ARRAYS

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ARRAYS

- Storing information in a list rather than singular variables
  - Examples:
    - Students in a class
    - Events in a schedule
- Syntax
  - int[] numbers; //declaration
  - int[] numbers = new int[10]; //declaration & initialization of int array with 10 spots with default values (0)
  - int[] numbers = {1, 3, 5, 7, 9, 11}; //declares and initializes an int array with those values
- Array elements can be accessed with their index (aka subscript)
  - **Indices start from zero**
  - int number = numbers[2]; //sets number to the int at position 2 in numbers
  - numbers[2] = 4; // sets position 2 of numbers to 4

ARRAY FEATURES

- Array length (the number of elements) can be accessed by using **arrayName.length**
- arrayName[num] = 5;
  - Sets the element of arrayName at position num to 5
- Arrays can be passed as parameters or returned to methods
  - When arrays are passed to methods, they can be changed
  - public static int[] sample (String[]) { … }

FOR EACH LOOP

- Goes through every element of the array
- Cannot change values in for each if you're **traversing** a primitive array
- Cannot access index in for each loop

```
int[] ints = {1, 2, 3, 4, 5}
int sum = 0;
//will add the whole array
for (int i: ints) {
        sum += i;
}
```

INSERTING & REMOVING ELEMENTS

- Arrays have a fixed size, so if you want to add elements, you need to account for that in the original declaration

- If you want to move an array element or insert/remove a current element you need to shift all the other elements, usually using a loop