Using Arrays for Fixed-size Collections

Read Chapter 4
Fixed-size collections

- Sometimes the maximum collection size is known beforehand
- Programming languages usually offer a special mechanism for creating a fixed-size collection: an array
- In Java, arrays are objects
- Unlike collection classes from java.util:
  - All values in a single array are of the same type
  - An array can hold primitive types, not just objects
  - An array has a fixed size determined when it is created
Arrays use a special syntax

- As objects go, arrays are rudimentary and do not provide many methods

- They are raw, low-level tools (i.e., the underlying language feature that make it possible to write `Vector` and `ArrayList`)

- They use special syntax:

  ```java
  String[] words = new String[20];
  int count = words.length; // No ()'s!
  words[0] = "hello";
  if ( words[19] == null ) ...
  ```
Let’s make students record multiple scores

fred:

- Student
- name: "Fred Flintstone"
- scores: [96, 94, 78, _, _, _]
- numScores: 3