# Lab-Activity-2

## Problem Analysis

The exercise requires combining the two behaviors implemented in the previous lab: phototaxis and collision avoidance.

The robot must reach the light source as quickly as possible while avoiding obstacles along the way.

The arena therefore consists of a randomly placed light source and a variable number of obstacles

## My Solution

I separated the logic into two main phases, giving priority to obstacle avoidance.

The robot's behavior is simple and effective: as long as it doesn't detect the light, it moves randomly while avoiding obstacles. Once it detects the light's position, it tries to reach it in the shortest possible time. If it encounters obstacles along the way, the avoidance policy is based on the previously saved light position (in *pos_light*). Specifically, if the light is to the left of the obstacle, the robot will go around the obstacle on the left, aiming to reach the light source as efficiently as possible.