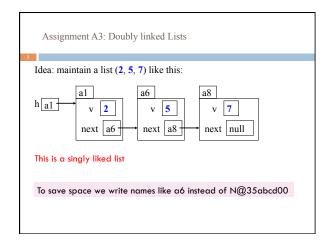
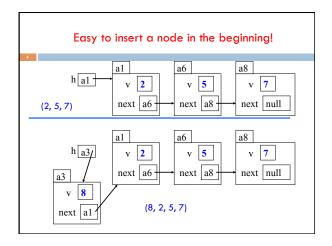
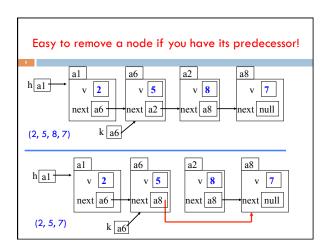


## Announcements Al feedback available. 30 still to be graded. Hopefully today. If yours is not graded yet, we appreciate your patience. Average 93.1 Median 95 You can ask for a regrade of A1 on the CMS. State what you think we graded unfairly or incorrectly. Your file A2.java must be in the default package. Do NOT put a package statement at the top of it. A3 now available on CMS and Piazza. Refer often to the Piazza FAQ Note for A3 Please read the assignment FAQ Notes on the Piazza before asking a question. It might already be answered. Read Note @282 on study habits! Take its message to heart.







```
Assignment A3: Use an inner class

public class LinkedList {
    private int x;
    public void m(int y) { ... }

    private class CI {

    | Inside-out rule: Objects of CI can reference components of the object of C in which they live.

In addition: methods of C can reference private components of CI
```

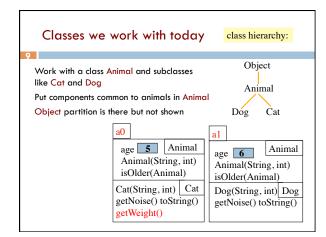
```
Overview ref in text and JavaSummary.pptx

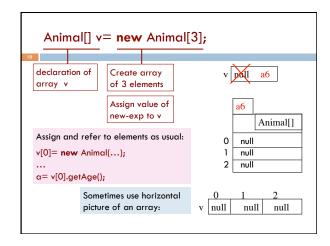
Quick look at arrays slide 50-55
Casting among classes C.33-C.36 (not good) slide 34-41
Consequences of the class type slide 34-41
Operator instanceof slide 40
Function equals slide 37-41

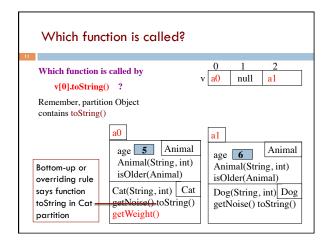
Homework. Learn about while/ for loops in Java. Look in text.

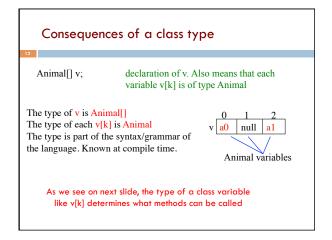
while ( <bool expr> ) { ... } // syntax

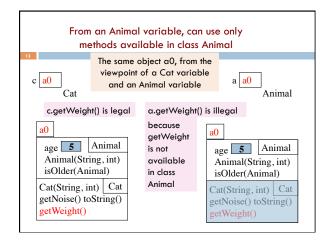
for (int k= 0; k < 200; k= k+1) { ... } // example
```

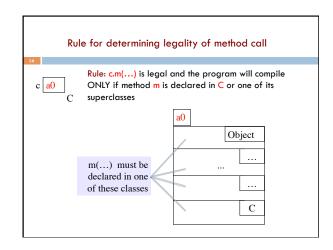


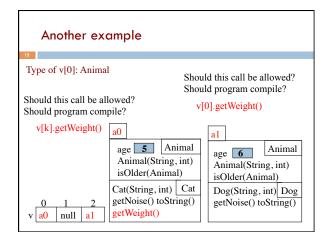


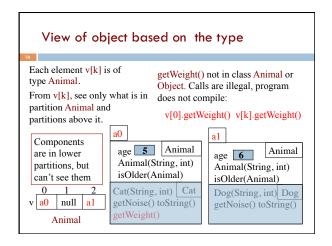


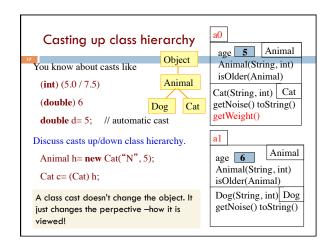


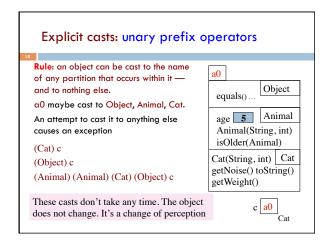


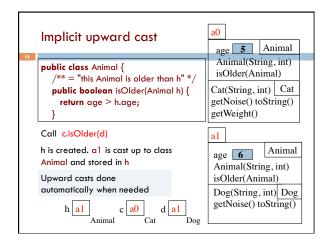


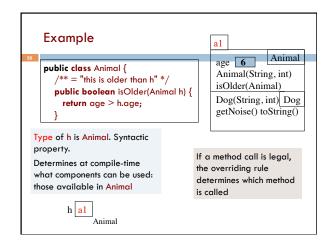


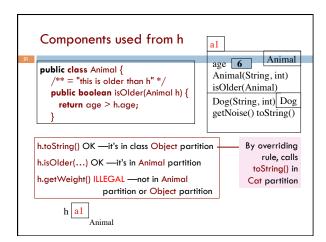


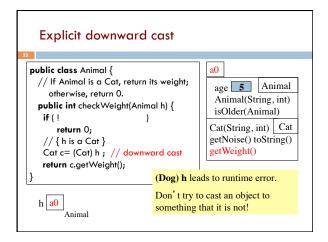












```
Operator instanceof, explicit downward cast
                                             a0
public class Animal {
  // If Animal is a cat, return its weight;
                                              age 5 Animal
    otherwise, return 0.
                                              Animal(String, int)
  \textbf{public int} \ \text{checkWeight(Animal h)} \ \big\{
                                              isOlder(Animal)
   if (! (h instanceof Cat))
                                             Cat(String, int) Cat
      return 0;
                                             getNoise() toString()
   // { h is a Cat }
                                             getWeight()
   Cat c= (Cat) h; // downward cast
   return c.getWeight();
                               <object> instanceof <class>
                               true iff object is an instance of the
  h a0
                               class - if object has a partition for
         Animal
```

```
Function equals

public class Object {
    /** Return true iff this object is
    * the same as ob */
    public boolean equals(Object b) {
        return this == b;
    }
}

This gives a null-pointer exception:
    null.equals(y)
    x == y
    except when x is null!

X ?
Object

Object
```

