# ICFP Programming Contest 2012
# Addition: Higher Order Rocks

ICFP Programming Contest Organising Team

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We have made some improvements to our surveying equipment, and as a result we have discovered that there are more Lambdas than we thought underground, hidden inside Rocks:

 Higher Order Rock (`@` in ASCII)

To extract the Lambda contained within a Higher Order Rock, it must be made to fall. When it lands, it shatters, releasing its inner Lambda. Higher Order Rocks are represented in the input format as `@`.

Higher Order Rocks behave like ordinary Rocks in all respects (i.e. they fall into Empty spaces, they slide off Rocks and Lambdas, Rocks slide off them, etc), *except* that as soon as a Higher Order Rock falls into a cell *immediately above* a cell $c$ which was non-Empty in the previous state, it is transformed into a Lambda. This transformation occurs during the same map update phase in which the Higher Order Rock falls. If the Robot happens to occupy cell $c$ then the Robot is destroyed by the impact, just like an ordinary Rock fall.

A Closed Lambda Lift will not turn into an Open Lambda Lift until all Lambdas have been collected, including those hidden in Higher Order Rocks.

**Note:** This means that even if there are no lambdas left (perhaps due to Rocks and Higher Order Rocks crashing into each other) the Lambda Lift will not Open *unless* all Lambdas which were present at the start, whether inside Rocks or not, have been collected. As a result, crashing Higher Order Rocks into each other will render a map unsolvable!