

Random Graph

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Outline

1 Definitions of Random Graphs

Definitions of Random Graphs

Random Graph

Random Graph creates an undirected unweighted graph on n vertices where each possible edge is present with probability p where $0.0 \leq p \leq 1.0$.

[Maple command; $G := \text{RandomGraph}(n,p)$ where n is a number of vertices and p is a probability where $0.0 \leq p \leq 1.0$]

Random Digraph

Random digraph creates a directed unweighted graph on n vertices and m edges, where the m edges are chosen uniformly at random.

[Maple command; $G := \text{RandomDigraph}(n,m)$ where n, m are integers]

Definitions of Random Graphs

Random Bipartite Graph

Random Bipartite Graph creates an undirected unweighted bipartite graph on n vertices where each possible edge is present with probability p .

[Mapple command; **$G := \text{RandomBipartiteGraph}(n, p)$** where n is an integer and p is a probability where $0.0 \leq p \leq 1.0$ or **$\text{RandomBipartiteGraph}(n, m)$** where n, m are integer.]

Definitions of Random Graphs

Random Regular Graph

Random Regular Graph creates a d -regular undirected unweighted graph on n vertices.

[Maple command; $G := \text{RandomRegularGraph}(n,d)$ where n, d are integers and n, d cannot both be odd and d must satisfy $d < n$.]

Definitions of Random Graphs

Random Tree

The Random Tree creates a random tree on n vertices. This is an undirected connected graph with $n - 1$ edges. If the first input n is a positive integer, the vertices are labelled $1, 2, \dots, n$. Alternatively you may specify the vertex labels in a list.

[Maple command; $G := \text{RandomTree}(n)$ where n is a positive integer.]