## Pathfinder

## Inputs

| Name | Type | Range | Description |
| :---: | :---: | :---: | :---: |
| Start | int | [ 0, 47] | Starting point |
| Destination | int | [ 0, 47] | Destination point |
| ForwardNext | $\begin{aligned} & \text { int[48] } \\ & {[5]} \end{aligned}$ | [-1, 47] | The next track in the main direction. Each track can have at most 5 possible next tracks. Invalid branches are represented by the value -1 . |
| ReverseNext | $\begin{aligned} & \text { int[48] } \\ & {[5]} \end{aligned}$ | [-1, 47] | Same behavior as ForwardNext, but in the secondary direction. If the secondary direction is not permitted all values are -1. |
| Reverse | bool | [0,1] | 0 the train is traveling in the track's main direction <br> 1 the train is traveling in the track's reverse direction |
| SwitchToForwa rd | $\operatorname{lnt}[2]$ | $\begin{aligned} & {[0,47],[ } \\ & 0,4] \end{aligned}$ | Identifies the track connection which places the train on the outer loop facing in the forward direction. [0] index of the inner loop track <br> [ 1] index of the next track in the ForwardNext or ReverseNext array |
| SwitchToRever se | $\operatorname{lnt}[2]$ | $\begin{aligned} & {[0,47],[ } \\ & 0,4] \end{aligned}$ | Identifies the track connection which places the train on the outer loop facing in the reverse direction. <br> [ 0 ] index of the inner loop track <br> [ 1] index of the next track in the ForwardNext or ReverseNext array |

## Outputs

| Name | Type | Range | Description |
| :--- | :---: | :---: | :--- |
| Path | int[200] | $[0,47]$ | Sequence of tracks to follow to get from the starting point to the destination (shortest path) <br> The end of the sequence is marked by the value -1 |

