Software Eng. 2AO4 - Software Design I - 2001
Laboratory 6

For weeks starting November 23 and November 30

For this laboratory you may chose either problem 1 or problem 2.

1. We define an ordering relation between rectangles by the following rules:

- If A has a greater area than B, then A is larger than B.
- If A and B have the same area and A is wider than B, then A is larger than B.
- If A and B have the same area and width, and A is higher than B, then A is larger than B.
- If A and B have the same area, width, and height, they are equal.

Given a set of rectangles stored in the Rectnagle.Mod module created in Laboratory 5, write a program that will print out a list of the rectangles in the order specified above with the largest first. For each item in the list print out its identifier (n), upper left hand coordinates, lower right hand coordinates, area, height and width. The order in which two or more equal (by the above definition) rectangles fit in the list is unimportant. Note that you can have two or more rectangles with exactly the same coordinates but different identifiers. All must be in the list that you print out.

2. Given a sequence of rectangles in which the first one is the largest, find the largest subset of the remaining rectangles that can be made to fit in a box. Draw a picture showing the final chosen layout.

Note that the program you produce should be able to work with any Rectangle.Mod module produced by any student in the class if it meets the specifications in the assignments.

On Friday, November 30, you will exchange your Rectangle.Mod module with your assigned partner as usual. Your lab report must be turned in to Dr. Farmer no later than December 7. You will not be required to demonstrate your application program or your test program.