ICFP programming contest 2017
Splurges: Is listlessness better than laziness? (1.0)

ICFP programming contest organisers

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In 1984 Philip Wadler argued that listlessness is better than laziness [1]. We are curious to find out whether listless punters are better than lazy punters. Perhaps you can help.

In a standard lambda punter game, a punter can claim at most one river per move. With the Splurge extension, a punter may claim a list of connected rivers that form a single route in a single move. In order to splurge a route of length n, the punter must have passed $n-1$ prior moves. Thus, by being lazy and passing, a punter builds up credit which can either be splurged in one go, or in smaller chunks.

Scoring   The rules for scoring are unaffected, but laziness may sometimes make for a prosperous future.

Changes to the protocol   Splurges are enabled when the `"settings"` message of the setup phase contains a boolean `"splurges"` field with the value set to true.

In order to support splurges, the Move data type (described in Section 4.2 of the main task description) is extended as follows:

$$\begin{aligned}
\mathsf{Move} = &\ \{\texttt{"claim"} : \{\texttt{"punter"} : \mathsf{PunterId}, \texttt{"source"} : \mathsf{SiteId}, \texttt{"target"} : \mathsf{SiteId}\}\} \\
&|\ \{\texttt{"pass"} : \{\texttt{"punter"} : \mathsf{PunterId}\}\} \\
&|\ \{\texttt{"splurge"} : \{\texttt{"punter"} : \mathsf{PunterId}, \texttt{"route"} : [\mathsf{SiteId}]\}\}
\end{aligned}$$

The list of site ids defines a single route formed from contiguous rivers starting from the first site id in the list and ending at the last one. The same site id may appear more than once in the route. However, every river in the route must be unclaimed and must appear exactly once in the route.

References

[1] P. Wadler. *Listlessness is Better than Laziness*. PhD thesis, 1984.