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### **Rollin' Rollin' Rollin'**

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Here's a simple game using ordinary six sided dice. You have six dice, initially random. On each turn you roll one more die and can then exchange it (if you wish) for any one of your current dice. Your objective is to form two sets of three dice as quickly as possible where a set consists either of three dice showing the same number, e.g., 444, or three dice in sequence, e.g., 123 or 345.

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#### **Task**

You must provide a class that extends the abstract class `Rollin.java`. Please give your class a distinctive (but polite) name associated with your group. Comments in `Rollin.java` specify the contracts for the methods that you need to implement.

The main purpose of this étude is to get you working with your group – during one or two labs in the first week you should be able to discuss the problem, come up with some strategies for solving it, and write a program to implement your chosen solution. Your solution will be compared to the other groups' in the town hall on either March 14 or March 15, so as a matter of pride I suggest that you not submit a program that, for example, just acts randomly hoping to get lucky at some point!

This étude must be completed and submitted by March 12 so that the results can be discussed and compared in the town halls that week.

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#### **Standards**

For an achieved standard the program must operate as specified.

Merit criteria include well-structured and readable code, and a strategy that works relatively well compared to say just random choices.

Excellence criteria include optimal, or near optimal strategies, or extensions to the program.

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#### **Objectives**

2.1, 2.2, 2.6, 2.9, 3.5, 3.6, 4.1, 4.3, 4.4.

(Group)