Problem Solving and Search

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$\Big[$ http://www.illc.uva.nl/~ulle/teaching/pss/ $\Big]$

Problem Solving and Search

This course is about techniques for solving various kinds of *problems*, with a special focus on *search techniques*.

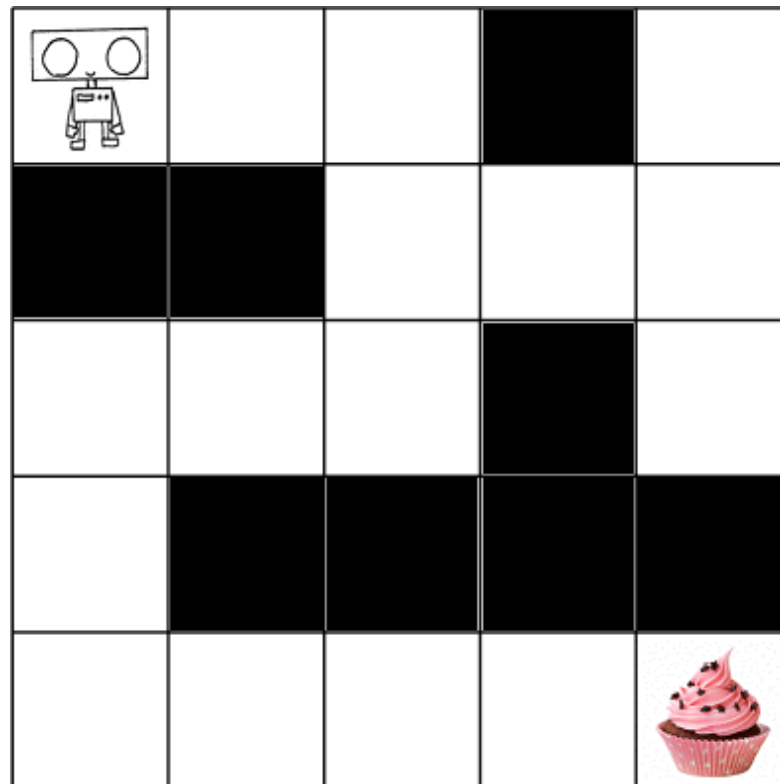Examples for some of the problems you will learn how to solve . . .

Prime Numbers

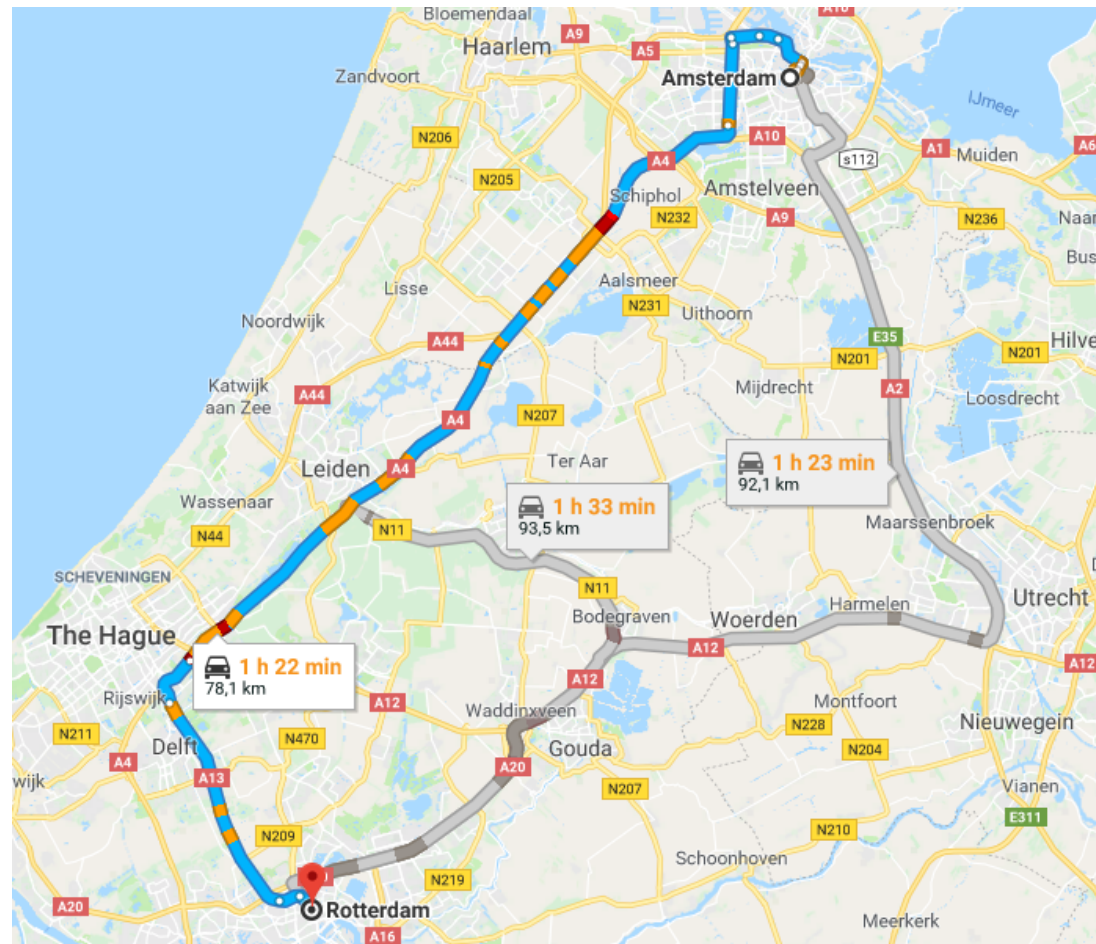Check whether 42000059 is a prime number!

Labyrinth Navigation

Help the robot to find its way to the cup cake!

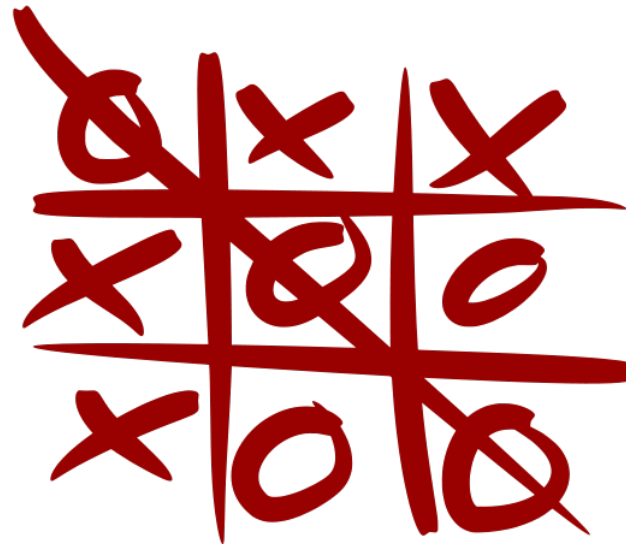# Route Finding

Find the shortest route from here to Rotterdam!

Countdown

Beat any human player on the game show *Countdown!*

Playing Tic-Tac-Toe

Play Tic-Tac-Toe without ever losing a game again!

But most importantly . . .

. . . we are going to do all of this in a *principled* manner!

You will learn how to *think* about problems systematically.

You will learn how to *use general techniques* for solving problems.

You will learn to *appreciate* the mathematical elegance of solutions.

You will learn how to *evaluate* the quality of different solutions.

You will learn how to *describe* your solutions clearly and precisely.

Course Overview

Lectures 1–6	Programming in Prolog
Lecture 7	Sorting Algorithms
Lectures 8–12	Search Algorithms

Organisational Matters

Rules and regulations as well as all sorts of practical information can be found in the *studiewijzer*. Read it *today*. Ask any questions *tomorrow*.