Ordered Arrays

1. Review Inheritance and Casting
   a. Compile-time type vs. Run-time type
   b. You can assign a value to a variable if the compile-time types are the same
   c. You can *cast* any expression to *any* type
      i. For Class types: At runtime, that cast will succeed if the run-time type matches or is above it in the hierarchy, i.e., if `value instanceof Cast-type` is true.
      ii. For primitive types: Java will convert to the number of bits and precision of the target type, possibly throwing away data.
      iii. At runtime the cast will fail with a ClassCastException if it is not possible.
      iv. Null casts to any class type.

2. Linear Search: $O(n)$

   ```java
   public int indexOf(Array<String> words) {
   ```