Write a SPIM program which does the following:

1. [10] Prompt for an integer rectangle count. Your program should repeat the prompt if the input is not >1 and not <= 100.

2. [20] For each rectangle, prompt for an integer width and height. Using this height and width, calculate the rectangle’s area and store the area for future computation. Hint: you’ll need to allocate an array large enough to hold 100 integers.

3. [30] Use Selection Sort to sort the rectangle areas in descending order (i.e., from largest to smallest).

4. [10] Print the sorted areas with a single space between each entry.

5. [15] Calculate and print the integer mean of the areas.

6. [15] Calculate and print the integer median of the areas.

Your output should look like:

Enter rectangle count (1 < count <= 100): 101
Enter rectangle count (1 < count <= 100): 4
Enter width: 2
Enter height: 3
Enter width: 1
Enter height: 1
Enter width: 6
Enter height: 6
Enter width: 8
Enter height: 12
Areas (decreasing): 96 36 6 1
Integer mean area: 34
Integer median area: 21
Submit your program to Blackboard.