Objectives:
1. Programming Practice
2. Learning newer languages, e.g. Python and Ruby
3. Tasting older languages, e.g. FORTRAN and Ada

The objective of this assignment is both to ensure that you have practiced some concepts of Chapter 9 and also to motivate you to learn some features of newer languages such as Python and Ruby as well as having a taste of older languages such as FORTRAN and Ada.

For this assignment, you are required to provide answers to the following 3 exercises adopted from the Sebesta’s textbook (6th edition).

Exercise A)
Do Programming Exercise 1 of Chapter 9 (specified in Page 395) in ALL of the following languages.

1) Fortran
2) C
3) Java
4) C#
5) Ada
6) Python
7) Ruby

Your answer is required to follow the following template:

<table>
<thead>
<tr>
<th>Language</th>
<th>Code Representation</th>
<th>History Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fortran</td>
<td>...</td>
<td>Can Fortran provide history sensitivity in subprograms or not?</td>
</tr>
<tr>
<td>C</td>
<td>...</td>
<td>Can C provide history sensitivity in subprograms or not?</td>
</tr>
<tr>
<td>Java</td>
<td>...</td>
<td>Can Java provide history sensitivity in subprograms or not?</td>
</tr>
<tr>
<td>C#</td>
<td>...</td>
<td>Can C# provide history sensitivity in subprograms or not?</td>
</tr>
</tbody>
</table>
Exercise B)
Do Programming Exercise 4 of Chapter 9 (in Page 396) both in Perl and C#.
Your answer is required to follow the following template:

Your code in Perl here:
.
.
Explain the results here:
.
.
Your code in C# here:
.
.
Explain the results here:
.
.
Exercise C)
Do Programming Exercise 6 of Chapter 9 (specified in Page 396) in ALL of the following languages; however, skip any language that does not provide both static and stack-dynamic local variables.

1) Fortran
2) C
3) Java
4) C#
5) Ada
6) Python
7) Ruby

Your answer is required to follow the following template:
Write your code in Fortran here only if Fortran provides both static and stack-dynamic local variables:

If Fortran provides both static and stack-dynamic local variables, compare and explain the results here:

Write your code in C here only if C provides both static and stack-dynamic local variables:

If C provides both static and stack-dynamic local variables, compare and explain the results here:

Write your code in Java here only if Java provides both static and stack-dynamic local variables:

If Java provides both static and stack-dynamic local variables, compare and explain the results here:

Write your code in C# here only if C# provides both static and stack-dynamic local variables:

If C# provides both static and stack-dynamic local variables, compare and explain the results here:

Write your code in Ada here only if Ada provides both static and stack-dynamic local variables:

If Ada provides both static and stack-dynamic local variables, compare and explain the results here:

Write your code in Python here only if Python provides both static and stack-dynamic local variables:

If Python provides both static and stack-dynamic local variables, compare and explain the results here:

Write your code in Ruby here only if Ruby provides both static and stack-dynamic local variables:

If Ruby provides both static and stack-dynamic local variables, compare and explain the results here:

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**Important NOTES:**

- **Note 1.** You may need to modify/develop some of above programs to declare the variables or to print the results.
- **Note 2.** Your submission must follow the above templates provided for each question (exercise).
- **Note 2.** It is extremely important that you develop YOUR OWN CODE and explain the results IN YOUR OWN WORDS. Answers that are very similar to those of other students or other resources are not accepted and can seriously and negatively impact your grade.
- **Note 3 (Marking scheme).** This assignment has 300 marks and for every question (exercise) that you do not provide the answer or the provided answer is incorrect you will lose 150 marks. This means—for instance—if you provide correct answers for 1 of the questions and leave the remaining 2 questions blank (or incorrect answers), **you will get nothing (no bonus point)!**
- **Note 4:** Make a copy of your answers for your own reference, as assignments will not be returned to you.
- **Note 5:** For this assignment, your submission must be typed (not handwritten).
This assignment has only 1 stage with the following deadline:

Hand in your answers in the beginning of class on Thursday, March 25.
IMPORTANT NOTE: ALL students have to hand in this assignment. This means even if you do not want to get any bonus point for this assignment, you STILL need to hand in to me a blank paper that you have your full name on it.

**Deadline: Thursday, March 25, in class (either at 12:30PM in S205 or at 5:00PM in S204).**

This is a VERY important assignment related to Partial Exam 3

**** Note the deadlines (dates and times) are firm. Please plan ahead. ****