

## Introduction to programming – Activity 4

### Getting started

- ☐ Double-click on the file *Activity4.R*
- ☐ Make sure your working directory is set to Activity4
- ☐ **This week, we will be playing a game so read the instructions first!**

### The Maze Game

The goal of this game is for the **ARCHITECT** to give directions so that the **SPY** can escape a dark maze in which one cannot see anything. This game was coded by Jessica, but is inspired from *Keep Talking and Nobody Explodes* (<http://www.keeptalkinggame.com/>).

- ☐ First, select a **SPY** and an **ARCHITECT**. Everyone should get a chance to play each role.
- ☐ The **ARCHITECT** should face the back of the computer and not see the screen.
- ☐ The **ARCHITECT** takes all the plans for the mazes.
- ☐ The **SPY** is at the computer. When both players are ready, the SPY should type:  
`source("Activity4.R")`
- ☐ The **SPY** selects a maze that he has not done before and press **OK**.
- ☐ The **SPY** is now in a dark maze and must give the coordinates of the runner to the **ARCHITECT** to identify which plans are needed. Remember: give the coordinates of the bottom, left corner (back shoe). **For the bonus mazes (#102-116) the SPY should give the maze number instead.**
- ☐ The **ARCHITECT** must now find the maze that corresponds to the position of the runner. Other students can help. **For the bonus mazes (#102-116) the ARCHITECT must find the maze designer in the list and the corresponding plans.**
- ☐ The **ARCHITECT** must then provide directions to the **SPY** to get out of the maze. First, specify if the **SPY** must move in the **x-direction** or in the **y-direction**, and second whether the movements are in the **positive** or **negative direction**. Hint: you can draw on the maze plans.
- ☐ The **SPY** must enter each step in order. If the **SPY** hits a wall, the **SPY** dies and the game is over. The same **SPY** and **ARCHITECT** can try again. Hint: ask for help if you always die in the same spot.
- ☐ The mission is a success when the **SPY** reaches the finish flags.
- ☐ Rotate the roles between the students and play as many times as you want!

**In two weeks, you will be able to make your own maze for the game like our guest maze designers at the Ocean Discovery Institute!!!**