Exercise 8. *Deadline: 11 January 2010.*

THE JAVA PROGRAMMING LANGUAGE

A MAZE

University of Wrocław
Institute of Computer Science *Paweł Rzechonek*

Exercise

Write a simple applet, that will generate a rectangular maze (a grid of cells). Your applet should randomly construct a *perfect maze* (create a maze in the `start()` method), where perfect means that the maze is well–connected such that any point within it is reachable from any other point, and the maze also contains no loops. In other words, the solvable path between any to points is unique.

The user begins at the start position (the left–top corner), and should use the arrow keys to navigate through the maze (note that before the arrow keys will work, the user must mouse–click in the applet once). The goal is to achieve the finish point (the right–bottom corner).

You can specify an applet's input parameters in the <parameter> element of the <applet> tag (get parameters in the `init()` method). you may use an applet's parameters to customize the applets on your webpage. Your applet should recognize the following parameters:

- `columns`: this parameter indicates the number of columns in the maze;
- `rows`: this parameter indicates the number of rows in the maze.

Your applet should consist of one panel only (an object of type `JPanel` for presenting the maze and the state of game) and two buttons (the one for restarting the current game, and the one for creating a new maze).

Requirement

Build your applet using Swing components (your applet should extend the `JApplet` class).