（又称｜简称｜记作｜简记）

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| 图：有序三元组 | | | | | | | | | | | | | | | | |
| ┣ | （图的）顶点集（|||） | | | | | | | | | | | | | | | |
| ┃ | ┣ | （图的）顶点数（||）： | | | | | | | | | | | | | | |
| ┃ | ┗ | （图的）顶点（节点、结点||）：的元素 | | | | | | | | | | | | | | |
| ┃ |  | ┣ | （顶点的）度（次数||）：关联于顶点的边的数目。在有向图中， | | | | | | | | | | | | | |
| ┃ |  | ┣ | 有向图（顶点的）入度（有条边以该顶点为终点||）：进入顶点的边的数目（从顶点引入的边的数目） | | | | | | | | | | | | | |
| ┃ |  | ┣ | 有向图（顶点的）出度（有条边以该顶点为起点||）：离开顶点的边的数目（从顶点引出的边的数目） | | | | | | | | | | | | | |
| ┃ |  | ┗ | 分类 | | | | | | | | | | | | | |
| ┃ |  |  | ┣ | 按度（？） | | | | | | | | | | | | |
| ┃ |  |  | ┃ | ┗ | （顶点是）孤立的：顶点的度为0 | | | | | | | | | | | |
| ┃ |  |  | ┗ | 按（？） | | | | | | | | | | | | |
| ┃ |  |  |  | ┗ | 割点 | | | | | | | | | | | |
| ┣ | （图的）边集（|||） | | | | | | | | | | | | | | | |
| ┃ | ┣ | （图的）边数（||）： | | | | | | | | | | | | | | |
| ┃ | ┗ | （图的）边（||、无向图、无向图、）：的元素 | | | | | | | | | | | | | | |
| ┃ |  | ┣ | （边的）端点 | | | | | | | | | | | | | |
| ┃ |  | ┣ | 赋权图（边的）权：若将图的每一条边对应一个实数， | | | | | | | | | | | | | |
| ┃ |  | ┗ | 分类 | | | | | | | | | | | | | |
| ┃ |  |  | ┗ | 按可能的端点的数量（？） | | | | | | | | | | | | |
| ┃ |  |  |  | ┗ | 超边：连接任意顶点子集的边 | | | | | | | | | | | |
| ┃ |  |  |  |  | ┗ | 边：连接2个顶点的边 | | | | | | | | | | |
| ┃ |  |  |  |  |  | ┣ | 按有无方向（！） | | | | | | | | | |
| ┃ |  |  |  |  |  | ┃ | ┣ | 无向图无向边：（与中的无序偶对应的边） | | | | | | | | |
| ┃ |  |  |  |  |  | ┃ | ┗ | 有向图有向边（弧）：与中的有序偶对应的边 | | | | | | | | |
| ┃ |  |  |  |  |  | ┣ | 按端点关系（？） | | | | | | | | | |
| ┃ |  |  |  |  |  | ┃ | ┗ | 自环（环）：2个端点为同一顶点的边 | | | | | | | | |
| ┃ |  |  |  |  |  | ┗ | 按（？） | | | | | | | | | |
| ┃ |  |  |  |  |  |  | ┗ | 割边（桥） | | | | | | | | |
| ┣ | （从到的）通路（Walk、路径Path||）：顶点与边相互交错且的有限非空序列 | | | | | | | | | | | | | | | |
| ┃ | ┣ | （通路的）长度：通路中边的数目 | | | | | | | | | | | | | | |
| ┃ | ┣ | （通路的）子通路（子路径）：通路的一个连续子序列 | | | | | | | | | | | | | | |
| ┃ | ┗ | 分类 | | | | | | | | | | | | | | |
| ┃ |  | ┣ | 按起点与终点关系（！） | | | | | | | | | | | | | |
| ┃ |  | ┃ | ┣ | 路径是开的：起点与终点不重合。 | | | | | | | | | | | | |
| ┃ |  | ┃ | ┗ | 路径是闭的：起点与终点重合。 | | | | | | | | | | | | |
| ┃ |  | ┣ | 按边的数量和起点与终点关系（？） | | | | | | | | | | | | | |
| ┃ |  | ┃ | ┗ | 环：起点与终点重合且包含至少1条边的通路 | | | | | | | | | | | | |
| ┃ |  | ┃ |  | ┗ | 按边集与的关系（？） | | | | | | | | | | | |
| ┃ |  | ┃ |  |  | ┗ | 巡回：经过的每边至少1次的闭通路 | | | | | | | ┓ |  | | |
| ┃ |  | ┣ | 按边是否重复（？） | | | | | | | | | | ┃ |  | | |
| ┃ |  | ┃ | ┗ | 道路（Trail、行迹Trace||）：边不重复的通路 | | | | | | | | | ┃ |  | | |
| ┃ |  | ┃ |  | ┣ | 按起点与终点关系（？） | | | | | | | | ┃ |  | | |
| ┃ |  | ┃ |  | ┃ | ┗ | 回路Circuit：闭的道路。 | | | | | | | ┫ |  | | |
| ┃ |  | ┃ |  | ┣ | 按边集与的关系（？） | | | | | | | | ┃ |  | | |
| ┃ |  | ┃ |  | ┃ | ┗ | 欧拉道路：经过的每边正好1次的道路 | | | | | | | ┫ |  | | |
| ┃ |  | ┃ |  | ┃ |  | | 欧拉巡回：经过的每边正好1次的闭通路 | | | | | | | | | |
| ┃ |  | ┃ |  | ┗ | 按顶点是否重复（？） | | | | | | | | | | | |
| ┃ |  | ┃ |  |  | ┗ | 路径（路径是简单的、简单路径、Path、轨道Track||）：顶点不重复的道路 | | | | | | | | | | |
| ┃ |  | ┃ |  |  |  | ┣ | 赋权图（路径的）权：是赋权图中从到的路径， | | | | | | | | | |
| ┃ |  | ┃ |  |  |  | ┣ | 赋权图（从到的）最短路：在赋权图中，从顶点到顶点的具有最小权的路 | | | | | | | | | |
| ┃ |  | ┃ |  |  |  | ┣ | 按顶点是否重复（？） | | | | | | | | | |
| ┃ |  | ┃ |  |  |  | ┃ | ┗ | （的）哈密顿路径（|路径）：经过的每个顶点正好1次的路径 | | | | | | | ┓ |  |
| ┃ |  | ┃ |  |  |  | ┗ | 按起点与终点关系（？） | | | | | | | | ┃ |  |
| ┃ |  | ┃ |  |  |  |  | ┗ | 圈Cycle（环是简单的）：起点与终点重合的路径 | | | | | | | ┫ |  |
| ┃ |  | ┃ |  |  |  |  |  | | 哈密顿圈（圈）：经过的每个顶点正好1次的圈 | | | | | | | |
| ┃ |  | ┃ |  |  |  |  |  | | ┗ | 赋权图最佳圈：权最小的哈密顿圈 | | | | | | |
| ┃ |  | ┣ | 按顶点集与的关系和起点与终点关系（？） | | | | | | | | | | | | | |
|  |  |  | ┗ | 赋权图最佳推销员回路：经过每个顶点至少1次的权最小的闭通路 | | | | | | | | | | | | |
|  |  |  |  |  |  |  |  | | | | | | | | | |
| ┣ | （图的）关联函数： | | | | | | | | | | | | | | | |
| ┣ | （图的）阶：图的顶点数 | | | | | | | | | | | | | | | |
| ┣ | （图的）重数：重复次数最多的边的重复次数 | | | | | | | | | | | | | | | |
| ┣ | 关系 | | | | | | | | | | | | | | | |
| ┃ | ┣ | 顶点与顶点（？） | | | | | | | | | | | | | | |
| ┃ | ┃ | ┗ | （是从经过）可达的（||有向图）：从顶点到顶点存在1条路径 | | | | | | | | | | | | | |
| ┃ | ┃ |  | ┣ | （顶点和顶点）（关于边）相邻：有边联结2个顶点、 | | | | | | | | | | | | |
| ┃ | ┃ |  | ┗ | （顶点）邻接于（顶点）：是图中的1条边。在无向图中，邻接关系是对称的；在有向图中，邻接关系不是对称的 | | | | | | | | | | | | |
| ┃ | ┣ | 边与边（？） | | | | | | | | | | | | | | |
| ┃ | ┃ | ┣ | 重边：联结同1对顶点的边 | | | | | | | | | | | | | |
| ┃ | ┃ | ┗ | （边和边）（关于顶点）相邻：2条边、有公共顶点。 | | | | | | | | | | | | | |
| ┃ | ┣ | 顶点与边（？） | | | | | | | | | | | | | | |
| ┃ | ┃ | ┗ | 互相关联：边和它的端点称为互相关联的 | | | | | | | | | | | | | |
| ┃ | ┃ |  | ┣ | 无向图（与顶点和顶点）关联： 是中的1条边 | | | | | | | | | | | | |
| ┃ | ┃ |  | ┣ | 有向图（）射入或进入（顶点）（是与顶点关联的入边）：是中的1条边 | | | | | | | | | | | | |
| ┃ | ┃ |  | ┗ | 有向图（）射出或离开（顶点）（是与顶点关联的出边）：是中的1条边 | | | | | | | | | | | | |
| ┣ | 分类 | | | | | | | | | | | | | | | |
| ┃ | ┗ | 超图：含有超边的图 | | | | | | | | | | | | | | |
| ┃ |  | ┗ | 按所有超边的端点数量（？） | | | | | | | | | | | | | |
| ┃ |  |  | ┗ | 图 | | | | | | | | | | | | |
| ┃ |  |  |  | ┣ | 按顶点的数量和边的数量（！） | | | | | | | | | | | |
| ┃ |  |  |  | ┃ | ┣ | （图是）无穷的：图有无穷多的顶点和/或边 | | | | | | | | | | |
| ┃ |  |  |  | ┃ | ┃ | ┗ | 按每个顶点的度（？） | | | | | | | | | |
| ┃ |  |  |  | ┃ | ┃ |  | ┗ | （图是）局部有穷的：每个顶点的度是有限的 | | | | | | | | |
| ┃ |  |  |  | ┃ | ┗ | （图是）有穷的：否则是有穷的 | | | | | | | | | | |
| ┃ |  |  |  | ┃ |  | ┗ | 按边的数量（？） | | | | | | | | | |
| ┃ |  |  |  | ┃ |  |  | ┗ | 空图（秃图）：没有边的图 | | | | | | | | |
| ┃ |  |  |  | ┣ | 按自环的数量和重边的数量（！） | | | | | | | | | | | |
| ┃ |  |  |  | ┃ | ┣ | 多重图：有自环或有重边的图 | | | | | | | | | | |
| ┃ |  |  |  | ┃ | ┗ | 简单图：没有自环且没有重边的图  二元组，顶点集（|| 、），边集（|| 、），。 | | | | | | | | | | |
| ┃ |  |  |  | ┃ |  | ┗ | 按顶点的度（？） | | | | | | | | | |
| ┃ |  |  |  | ┃ |  |  | ┗ | （）正则图：每个顶点的度是 | | | | | | | | |
| ┃ |  |  |  | ┃ |  |  |  | ┗ | （阶）完全图（完备图||）：阶为的正则图连通图 | | | | | | | |
| ┃ |  |  |  | ┣ | 按所有边是否有方向（！） | | | | | | | | | | | |
| ┃ |  |  |  | ┃ | ┣ | 无向图：每一条边都是无向边的图 | | | | | | | | | | |
| ┃ |  |  |  | ┃ | ┃ | ┗ | 按所有由点集的子集导出的子图的边的数量（？） | | | | | | | | | |
| ┃ |  |  |  | ┃ | ┃ |  | ┗ | 二元图： | | | | | | | | |
| ┃ |  |  |  | ┃ | ┃ |  |  | ┗ | 按边的数量（？） | | | | | | | |
| ┃ |  |  |  | ┃ | ┃ |  |  |  | ┗ | 完备二元图（||（、为、的顶点的数目））：连通图 | | | | | | |
| ┃ |  |  |  | ┃ | ┣ | 有向图：每一条边都是有向边的图 | | | | | | | | | | |
| ┃ |  |  |  | ┃ | ┗ | 混合图：既有无向边又有有向边的图 | | | | | | | | | | |
| ┃ |  |  |  | ┣ | 按所有两个顶点是否可达（？） | | | | | | | | | | | |
| ┃ |  |  |  | ┃ | ┗ | （连通图：任意2点均有路径的图。）  无向图（图是）连通的：每个顶点从所有其它顶点都是可达的  有向图（图是）强连通的：任意2个顶点互相可达 | | | | | | | | | | |
| ┃ |  |  |  | ┃ |  | ┣ | 无向图（图的）一个连通分量：，满足从可达， | | | | | | | | | |
| ┃ |  |  |  | ┃ |  | ┣ | 按是否存在欧拉巡回（？） | | | | | | | | | |
| ┃ |  |  |  | ┃ |  | ┃ | ┗ | 欧拉图：存在欧拉道路的图/存在欧拉巡回的图 | | | | | | | | |
| ┃ |  |  |  | ┃ |  | ┗ | 按是否存在哈密顿圈 | | | | | | | | | |
| ┃ |  |  |  | ┃ |  |  | ┗ | 哈密顿图（图）：含哈密顿路径的图/含哈密顿圈的图 | | | | | | | | |
| ┃ |  |  |  | ┣ | 按是否赋权（？） | | | | | | | | | | | |
| ┃ |  |  |  | ┃ | ┗ | 赋权图（加权图）：将图的每一条边对应一个实数 | | | | | | | | | | |
| ┃ |  |  |  | ┣ | 无向图 简单图按环的数量（？） | | | | | | | | | | | |
| ┃ |  |  |  | ┃ | ┗ | 森林：无环 | | | | | | | | | | |
| ┃ |  |  |  | ┃ |  | ┗ | 按是否连通（？） | | | | | | | | | |
| ┃ |  |  |  | ┃ |  |  | ┗ | 树：连通 | | | | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  | 有根树：在树中指定一个节点为根节点 | | | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  | 层 | | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  | 高度 | | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  | 宽度 | | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  | （节点的）祖先 | | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  | ┗ | （节点的）父节点（父亲、双亲、双亲节点） | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  | （节点的）子孙 | | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  | ┗ | （节点的）子节点（孩子、儿子、子女） | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  | 叶节点（叶子节点） | | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  | 以节点为根的树 | | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  | （节点的）子树 | | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  | 按子树数量（？） | | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  | ┗ | 叉树：每个节点的子树不超过个 | | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  |  |  | 二叉树： | | | | |
| ┃ |  |  |  | ┃ |  |  |  |  |  |  | | | | | | |
| ┃ |  |  |  | ┣ | 按是否能展在平面上（！） | | | | | | | | | | | |
| ┃ |  |  |  |  | ┣ | 平面图：可以画在平面上并且可以使得不同的边互不交叠的图 | | | | | | | | | | |
| ┃ |  |  |  |  | ┃ | ┣ | （图的）外部面：图的外面的区域 | | | | | | | | | |
| ┃ |  |  |  |  | ┃ | ┗ | （图的）内部面：图里面每个被顶点和边分割出来的封闭并连通的区域 | | | | | | | | | |
| ┃ |  |  |  |  | ┗ | 非平面图：否则 | | | | | | | | | | |
| ┃ |  |  |  |  |  |  |  | | | | | | | | | |
| ┗ | 运算 | | | | | | | | | | | | | | | |
|  | ┣ | （从顶点到顶点的）距离：若从顶点出发到顶点的最短通路存在，此通路的长度；否则，无穷（）。 | | | | | | | | | | | | | | |
|  | ┣ | （是的）子图：，，， | | | | | | | | | | | | | | |
|  | ┃ | ┣ | （是的）生成子图（支撑子图）：，，， | | | | | | | | | | | | | |
|  | ┃ | ┃ | ┗ | 生成树：把一个连通图中的一些边删除得到的树 | | | | | | | | | | | | |
|  | ┃ | ┃ |  | ┣ | 赋权图 连通图最小生成树：一个图的权最小的生成树 | | | | | | | | | | | |
|  | ┃ | ┃ |  | ┗ | 赋权图 连通图最大生成树：一个图的权最大的生成树 | | | | | | | | | | | |
|  | ┃ | ┣ | （是的）导出子图：，，， | | | | | | | | | | | | | |
|  | ┃ | ┣ | （的）由导出的子图（关于的导出子图||）：，〡， | | | | | | | | | | | | | |
|  | ┃ | ┗ | （的）由导出的子图（||）：，〡，。不含有孤立点 | | | | | | | | | | | | | |
|  | ┣ | 简单图（的）补图：， | | | | | | | | | | | | | | |
|  |  | 平面图（的）对偶图（||）：原图的每个面（包括外部面）得到一个顶点，[每对面得到的一对顶点]得到[两面的公共边数]条边（一条非自环的边若只属于一个面，得到一个自环；一个自环得到一条非自环的边）。 | | | | | | | | | | | | | | |
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|  |  |  |  |  |  |  |  | | | | | | | | | |
|  | 性质 | | | | | | | | | | | | | | | |
|  |  | 对偶图：平面图的对偶图是平面图。  　　　　平面连通图的对偶图的对偶图是原图。 | | | | | | | | | | | | | | |
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