

CS344: Programming Languages

Review Sheet Solutions

Required Problems

1. Problem 3.5

Solution: With C rules, line 7 refers to the a and b declared on lines 2 and 5, respectively; line 11 refers to the a and b declared on lines 8 and 5, respectively; and line 14 refers to the a and b declared on lines 2 and 3, respectively. The program prints 1 1 3 1 1 2 . With C# rules, the compiler should produce use-before-dene errors for a at lines 5 and 7. With Modula-3 rules, line 7 refers to the a and b declared on lines 8 and 5, respectively; line 11 refers to the a and b declared on lines 8 and 5, respectively; and line 14 refers to the a and b declared on lines 2 and 3, respectively. The program prints 3 3 3 3 1 2 .

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2. Problem 3.6

Solution: 9 4 2 3

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3. Problem 3.11

Solution: P , B, X , Q, R, A (parameter to R), C (parameter to R), and Z . Note that the parameters and local variable of Q are not in scope, nor is P's parameter A.

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