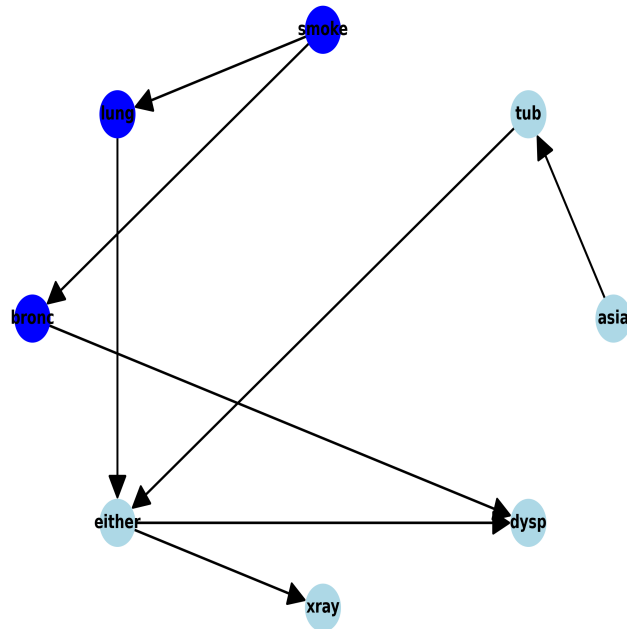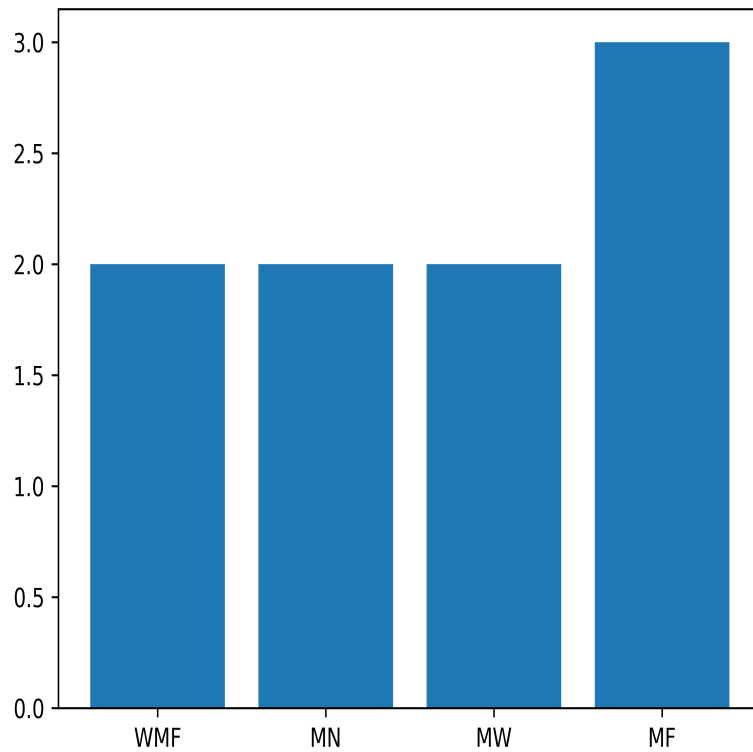# Variable Elimination - reasoning

Comparison of heuristics for selecting variable elimination ordering

La heurística de eliminación óptima es MinNeighbors

Factors of the reduced model

+-----------+-----------+-----------+
| smoke | smoke(yes) | smoke(no) |
+-----------+-----------+-----------+
| lung(yes) | 0.1 | 0.01 |
+-----------+-----------+-----------+
| lung(no) | 0.9 | 0.99 |
+-----------+-----------+-----------+

+-----------+-----------+-----------+
| smoke | smoke(yes) | smoke(no) |
+-----------+-----------+-----------+
| bronc(yes) | 0.6 | 0.3 |
+-----------+-----------+-----------+
| bronc(no) | 0.4 | 0.7 |
+-----------+-----------+-----------+

+-----------+-----+
| smoke(yes) | 0.5 |
+-----------+-----+
| smoke(no) | 0.5 |
+-----------+-----+

Elimination order: smoke

Variable to eliminate smoke
Factors involved

+-----------+--------------+
| smoke | phi(smoke) |
+===========+==============+
| smoke(yes) | 0.5000 |
+-----------+--------------+
| smoke(no) | 0.5000 |
+-----------+--------------+

+-----------+--------------+
| smoke | phi(smoke) |
+===========+==============+
| smoke(yes) | 0.1000 |
+-----------+--------------+
| smoke(no) | 0.0100 |
+-----------+--------------+

+-----------+-----------+-------------------+
| bronc | smoke | phi(bronc,smoke) |
+===========+===========+===================+
| bronc(yes) | smoke(yes) | 0.6000 |
+-----------+-----------+-------------------+
| bronc(yes) | smoke(no) | 0.3000 |
+-----------+-----------+-------------------+
| bronc(no) | smoke(yes) | 0.4000 |
+-----------+-----------+-------------------+
| bronc(no) | smoke(no) | 0.7000 |
+-----------+-----------+-------------------+

Phi

+-----------+--------------+
| bronc | phi(bronc) |
+===========+==============+
| bronc(yes) | 0.0315 |
+-----------+--------------+
| bronc(no) | 0.0235 |
+-----------+--------------+

Final distribution

bronc	phi(bronc)
=============	============
bronc(yes)	0.5727
bronc(no)	0.4273