Computing with Physarum polycephalum

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This experiment was conducted to prove that slime mold is capable of decision-making, similar to a computer. The slime mold underwent various tests that could closely relate to the decision making processes inside the workings of a functioning computer. Like the binary code, the slime mold should be able to make decisions based on a yes or no request. A maze with was built with selected decision points. The selected stimulus was placed on one side of the decision point and the slime mold was placed just before the decision point and allowed to grow. 95% of the time, the slime mold selected the expected outcome, which was to grow away from salt, baking soda, baby powder, and hydrogen peroxide, but grow towards oatmeal flakes. With the use of statistical testing, it was found that the failure rate is not statistically significant. This was the expected outcome of the experiment.

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