

1. `/** comment as on prelim */`

```
public class religiousH extends Holiday {
    private String r; // Name of religion of this holiday
    private int days; // length of holiday, in days

    /** Constructor: new religious holiday with name
        n, religion r, beginning on date w, and
        d days long. */

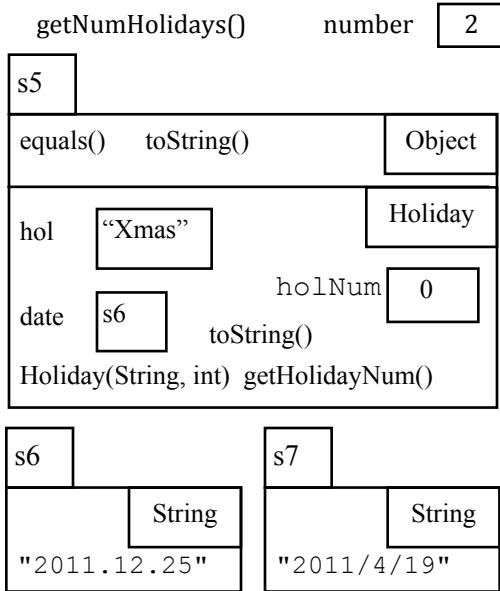
    public religiousH(String n, String r, String w,
                     int d) {

        super(n, w);
        this.r = r;
        days = d;
    }

    /** Constructor: as on prelim */
    public religiousH(String n, String r, String w) {
        this(n, r, w, 1);
    }

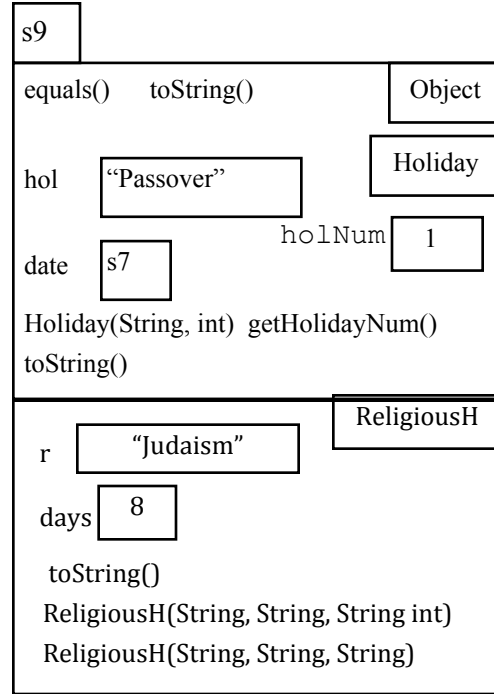
    /** spec as on prelim */
    public String toString() {
        return r + ", " + days + "-day " +
            super.toString();
    }
}
```

2. Values of the new-expressions are s5 and s9



3. `/** spec as on prelim */`

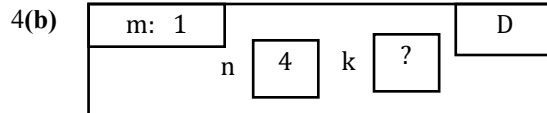
```
public static int lastIndexOfV(String s) {
    int a = s.lastIndexOf("a");
    int e = s.lastIndexOf("e");
    int i = s.lastIndexOf("i");
    int o = s.lastIndexOf("o");
    int u = s.lastIndexOf("u");
    return Math.max(a, Math.max(e,
        Math.max(i, Math.max(o, u))));
}
```



`/** spec as on prelim */`

```
public static String CS1110Ub(String s) {
    int h = lastIndexOfV(s);
    if (h == -1)
        return s;
    if (Character.isUpperCase(s.charAt(0)))
        return s.substring(0, h) + "ub" + s.substring(h);
    // { s[0] is lowercase }
    h = firstIndexOfV(s);
    return s.substring(0, h) + "ub" + s.substring(h);
}
```

4(a) Principle: Initialize superclass fields before subclass fields.



4(c) A local variable is created during the first step of executing a call: drawing the frame for the call. Thus, in the call D.m(4), k is created when the frame is drawn and exists throughout execution of the call, even though it can be referenced only in its scope: from its declaration to the end of the if-block in which it is declared.

4(d) Inside-out rule: To determine what declaration a reference to a variable or method refers, look first in the scope in which the reference occurs, then the surrounding scope, then its surrounding scope, etc., until the declaration is found.