Appendix

In the following C^7 denotes a chain of rank 7

A.1 $P\left(6,\{[1,2],[2,6]\}\right)+P\left(6,\{[2,5],[5,6]\}\right)$

Take $\overset{\leftrightarrow}{D}{}^{N}_{[1,2]}\overset{\leftrightarrow}{D}{}^{N}_{[2,6]}\left(C^7\right)$ and $\overset{\leftrightarrow}{D}{}^{N}_{[1,5]}\overset{\leftrightarrow}{D}{}^{N}_{[5,6]}\left(C^7\right)$. Identify the elements of both posets at rank 1 and at rank 6. Figure 1 represents the resulting poset for $N=2$.

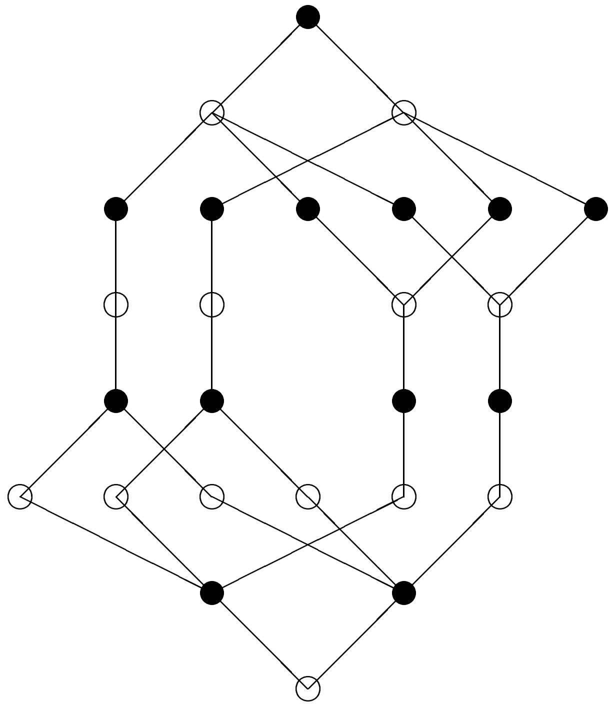

Figure 1: $P\left(6,\{[1,2],[2,6]\}\right)+P\left(6,\{[2,5],[5,6]\}\right)$

A.2 $P\left(6,\{[1,3],[3,4],[4,6]\}\right)+P\left(6,\{[1,2],[2,3]\}\right)+P\left(6,\{[4,5],[5,6]\}\right)$

Take

$$\begin{aligned} P^{I}(N) &= \overset{\leftrightarrow}{D}{}^{N}_{[1,3]}\overset{\leftrightarrow}{D}{}^{N}_{[3,4]}\overset{\leftrightarrow}{D}{}^{N}_{[4,6]}\overset{\leftrightarrow}{D}{}^{N+1}_{[4,5]}\left(C^{7}\right) \\ P^{II}(N) &= \overset{\leftrightarrow}{D}{}^{N+1}_{[1,2]}\overset{\leftrightarrow}{D}{}^{N}_{[1,6]}\overset{\leftrightarrow}{D}{}^{N}_{[2,4]}\left(C^{7}\right), \quad \text{and} \\ P^{III}(N) &= \overset{\leftrightarrow}{D}{}^{N}_{[1,5]}\overset{\leftrightarrow}{D}{}^{N}_{[3,5]}\overset{\leftrightarrow}{D}{}^{N}_{[5,6]}\left(C^{7}\right). \end{aligned}$$

Identify the elements of $P^{I}(N)$ with the elements of $P^{II}(N)$ at ranks $1,4,5,$ and 6. Identify the elements of $P^{I}(N)$ with the elements of $P^{III}(N)$ at ranks $1,2,3,$ and 6. Figure 2 represents the resulting poset for $N=2$.

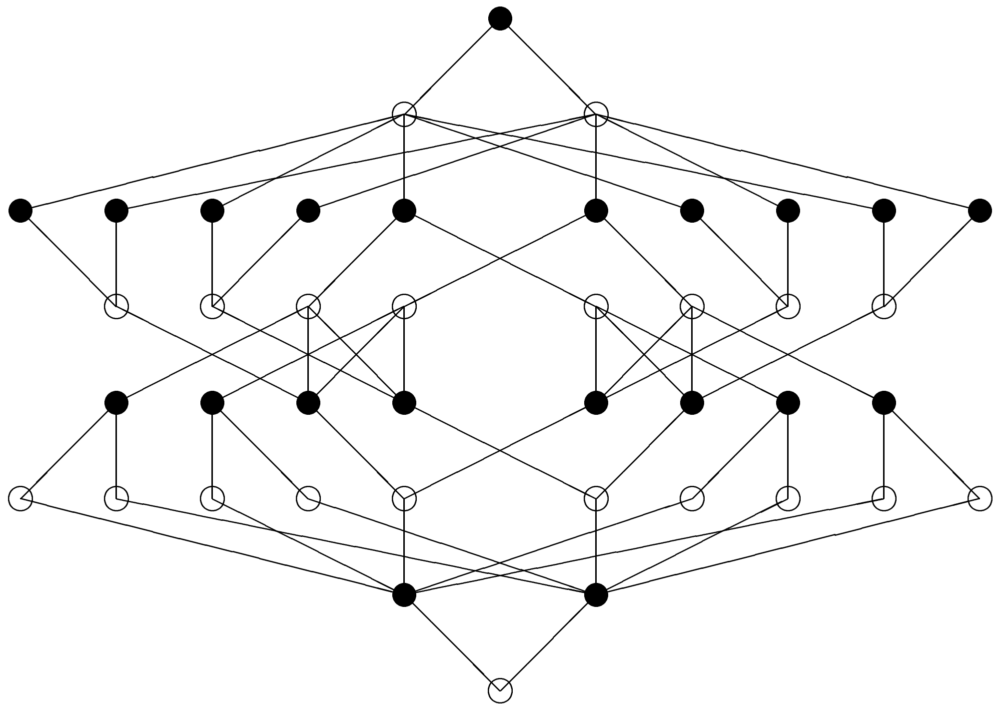

Figure 2: $P\left(6,\{[1,3],[3,4],[4,6]\}\right)+P\left(6,\{[1,2],[2,3]\}\right)+P\left(6,\{[4,5],[5,6]\}\right)$

A.3 $P\left(6,\{[1,2],[3,4],[4,5]\}\right)+P\left(6,\{[3,5],[5,6]\}\right)+P\left(6,\{[1,2],[2,5]\}\right)$

Take

$$
\begin{array}{rcll}
P^{I}(N) & = & \overleftrightarrow{D}^{N+1}_{[1,2]}\,\overleftrightarrow{D}^{N+1}_{[3,4]}\,\overleftrightarrow{D}^{N}_{[3,6]}\,\overleftrightarrow{D}^{N+1}_{[4,5]}\left(C^{7}\right) & \text{(Figure 3)} \\
P^{II}(N) & = & \overleftrightarrow{D}^{N+1}_{[1,5]}\,\overleftrightarrow{D}^{N^2}_{[3,5]}\,\overleftrightarrow{D}^{N}_{[5,6]}\left(C^{7}\right) & \text{(Figure 4), and} \\
P^{III}(N) & = & \overleftrightarrow{D}^{N+2}_{[1,2]}\,\overleftrightarrow{D}^{N^2-N+2}_{[2,5]}\,\overleftrightarrow{D}^{N}_{[1,6]}\left(C^{7}\right) & \text{(Figure 5).}
\end{array}
$$

Identify the elements of $P^{I}(N)$ with the elements of $P^{II}(N)$ at ranks $1, 2,$ and 6. Identify the elements of $P^{I}(N)$ with the elements of $P^{III}(N)$ at rank 6. Figure 6 represents the resulting poset for $N = 2$.

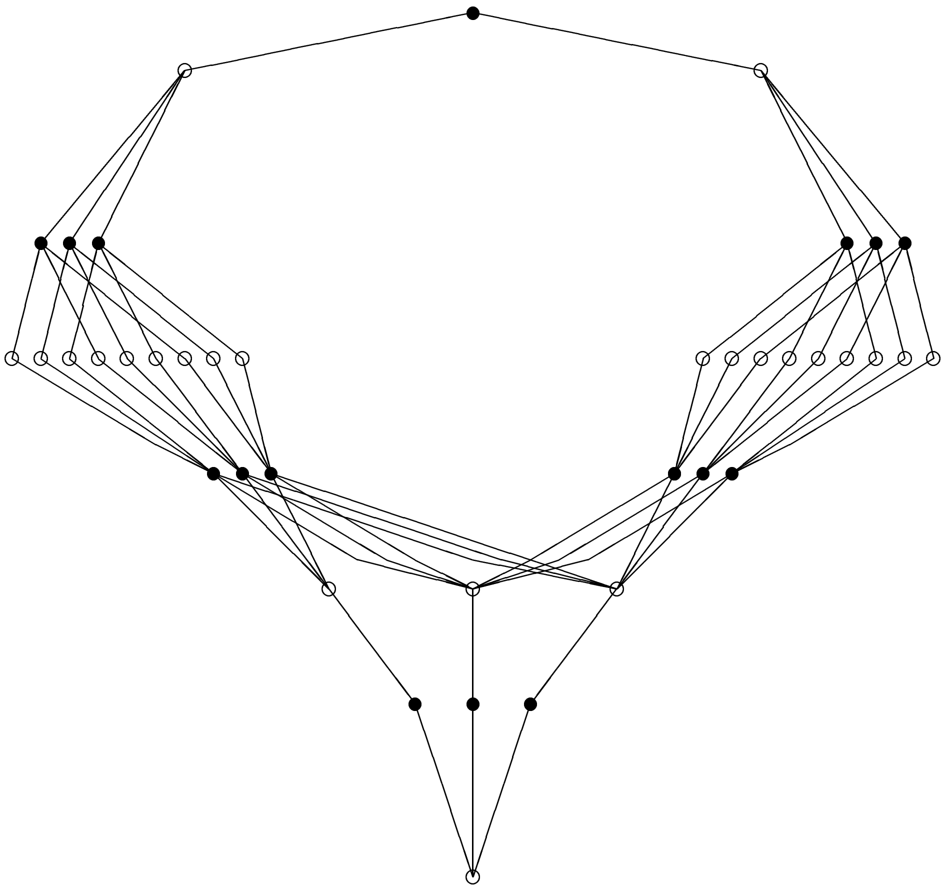

Figure 3: $P^{I}(N)$

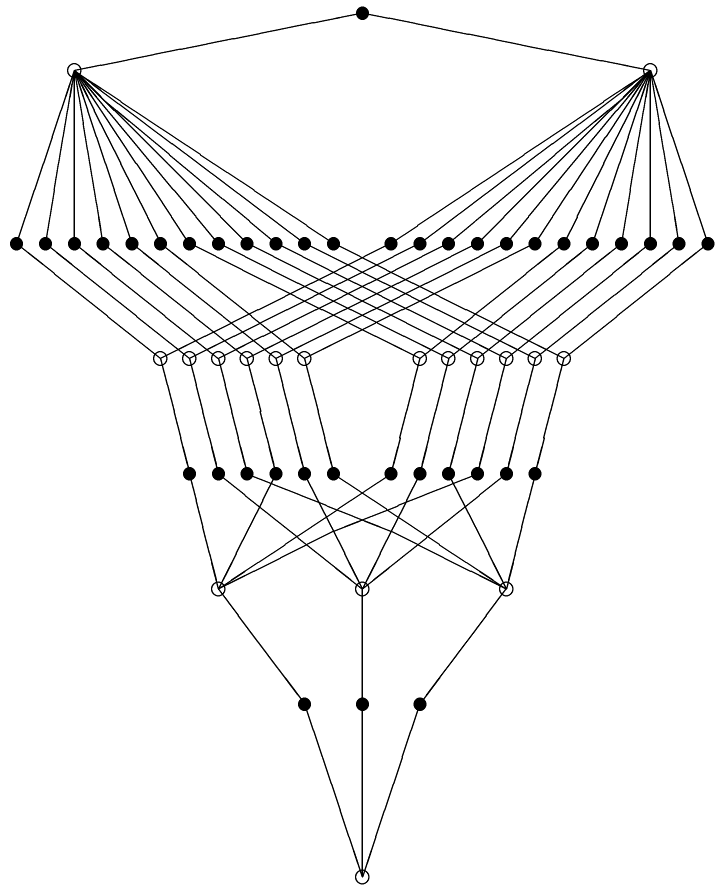

Figure 4: $P^{II}(N)$

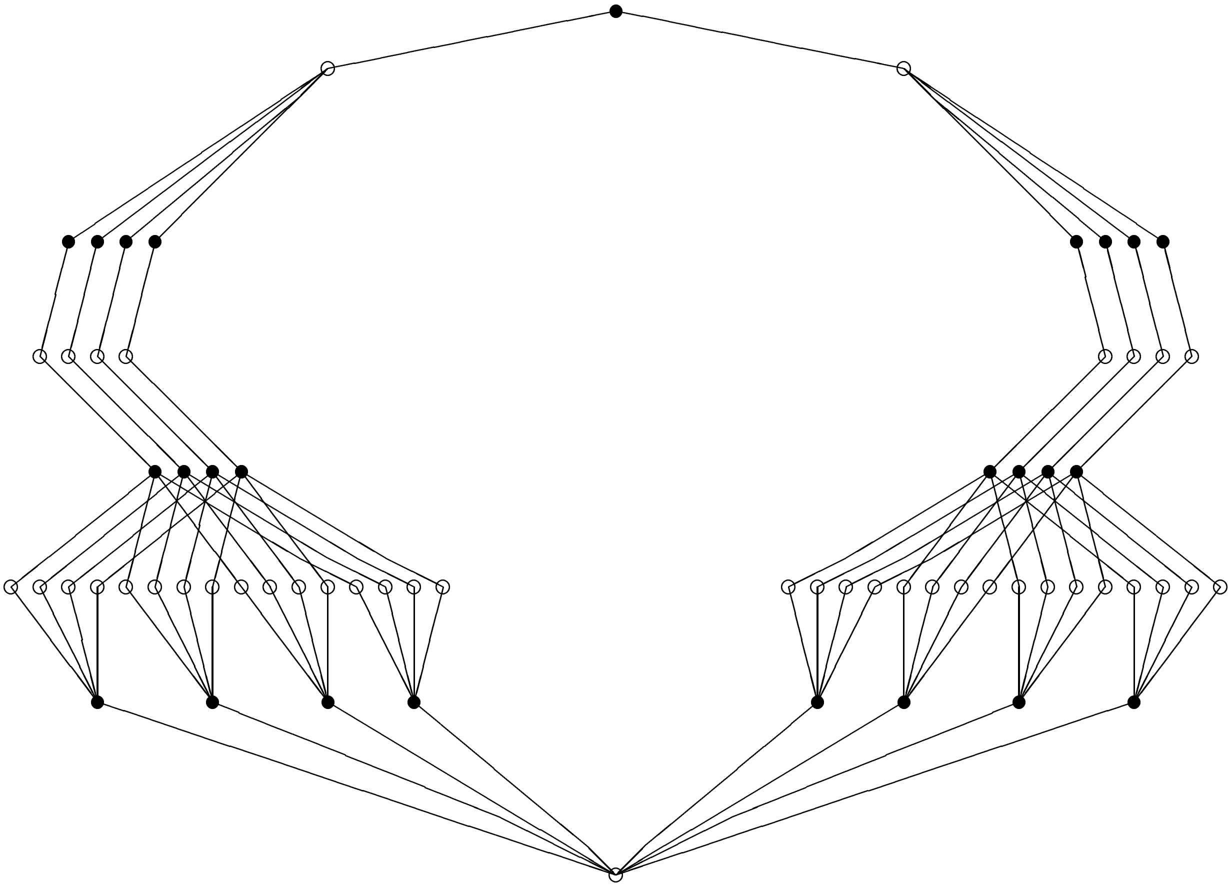

Figure 5: $P^{III}(N)$

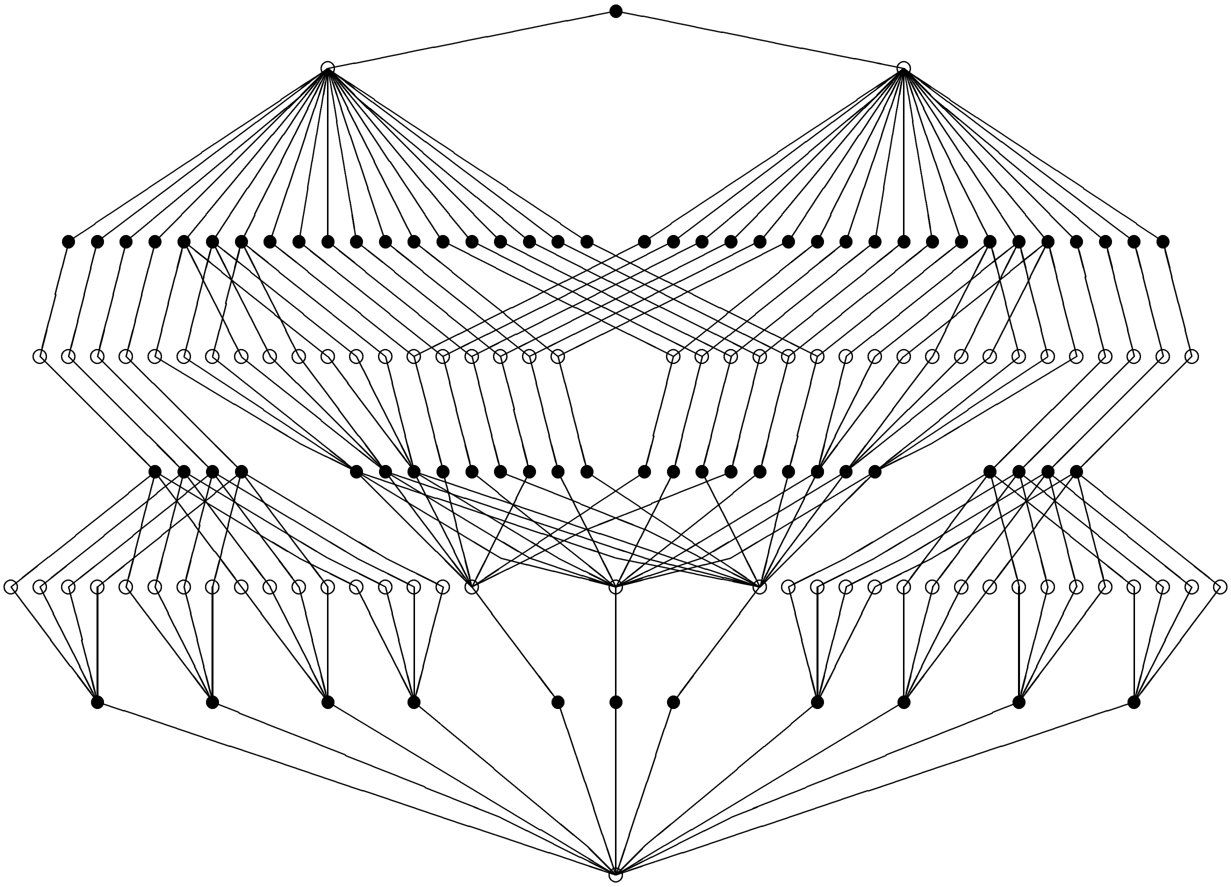

Figure 6: $P\left(6,\{[1,2],[3,4],[4,5]\}\right)+P\left(6,\{[3,5],[5,6]\}\right)+P\left(6,\{[1,2],[2,5]\}\right)$