Assignment
HW05: Sebesta: Problem Set 8.(4,5,10), Programming Exercises 8.(4,5,6,8)
HANDWRITTEN – Due at beginning of class on due date.
PROGRAM – Due at midnight, via Blackboard, at midnight on day prior to due date.

Handwritten Portion

4. What are the pros and cons of using unique closing reserved words on compound statements?

5. What are the arguments, pro and con, for Python's use of indentation to specify compound statements in control statements?

10. In Ada, the choice lists of the **case** statement must be exhaustive, so that there can be no unrepresented values in the control expression. In C++, unrepresented values can be caught at run time with the **default** selector. If there is no **default**, an unrepresented value causes the whole statement to be skipped. What are the pros and cons of these two designs (Ada and C++)?

Programming Portion

4. Consider the following C program segment. Rewrite it using no gotos or breaks.

```
j = -3;
for (i = 0; i < 3; i++) {
  switch (j + 2) {
    case 3:
    case 2: j--; break;
    case 0: j += 2; break;
    default: j = 0;
  }
  if (j > 0) break;
  j = 3 - i
}
```

5. In a letter to the editor of *CACM*, Rubin (1987) uses the following code segment as evidence that the readability of some code with gotos is better than the equivalent code without gotos. This code finds the first row of an *n* by *n* integer matrix named x that has nothing but zero values.

```
for (i = 1; i <= n; i++) {
   for (j = 1; j <= n; j++)
      if (x[i][j] != 0)
         goto reject;
   println ('First all-zero row is:', i);
   break;
reject:
 }
```

Rewrite this code without gotos in one of the following languages: C, C++, Java, C#, or Ada. Compare the readability of your code to that of the example code.

6. Consider the following programming problem: The values of three integer variables—first, second, and third—must be placed in the three variables max, mid, and min, with the obvious meanings, without using arrays or user-defined or predefined subprograms. Write two solutions to this problem, one that uses nested selections and one that does not. Compare the complexity and expected reliability of the two.

8. Rewrite the C program segment of Programming Exercise 4 using if and goto statements in C.

Grading Rubric
The assignment is worth 25 pts (as a whole) and the score will be recorded as a percentage of that amount.

	Handwritten			Programming			
Problem	4	5	10	4	5	6	8
Points	3	3	3	4	4	4	4

10% Physical Format
50% Answers correct (and supported by work)
40% Effort evidenced by the submitted work