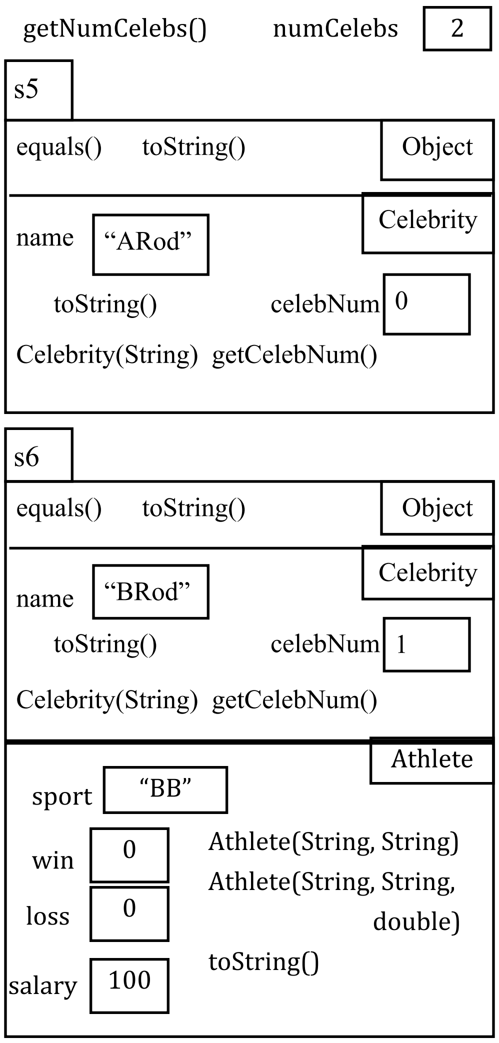
Sample answers to CS1110 Prelim 1, Spring 20011 David Gries   djg17

1.
```
/** An instance maintains info about an athlete*/
public class Athlete extends Celebrity {
   private String sport; // The athlete's sport
   private int win; // # of wins
   private int loss; // # of losses
   private double salary; // The athlete's salary

   /** Constructor: as on prelim */
   public Athlete(String n, String sport){
      super(n);
      this.sport= sport;
   }

   /** Constructor: as on prelim. */
   public Athlete(String n, String s, double p){
      this(n, s);
      salary= p;
   }

   /** = as on prelim    */
   public String toString(){
      return super.toString() + "#" +
            getCelebNum() + " " + sport;
   }
}
```

2. Value of first new-expression: s5
Value of second new-expression: s6.



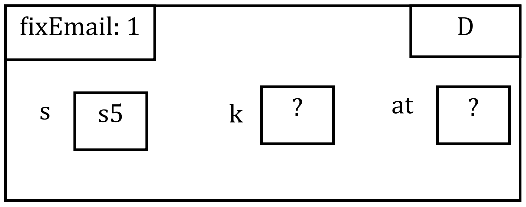
3. (a) Function fixEmail should be static because it does not refer to any components of an object, but only to the parameter of the function.

3.(b)
```
/** Specification as on prelim */
public static String fixEmail(String s) {
      // Store in k the index of '.' or '_' after first name
      int k= s.indexOf('_');
      if (k < 0)
         k= s.indexOf('.');

      int at= s.indexOf('@');

      return s.substring(k+1,at) + "." +
               s.charAt(0) +  "@" +
               s.substring(at+1,s.length()-3) + "net";
   }
```

4. (a) In a constructor, first initialize the fields of the superclass and then initialize the fields of the (sub)class.

4. (b)
```
Object temp= v.get(5);
   v.set(5, v.get(8));
   v.set(8, temp);
```

4. (c) The local variables in the frame for the call will differ depending on how you wrote fixEmail.



4. (d) A parameter is a variable that is declared in the parentheses of a method header. An argument is an expression that occurs within the parentheses of a method call.