

Chapter 10 Laboratory Exercise

Prelab Assignment

1. Can class methods access instance variables? Why or why not?
2. Can instance methods access class variables? Why or why not?
3. What is stepwise refinement?
4. How does a Java interface differ from a Java class?
5. Write a class method that determines whether an integer is divisible by 3 or not.

3. Generalize your program from Exercise 2 so that your class implements an interface instead. Use your interface in a program that allows the user to translate a message to and from an arbitrary substitution code entered by the user (e.g. the user enters any permutation of letters he or she wishes for the code as a string of 26 characters).

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Postlab Questions

1. Were the methods implemented in Exercise 1 good choices for inclusion in a class library?
2. Could the graphics functions from Chapter 8 be collected in a class library implemented using class methods?
3. Would it have been better to design your solution for Exercise 2 using an interface in the first place?
4. How could you use the Java random number generator to create a code for the user in Exercise 3?