Object Oriented Programming with Java

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Introduction

- If we want to manage data in RAM efficiently then we should use data structure. Data structure is also called as collection.

- Types of collection:

  o Linear collection

    1. Array

    2. Stack

    3. Queue

    4. LinkedList

  o Non linear collection
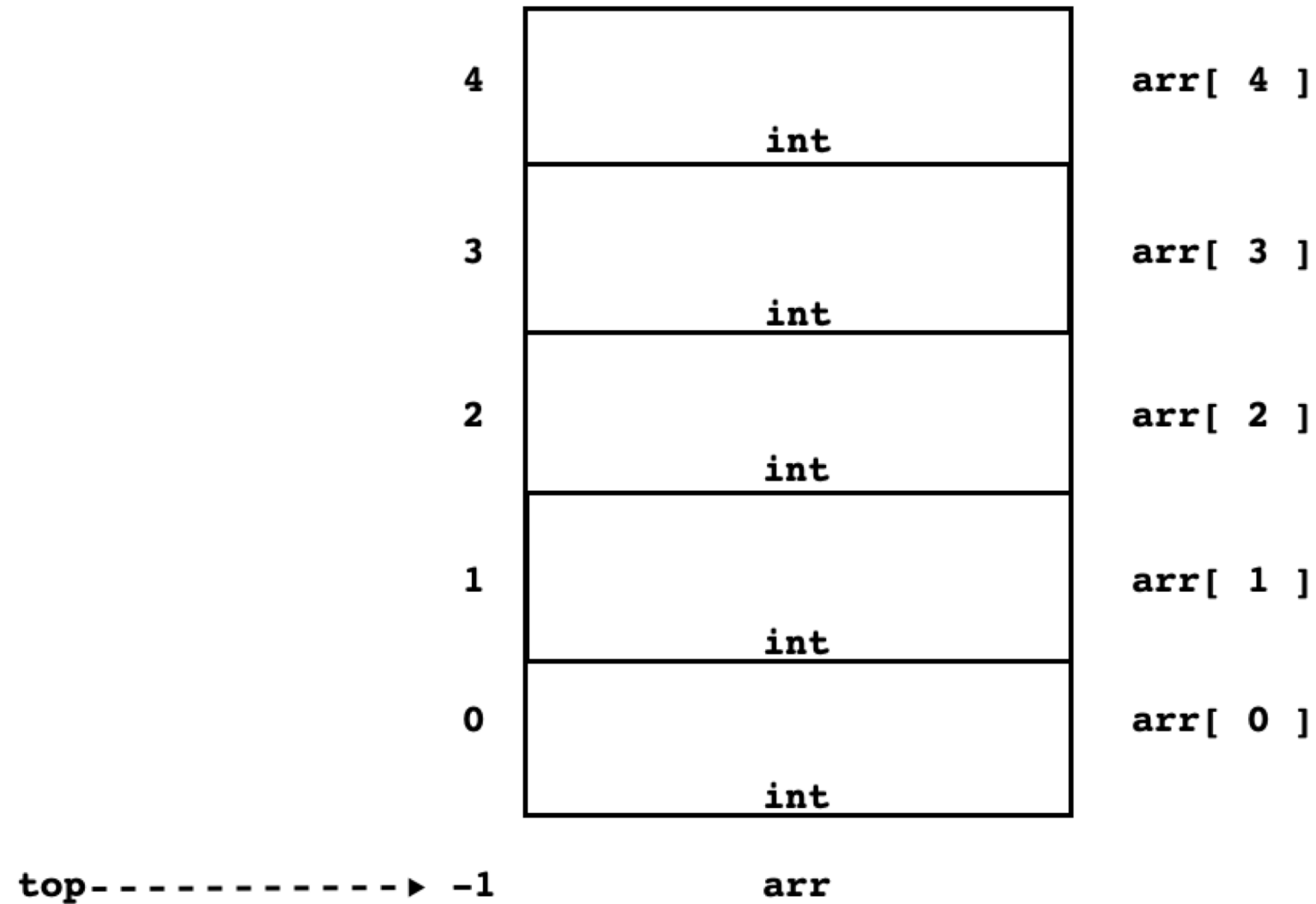
    1. Tree

    2. Graph
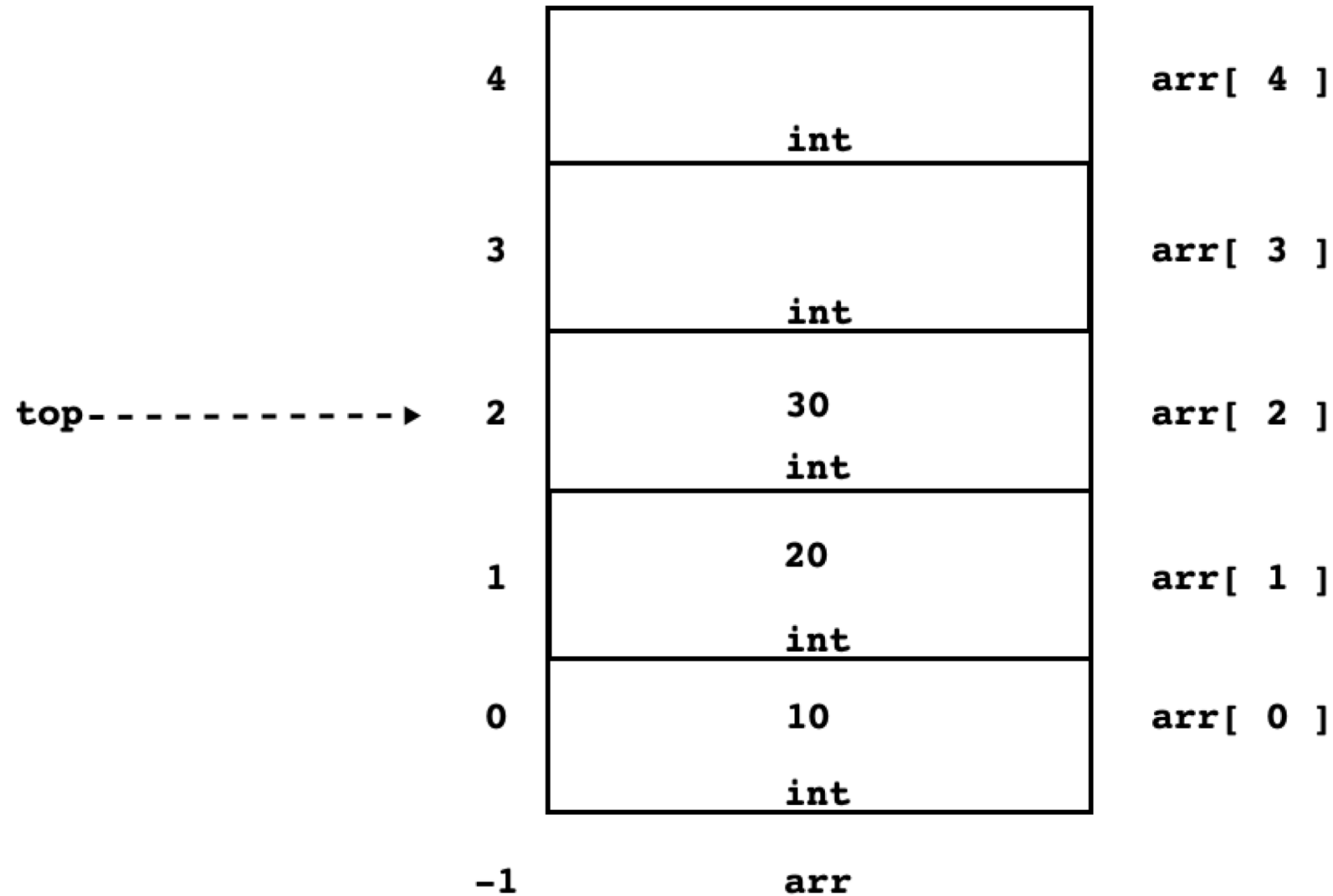
    3. Hashtable

Stack

- It is a linear data structure/collection.

- In a stack, we can manage data in Last In Fast Out manner(LIFO).

- We can perform following operations on Stack:

  1. empty

  2. full

  3. push

  4. peek
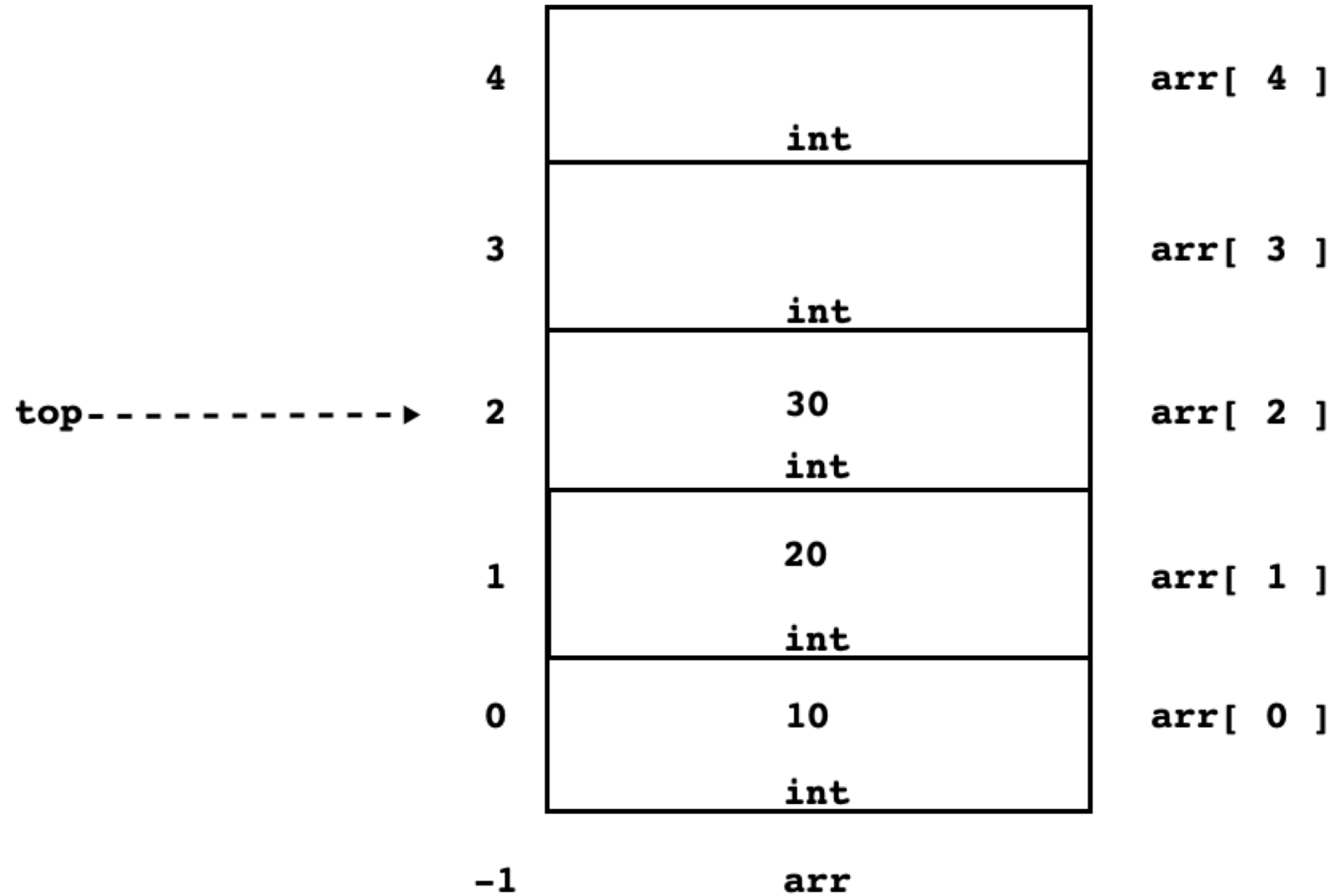
  5. pop

Stack empty operation

Stack push operation


```
int data = 10;

int data = 20;

int data = 30;
top = top + 1;
arr[ top ] = data ;
```
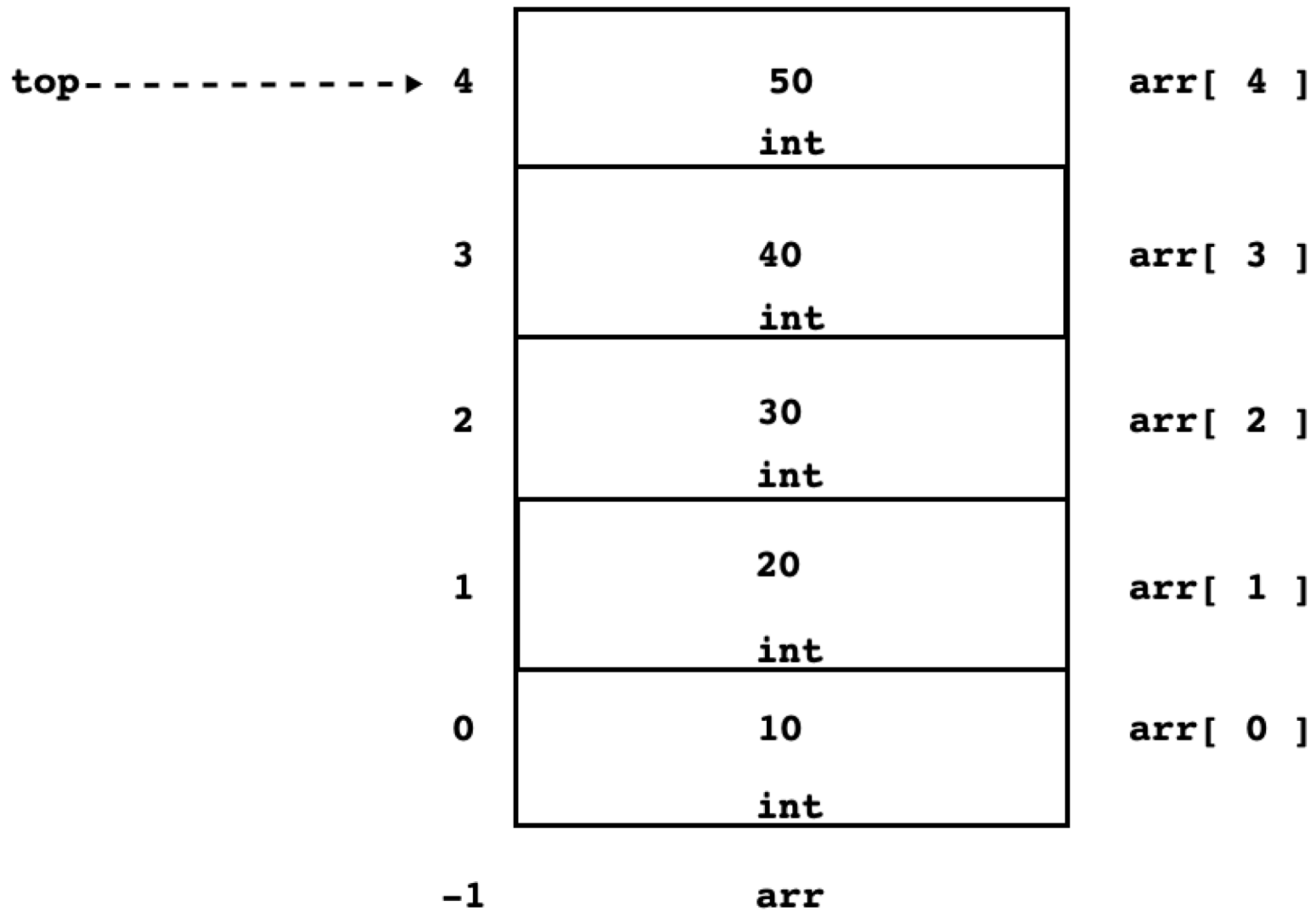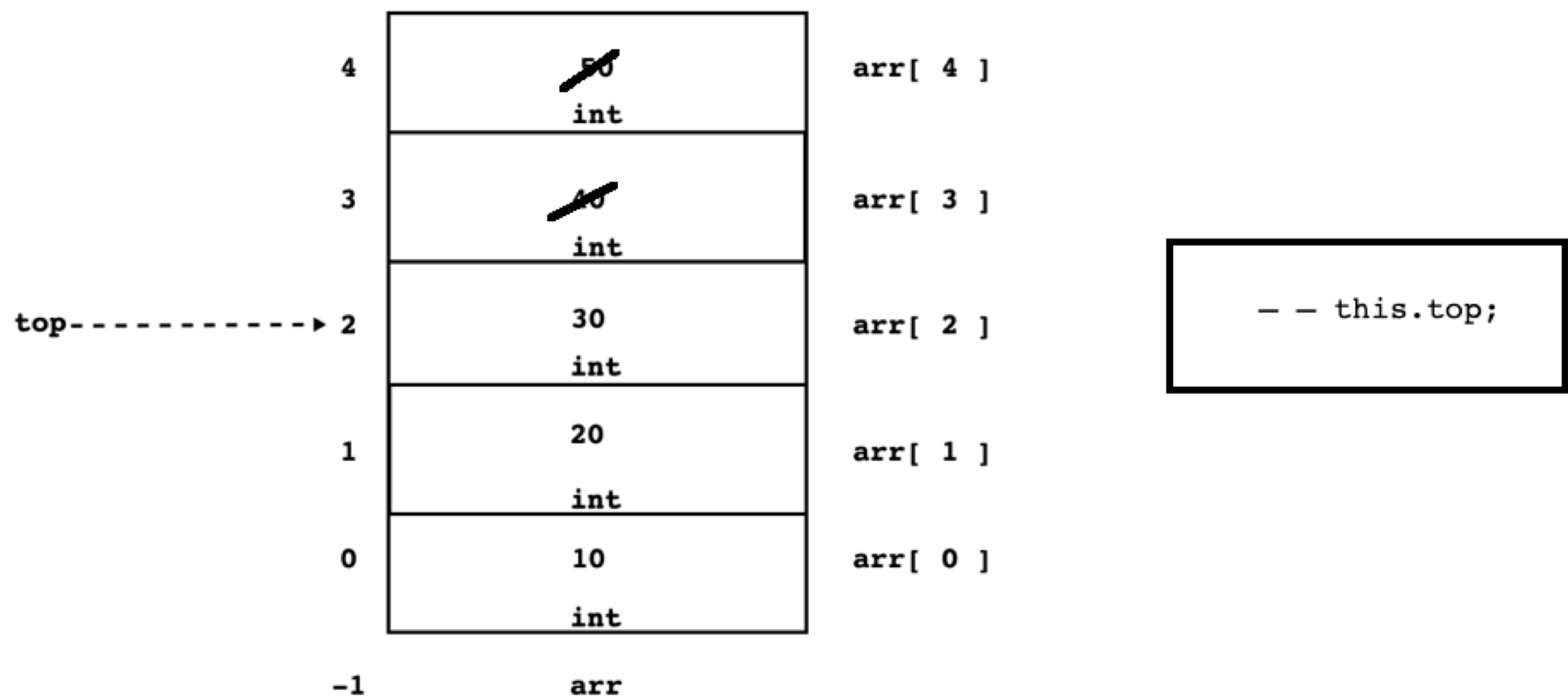
Stack peek operation

```
4                              arr[ 4 ]
              int

3                              arr[ 3 ]

              int

                30
top----------->  2             arr[ 2 ]
              int

                20
1                              arr[ 1 ]

              int

                10
0                              arr[ 0 ]

              int

-1              arr
```

```
//top = 2;

int data = arr[ top ];
```
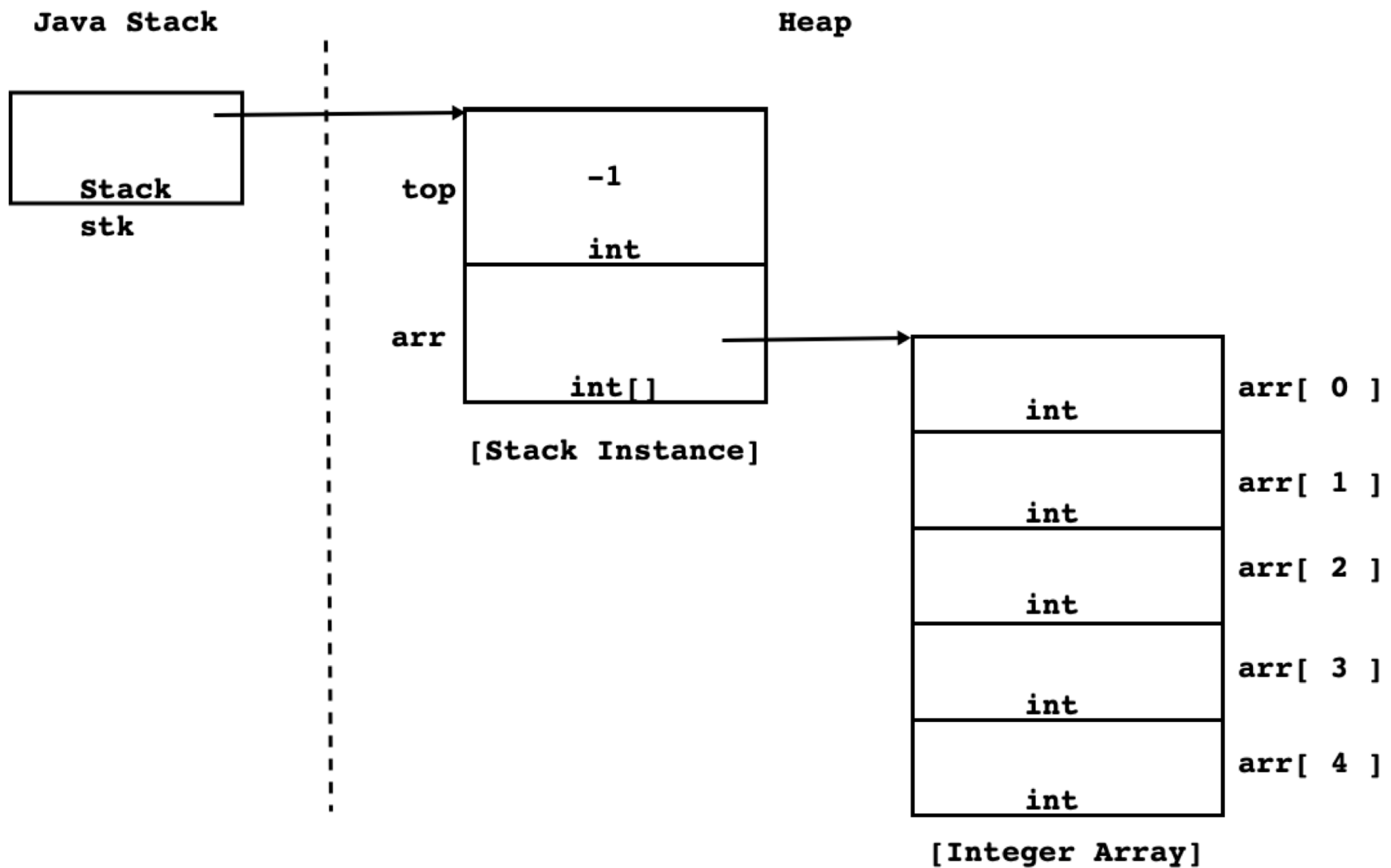
Stack full operation

Stack pop operation

Stack Simulation

Thank You.

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