LIST OF SYMBOLS AND ABBREVIATIONS

\( P \)  - Poset with smallest element

\( U(x, y) \)  - Upper cone of \( x \) and \( y \)

\( L(x, y) \)  - Lower cone of \( x \) and \( y \)

\([X]\)  - Smallest ideal of \( P \) containing the set \( X \)

\( A^* \)  - \( A \{0\} \) for an ideal \( A \) of \( P \)

\( \langle A, I \rangle \)  - Extension of semi-ideal \( I \) by \( A \subseteq P \)

\( \text{Spec}(P) \)  - Set of all prime ideals of \( P \)

\( \text{Min}(P) \)  - Set of minimal prime ideals of \( P \)

\( P(I) \)  - Intersection of all prime ideals of \( P \) containing the ideal \( I \)

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\( S_{\text{spec}}(P) \)  - Set of all strongly prime ideal of \( P \)

\( S_{\text{min}}(P) \)  - Set of minimal strongly prime ideals of \( P \)

\( SP(I) \)  - Intersection of all strongly prime ideals of \( P \) containing the ideal \( I \)

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For \( X \subseteq P \),

\( V(X) \)  - \( \{Q \in S_{\text{spec}}(P) : X \subseteq Q\} \)

\( D(X) \)  - \( S_{\text{spec}}(P) \setminus V(X) \)

\( V'(X) \)  - \( V(X) \cap S_{\text{min}}(P) \)

\( D'(X) \)  - \( D(X) \cap S_{\text{min}}(P) \)

\( P_a(I) \)  - \( \cap\{Q \in S_{\text{spec}}(P) : Q \in V'(I) \cap V'(a)\} \)

\( I_Q \)  - \( \{x \in P : L(x, y) \subseteq I \text{ for some } y \in P \setminus Q, Q \in S_{\text{spec}}(P)\} \)

\( S(I) \)  - Set of elements which are not prime to the ideal \( I \)

\( C(I) \)  - \( \{x \in P \setminus I : L(x, y) \subseteq I \text{ for some } y \in P \setminus I\} \)

\( \sqrt{I} \)  - \( \{x : L(x)^* \cap I \neq \phi\} \) for an ideal \( I \) of \( P \)