

A Tour of TensorFlow

Peter Goldsborough

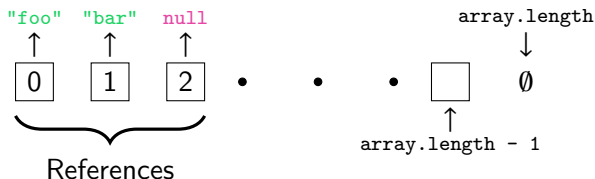
May 30, 2016

Contents

1. Arrays

Arrays

- ▶ Fixed-size sequence of values
 - ▶ primitive-type: `int[]`
 - ▶ reference-type: `String[]` (does not store objects!)
- ▶ Have a member `length`: `array.length` (constant)
- ▶ Addressed via index from 0 to `array.length - 1`
- ▶ Copies are shallow.



Arrays: Initialization

- ▶ Method 1: Allocate inline and fill out-of-line:

```
int[] array = new int[5]
```

- ▶ Method 2: Direct initialization:

```
int[] array = new int[]{1, 2, 3, 4, 5}
```

- ▶ Method 3: Very direct initialization:

```
int[] array = {1, 2, 3, 4, 5}
```

- ▶ Items are value-initialized:

- ▶ `int` → 0
- ▶ `boolean` → `false`
- ▶ `double` → 0.0

Arrays: Multidimensional

- ▶ Multidimensional arrays possible:

```
int[][][][] lo1 = new int[2][3][4][5][6]
```

- ▶ Ragged arrays: arrays with varying dimension

```
int[][] ragged = new int[2][];
```

```
ragged[0] = new int[4];
```

```
ragged[1] = new int[123];
```