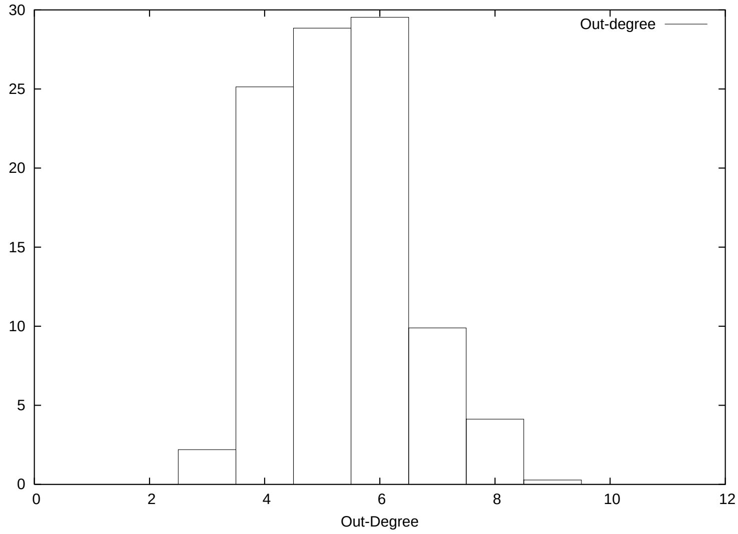
# Graph: divine/phil-return-6

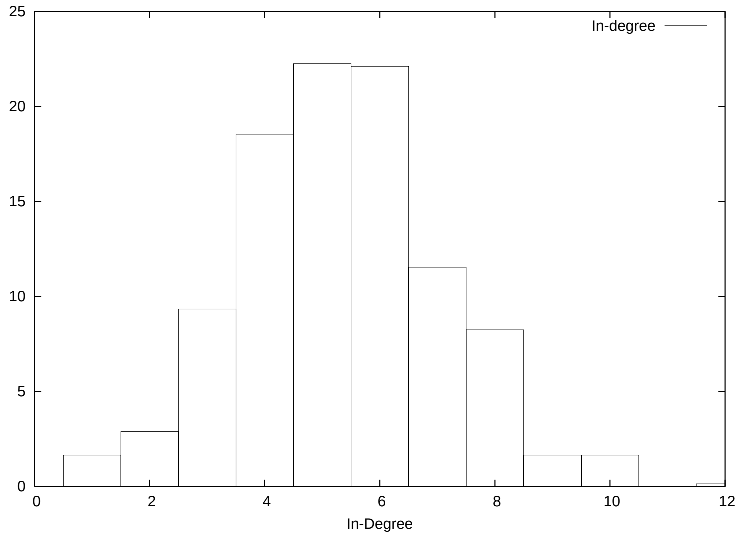
## General Info

| | |
|---|---|
| Example title | Dining philosophers |
| Parameter | 6 |
| Reduction | |
| Modification | with return |
| | |
| States | 728 |
| Edges | 3,882 |
| Average degree | 5.3 |

Out-Degrees distribution:



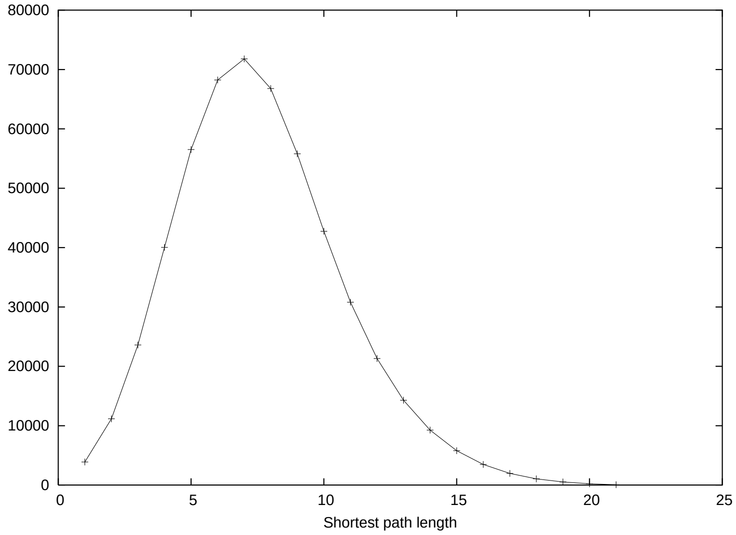

In-Degrees distribution:



## Shortest Paths Info

Diameter: 21
Average shortest path length: 7.62445

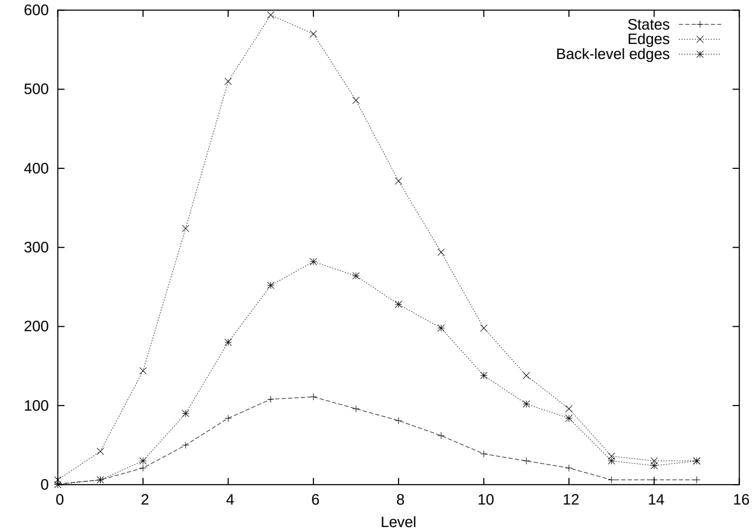
Shortest paths lengths frequencies:



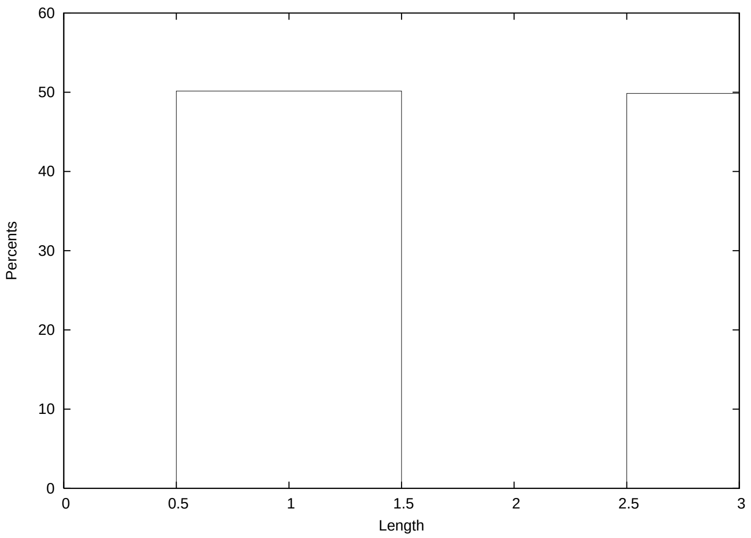
## BFS Info

| | |
|---|---|
| BFS height | 15 |
| BFS width | 111 (15.2%) |
| Back level edges | 1,938 (49.9%) |

BFS level info:




Back level edges lengths:



# SCC Info

| | |
|---|---|
| SCC components | 1 |
| SCC quetient height | 0 |
| SCC quetient nontrivial height | 0 |
| Number of terminal components | 1 |
| The largest component is | initial the only terminal |

Statistics according to **sizes**:

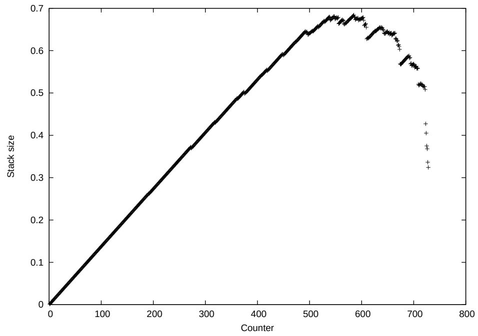
| Size | Number of components | Number of states here |
|---|---|---|
| 728 | 1 | 100% |

SCC component graph (part):

## DFS Info

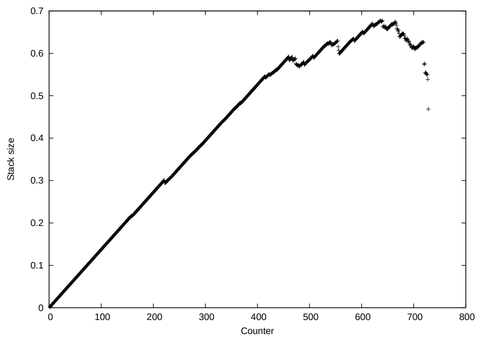
### Run 0

front-edges : back-edges : cross-edges = 727 : 1,867 : 1,288 = 18.7%:48%:33.1%
Max. stack size: 498 (68.4%)
Shortest cycle detected: 2
Most often detected lengths of cycles: 2 (362), 4 (66), 6 (23), 142 (21), 70 (21)
Stack graph:




### Run 1

front-edges : back-edges : cross-edges = 727 : 1,815 : 1,340 = 18.7%:46.7%:34.5%
Max. stack size: 493 (67.7%)
Shortest cycle detected: 2
Most often detected lengths of cycles: 2 (370), 4 (79), 6 (29), 8 (23), 398 (19)
Stack graph:



## Local Structure

**Short cycles**(up to 6)

| | | |
|---|---|---|
| 2 | 664 | (91.2%) |
| 3 | 0 | (0%) |
| 4 | 64 | (8.7%) |

**Diamonds**

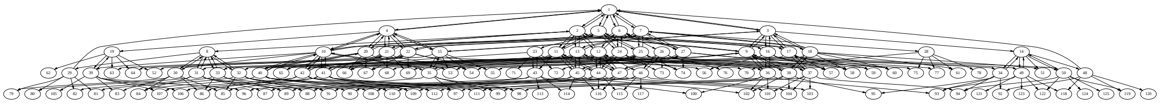
728 (100%)

**Neighborhoods**

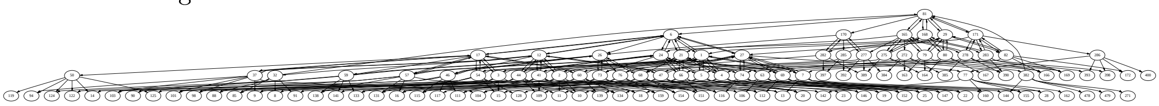
| $k$ | avg size | avg clustering |
|---|---|---|
| 1 | 6.3 | 1 |
| 2 | 21.6 | 1.6 |
| 3 | 54 | 2.1 |
| 4 | 109 | 2.7 |

Visualization of some parts of the state state space:

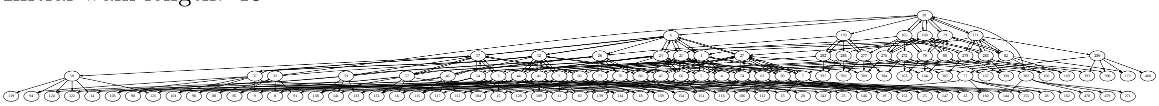
Initial walk length: 0



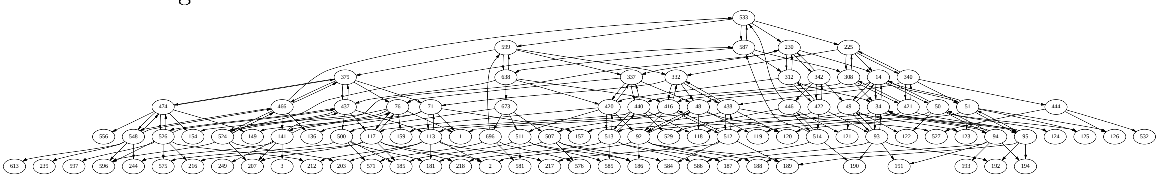
Initial walk length: 20



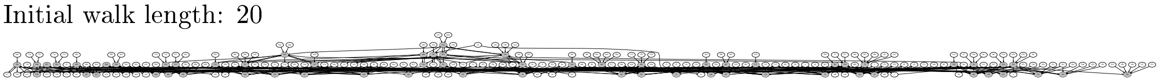
Initial walk length: 40



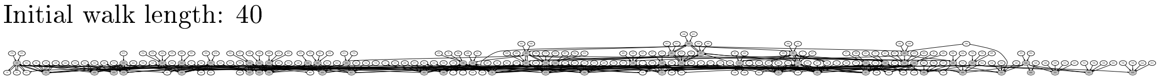
Initial walk length: 60



Initial walk length: 20



Initial walk length: 40



Initial walk length: 60