Figure 1: Example of the $\epsilon$-excellence property not being monotonic. *On the left*, a bipartite graph with two independent sets $A$ and $B$. A simple exhaustive check shows that $A$ is $\frac{1}{5}$-excellent. On the other, raising the $\epsilon$-value up to $\frac{2}{5}$ introduces a new $\frac{2}{5}$-good set $B$ witnessing that $A$ is not excellent, as half of the vertices of $A$ have one truth value, and half the other. *On the right* is the corresponding adjacency matrix.
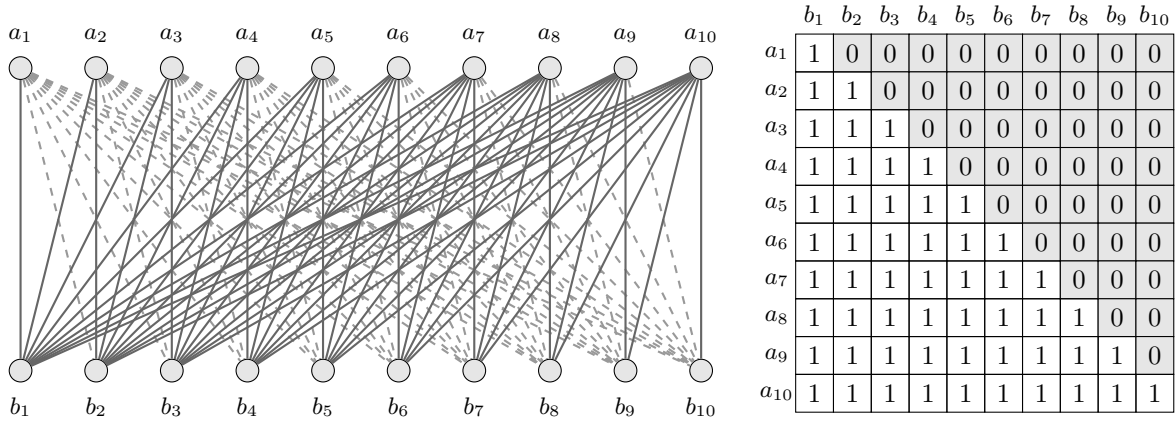


Figure 2: A half-graph with $2 \times 10$ vertices. *On the left*, solid lines show adjacent vertices, and dashed lines show non-adjacent vertices. Pairs of vertices without a line may or may not be connected. *On the right* is the corresponding adjacency matrix.
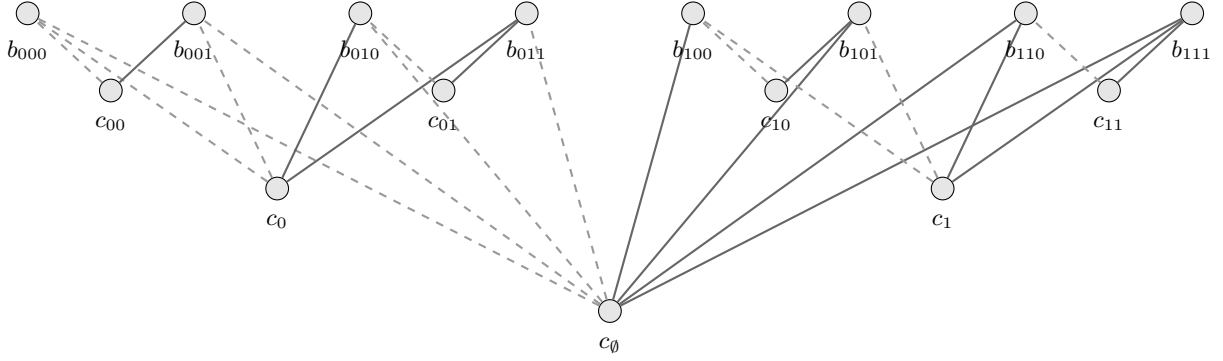
Figure 3: Example of a 3-tree. Notice that connections between disjoint sub-trees are not defined, and may be edges or non-edges in any combination.
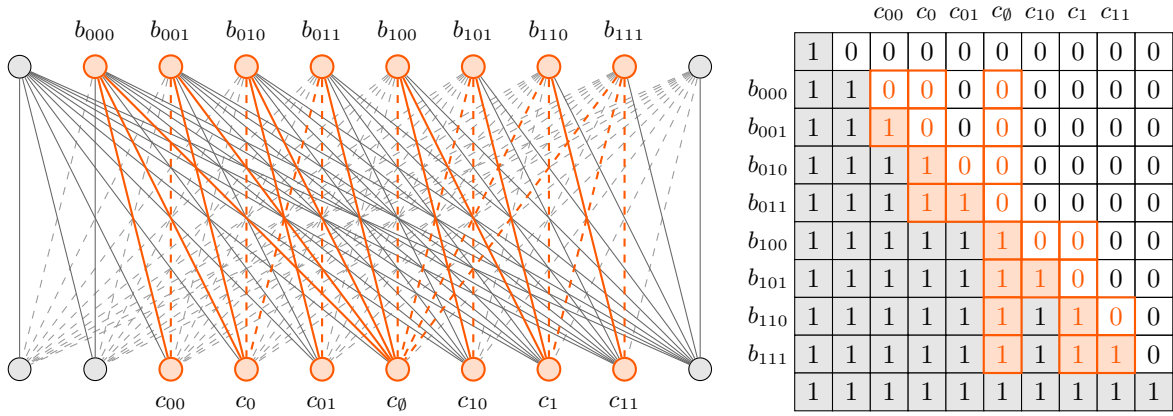


Figure 4: Example of a 3-tree in a half-graph with $2 \times 10$ vertices. *On the left*, solid lines show adjacent vertices, and dashed lines show non-adjacent vertices. Pairs of vertices without a line may or may not be connected. Orange lines and nodes highlight the 3-tree structure. *On the right* is the corresponding adjacency matrix. Again, orange cells highlight edges relative to the 3-tree structure.