

Arrays

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1 Arrays

- The Array is the most fundamental collection of data
- Arrays are *objects* that have their own *special syntax*

1.1 Declaration

```
1 int[] number_store;
2 // Or
3 int numberStore[];
```

1.2 Instantiation

- You need to define the length you want the array to be

```
1 number_store = new int[10];
```

- Notice how we do not call a constructor but still use the `new` keyword
 - Example of the *special syntax of arrays*

1.3 Rules

- Can hold either objects or primitives
- Arrays themselves are objects, regardless of what they contain
- Arrays can only hold one type
 - And you must declare what type this is (`type[]`)

1.4 For Each Loop

- "for each" loop is a shortcut to iterate over a collection like an array
- Can only be used for access and hides the current index

```
1 // num_store is a list with 9 elements
2 for (int i = 0; i < 10; i=i+1){
3     System.out.println("Number is " + numStore[i]);
4 }
```

Is equivalent to

```
1 // num_store is a list with 9 elements
2 for (int n: num_store){
3     System.out.println("Number is " + n);
4 }
```