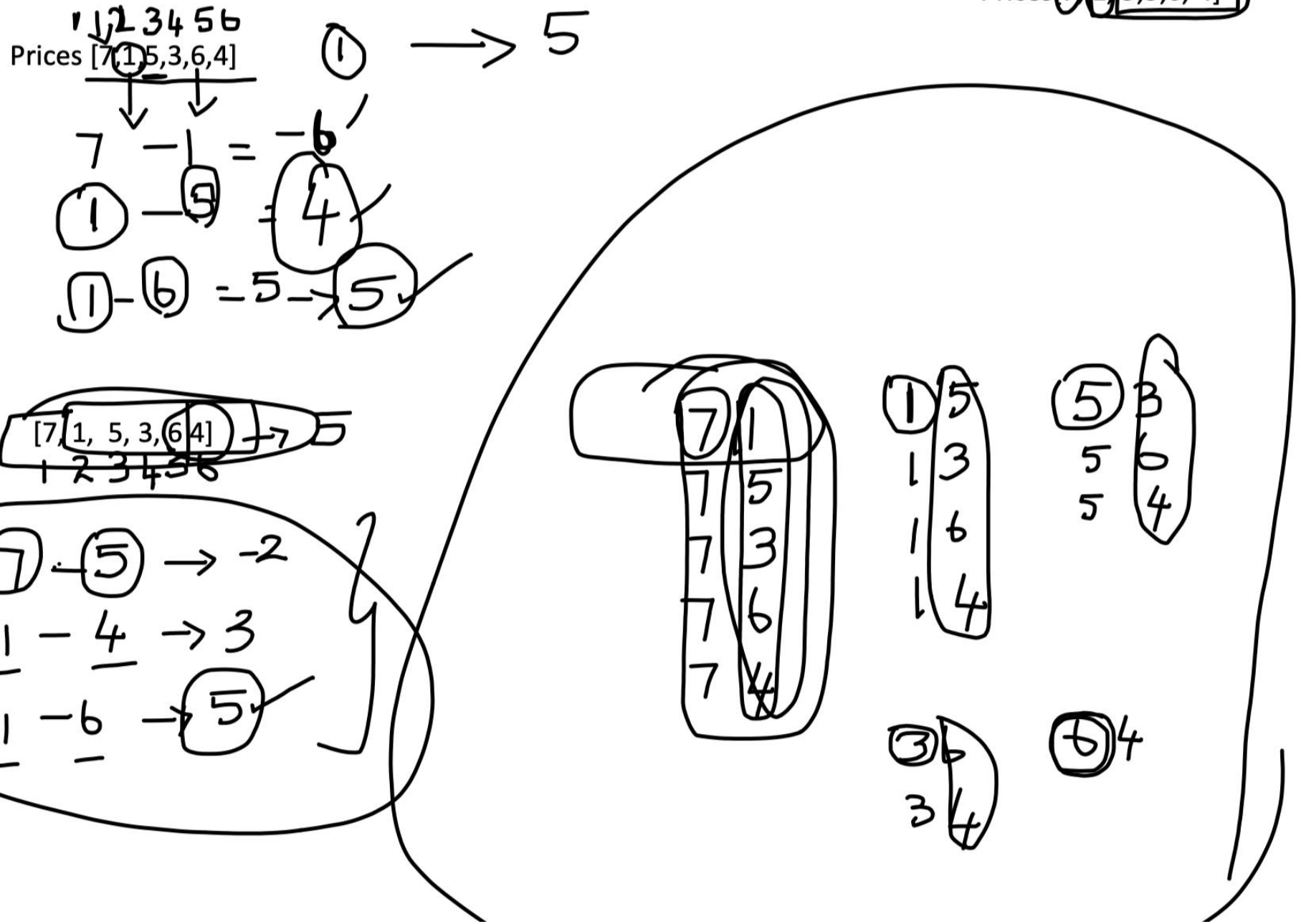
```
for(int number : nums) {
        System.out.print(number);
}
For(dat_type var_name : array_name) {

}
```

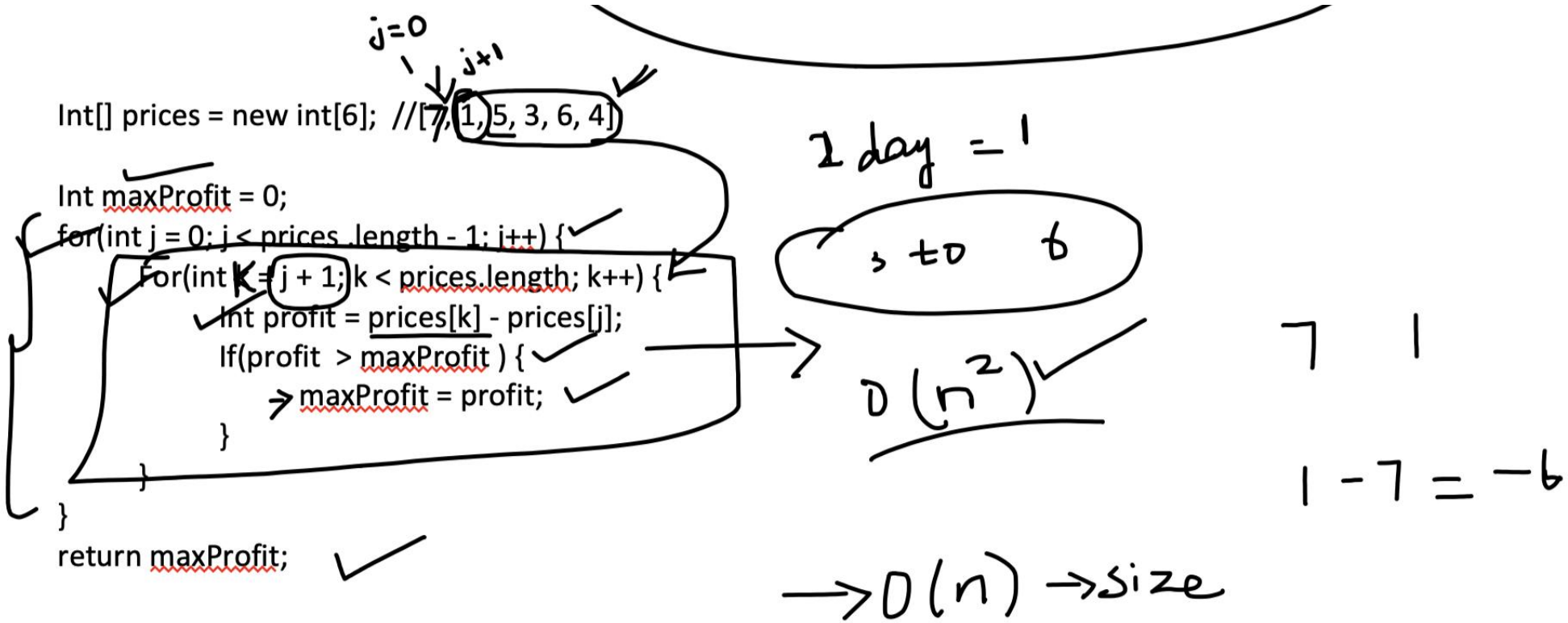

Int[] nums = new int[5];
Nums[0] = "xyz";


0 1 2 3 4
Nums[1]
O(1)

Buy and Sell Stock

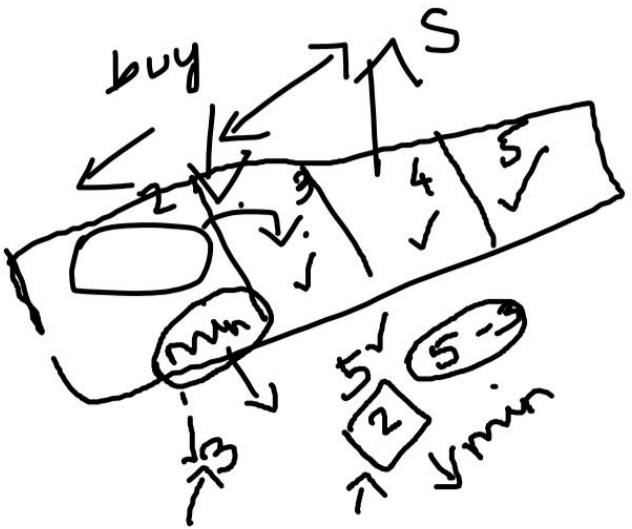
Prices [7,1,5,3,6,4]




j=0
j+1
Int[] prices = new int[6]; //[7, 1, 5, 3, 6, 4]
Int maxProfit = 0;
for(int j = 0; j < prices .length - 1; j++) {
For(int k = j + 1; k < prices.length; k++) {
Int profit = prices[k] - prices[j];
If(profit > maxProfit) {
maxProfit = profit;
}
}
}
return maxProfit;
1 day = 1
5 to 6
O(n²)
7 1
1 - 7 = -6
→ O(n) → size

[7, 1, 5, 3, 6, 4]

```
Int minPrice = Integer.MAX_VALUE;
Int maxProfit = 0;
For(int I = 0; I < prices.length; i++) {
    If(prices[i] < minPrice) { //5 < 1
        minPrice = prices[i];
    } else {
        Int profit = prices[i] - minPrice;
        If(profit > maxProfit) {
            maxProfit = profit;
        }
    }
}
Return maxProfit;
```



- [7, 2, 5, 8, 1, 4]