List of symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$b(G)$</td>
<td>the bondage number of $G$</td>
</tr>
<tr>
<td>$b_{P,k}(G)$</td>
<td>the $k$-power bondage number of $G$</td>
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<tr>
<td>$B_{Z}^i(G)$</td>
<td>the set of vertices of $G$ that are</td>
</tr>
<tr>
<td></td>
<td>coloured black by $Z$ at step $i$</td>
</tr>
<tr>
<td>$C_n$</td>
<td>the cycle on $n$ vertices</td>
</tr>
<tr>
<td>$d_G(v)$ or $d(v)$</td>
<td>the degree of $v$ in $G$</td>
</tr>
<tr>
<td>$d_G(u, v)$ or $d(u, v)$</td>
<td>the distance between $u$ and $v$ in $G$</td>
</tr>
<tr>
<td>$F_n$</td>
<td>the fan on $n$ vertices</td>
</tr>
<tr>
<td>$E(G)$</td>
<td>the edge set of $G$</td>
</tr>
<tr>
<td>$G \cong H$</td>
<td>$G$ is isomorphic to $H$</td>
</tr>
<tr>
<td>$G \Box H$</td>
<td>Cartesian product of $G$ and $H$</td>
</tr>
<tr>
<td>$G \times H$</td>
<td>Direct product of $G$ and $H$</td>
</tr>
<tr>
<td>$G \boxtimes H$</td>
<td>Strong product of $G$ and $H$</td>
</tr>
</tbody>
</table>
List of symbols

\[ G \circ H \] - Lexicographic product of \( G \) and \( H \)
\[ G \cup H \] - Union of \( G \) and \( H \)
\[ G \lor H \] - Join of \( G \) and \( H \)
\[ G - v \] - the subgraph of \( G \) obtained by deleting the vertex \( v \)
\[ G - e \] - the subgraph of \( G \) obtained by deleting the edge \( e \)
\[ G - A \] - the subgraph of \( G \) obtained by the deletion of the vertices in \( A \)
\[ G - B \] - the subgraph of \( G \) obtained by the deletion of the edges in \( B \)
\[ G/e \] - the graph obtained from \( G \) by contracting the edge \( e \)
\[ H^n\] - Hanoi graph for base \( p \) and exponent \( n \)
\[ K_n \] - the complete graph on \( n \) vertices
\[ K_{1,n} \] - the star of size \( n \)
\[ K_{m,n} \] - the complete bipartite graph where \( m \) and \( n \) are the cardinalities of the partitions
\[ M(S) \] - the set monitored by \( S \)
\[ N_G(v) \text{ or } N(v) \] - the open neighbourhood of \( v \) in \( G \)
\[ N_G[v] \text{ or } N[v] \] - the closed neighbourhood of \( v \) in \( G \)
List of symbols

\(N_G(S)\) or \(N(S)\) - the open neighbourhood of a subset \(S\) of \(V(G)\)

\(N_G[S]\) or \(N[S]\) - the closed neighbourhood of a subset \(S\) of \(V(G)\)

\(P_{G,k}^i(S)\) - the set monitored by \(S\) at step \(i\) in \(k\)-power domination

\(P_n\) - the path on \(n\) vertices

\(r(G)\) - the radius of \(G\)

\(S^p_n\) - Sierpiński graph on \(p^n\) vertices

\(V(G)\) - the vertex set of \(G\)

\(W_n\) - the wheel on \(n\) vertices

\(W_{\Delta,2\nu}\) - Knödel graph of order \(2\nu\) and degree \(\Delta\)

\(W_{K(C,L)}\) - WK-Recursive mesh on \(C^L\) vertices

\(W_{KP(C,L)}\) - WK-Pyramid network on \(\frac{C^{L+1} - 1}{C-1}\) vertices

\(Z(G)\) - the zero forcing number of \(G\)

\([x]\) - Smallest integer \(\geq x\)

\([x]\) - Greatest integer \(\leq x\)

\(<X>\) - the subgraph induced by a subset \(X\) of \(V(G)\)
$\lambda(G)$ - the edge connectivity of $G$

$\Delta(G)$ - the maximum degree of $G$

$\delta(G)$ - the minimum degree of $G$

$\gamma(G)$ - the domination number of $G$

$\gamma_t(G)$ - the total domination number of $G$

$\gamma_P(G)$ - the power domination number of $G$

$\gamma_{P,k}(G)$ - the $k$-power domination number of $G$