Table 1 Directory of graph models.

subject area *and application*	*vertex attributes and meaning* *edge/arc attributes and meaning*	*reference*
computer programming flowcharts	vertex labels are program steps edge directions show flow	§8.1.1
social organization social networks	vertices are persons edges represent interactions	§8.1.1
civil engineering road networks	vertices are road intersections edges are roads	§8.1.1, §8.3.1
operations research scheduling	vertices are activities arcs show operational precedence	§8.3.1
sociology hierarchical dominance	vertices are individuals arcs show who reports to whom	§8.3.1
computer programming subprogram calling diagram	vertices are subprograms arcs show calling direction	§8.3.1
ecology food webs	vertices are species arcs show who eats whom	§8.3.1
operations research scheduling	vertices are activities to be scheduled edges are activity conflicts	§8.3.1, §8.6.1
genealogy "family trees"	vertices are family members arcs show parenthood	§8.3.1
set theory binary relations	vertices are elements arcs show relatedness	§8.3.1
probabilistic analysis Markov models	vertices are process states edges are state transitions	§8.3.2
traffic control assigning one-way streets	vertices are intersection edges are streets	§8.3.3
partially ordered sets Hasse diagrams	vertices are elements arcs show covering relation	§8.3.4
computer engineering communications networks	vertices are computational nodes arcs are communications links	§8.4.2
operations research transportation networks	vertices are supply and demand nodes arcs are supply lines	§8.4.2
walking tours Seven Bridges of Königsberg	vertices are land masses edges are bridges	§8.4.3
postal delivery routing Chinese Postman Problem	vertices are street intersections edges are streets	§8.4.3
information theory Gray codes	vertices are binary strings edges are single-bit changes	§8.4.4
radio broadcasting assignment of frequencies	vertices are broadcast stations edges are potential interference	§8.6.1
chemistry preventing explosions	vertices are chemicals edges are co-combustibility	§8.6.1