Structure Learning with PC algorithm

1. Implemented algorithms in pc1.m, pc2.m and pc3.m
2. Skeletons learned

Data1

PC1, PC2 and PC3 learned the same skeleton

0 0 0 1 0

0 0 0 1 0

0 0 0 1 0

1 1 1 0 1

0 0 0 1 0

Graphically

4

5

3

2

1

Data 2

PC1, PC2 and PC3 learned the same adjacency matrix:

0 0 1 0 0 0 1 0

0 0 0 0 0 0 1 0

1 0 0 0 0 0 0 1

0 0 0 0 0 1 0 0

0 0 0 0 0 0 1 1

0 0 0 1 0 0 1 0

1 1 0 0 1 1 0 0

0 0 1 0 1 0 0 0

Data 3

PC1, PC2 and PC3 returned the same adjacency matrix:

0 0 0 0 0 0 1 1 0 0 0

0 0 0 0 1 1 0 0 0 1 1

0 0 0 0 0 0 0 0 1 1 0

0 0 0 0 1 1 0 0 1 1 1

0 1 0 1 0 0 0 0 0 0 0

0 1 0 1 0 0 0 0 0 0 0

1 0 0 0 0 0 0 1 0 0 0

1 0 0 0 0 0 1 0 0 0 0

0 0 1 1 0 0 0 0 0 0 0

0 1 1 1 0 0 0 0 0 0 1

0 1 0 1 0 0 0 0 0 1 0

1. Number of CI Tests

|  |  |  |  |
| --- | --- | --- | --- |
|  | PC1 | PC2 | PC3 |
| D1 | 51 | 47 | 59 |
| D2 | 607 | 376 | 215 |
| D3 | 7501 | 3079 | 940 |