

ICFP Programming Contest 2012

Addition: Trampolines

ICFP Programming Contest Organising Team

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On surveying some of the mines, we have discovered that the complex layouts can be rather hard for Mining Robots to navigate. To make things easier, we have created a way to jump between different parts of a mine, using a Trampoline which allows a Robot to jump to a Target location:



Trampoline (A...I in ASCII)



Target (1...9 in ASCII)

A mine can contain up to nine Trampolines, labelled A...I in the input format, and up to nine Targets, labelled 1...9. After the mine layout and a blank line, the input metadata specifies which Trampoline leads to which Target in the format Trampoline [character] targets [character]. For example:

```
##L#####  
#.....R#.**..#  
#.*A...#..1..#  
#.*....#.\.#  
#.\...\#...\#  
#2.....*B...#  
#####
```

```
Trampoline A targets 1  
Trampoline B targets 2
```

The Robot may step on a Trampoline, which causes it to be transported, as part of the same Robot movement, to the associated Target. The Trampoline and Target are immediately removed from the map (i.e. the Trampoline becomes Empty space, and the Target is replaced with the Robot) as part of the Robot movement phase, before map update. Multiple Trampolines may have the same Target. In this case, *all* Trampolines with the same Target are removed from the map when one is used.

This map can be solved with the sequence `DLLLRDDDLLURRRUUULLU`. Trampolines have been known to cause great excitement in Scotland: <http://www.youtube.com/watch?v=UPKb9z417eM>. We hope that they help your mine explorations.