Min order graphs for a given p4
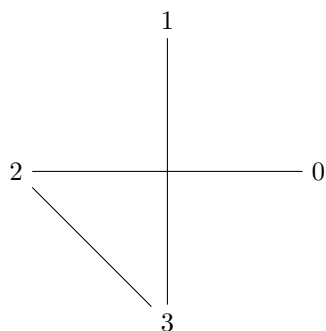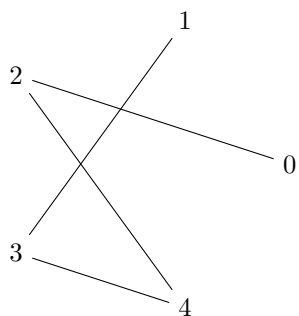
June 1, 2024

Contents

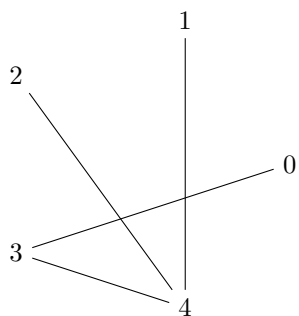# Chapter 1

p4 = 1 (1 graphs)

- signature: 010011
- g: Graph with 4 nodes and 3 edges
- order: 4
- size: 3
- max degree: 2
- degrees: 1,1,2,2
- is tree: 1
- is bipartite: 1
- has bridge: 1
- is chordal: 1
- is complete: 0
- min cycle basis weight: 0
- min cycle basis size: 0
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 1
- is regular: 0
- p3: 2
- p4: 1
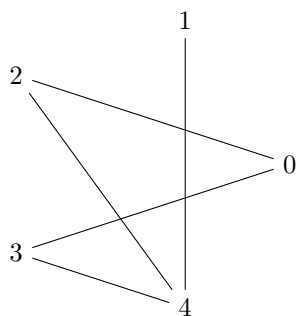- property hash: d849839d310e306d738686b907d78909e2faa3cd5b3af56859e93388ee54a31a

Chapter 2

p4 = 2 (3 graphs)

- signature: 0100010011
- g: Graph with 5 nodes and 4 edges
- order: 5
- size: 4
- max degree: 2
- degrees: 1,1,2,2,2
- is tree: 1
- is bipartite: 1
- has bridge: 1
- is chordal: 1
- is complete: 0
- min cycle basis weight: 0
- min cycle basis size: 0
- diameter: 4
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 1
- is regular: 0
- p3: 3
- p4: 2
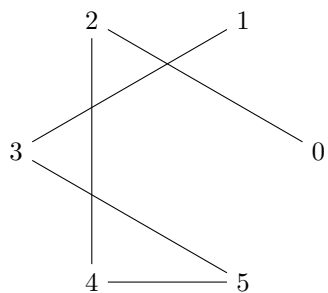- property hash: d5f26bfbc26d2804d5819954ea369e94fa677000c68aee6b027c263c3451a1f1

- signature: 0010001011
- g: Graph with 5 nodes and 4 edges
- order: 5
- size: 4
- max degree: 3
- degrees: 1,1,1,2,3
- is tree: 1
- is bipartite: 1
- has bridge: 1
- is chordal: 1
- is complete: 0
- min cycle basis weight: 0
- min cycle basis size: 0
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 1
- is regular: 0
- p3: 4
- p4: 2
- property hash: e91baa75124a982a46464e7c5012b78cc4f109d5a819893139b277558f4973c4
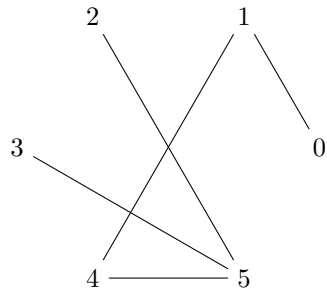
- signature: 0110001011
- g: Graph with 5 nodes and 5 edges
- order: 5
- size: 5
- max degree: 3
- degrees: 1,2,2,2,3
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 4
- min cycle basis size: 1
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 2
- is regular: 0
- p3: 6
- p4: 2
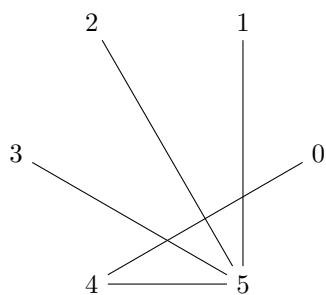- property hash: 02d3b8854a44375b83125826e105748a8e5daa0fee328587d5b3929392c8697c

Chapter 3

p4 = 3 (6 graphs)

- signature: 010000100010011
- g: Graph with 6 nodes and 5 edges
- order: 6
- size: 5
- max degree: 2
- degrees: 1,1,2,2,2,2
- is tree: 1
- is bipartite: 1
- has bridge: 1
- is chordal: 1
- is complete: 0
- min cycle basis weight: 0
- min cycle basis size: 0
- diameter: 5
- radius: 3
- is eulerian: 0
- is planar: 1
- number of faces: 1
- is regular: 0
- p3: 4
- p4: 3
- property hash: 778538520a7c37e74426cf9d12ee3d3feae6af777c194d53ae0fb2130a725d67
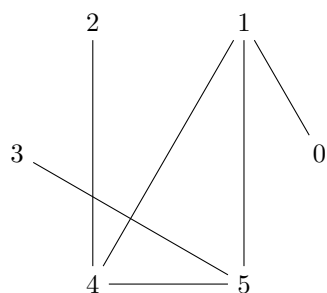
- signature: 100000010001011
- g: Graph with 6 nodes and 5 edges
- order: 6
- size: 5
- max degree: 3
- degrees: 1,1,1,2,2,3
- is tree: 1
- is bipartite: 1
- has bridge: 1
- is chordal: 1
- is complete: 0
- min cycle basis weight: 0
- min cycle basis size: 0
- diameter: 4
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 1
- is regular: 0
- p3: 5
- p4: 3
- property hash: f55e604f699edfd67f4345ec0ca7edab282c5190e61caf29514e9b2442f4fc6b
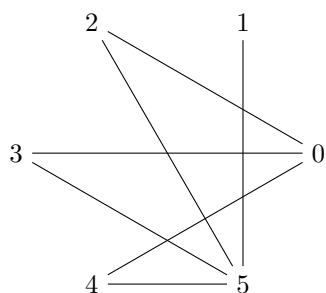
- signature: 000100001001011
- g: Graph with 6 nodes and 5 edges
- order: 6
- size: 5
- max degree: 4
- degrees: 1,1,1,1,2,4
- is tree: 1
- is bipartite: 1
- has bridge: 1
- is chordal: 1
- is complete: 0
- min cycle basis weight: 0
- min cycle basis size: 0
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 1
- is regular: 0
- p3: 7
- p4: 3
- property hash: f77147b4522749041a95c947120ad43b11eee65ad1071ac5ff1af130f5e98eb7
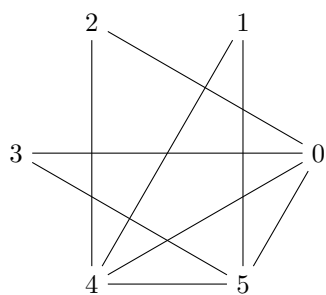
- signature: 100000011010011
- g: Graph with 6 nodes and 6 edges
- order: 6
- size: 6
- max degree: 3
- degrees: 1,1,1,3,3,3
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 1
- is complete: 0
- min cycle basis weight: 3
- min cycle basis size: 1
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 2
- is regular: 0
- p3: 6
- p4: 3
- property hash: bd9523a8e8a948cb3c700ff79302506f43e004340acabb624cf6f37d1a427653
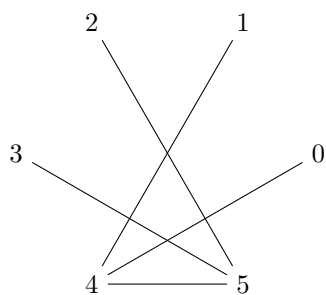
- signature: 011100001001011
- g: Graph with 6 nodes and 7 edges
- order: 6
- size: 7
- max degree: 4
- degrees: 1,2,2,2,3,4
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 8
- min cycle basis size: 2
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 12
- p4: 3
- property hash: 11e1e4d9d4489dafaed5c821ed5d0f4a6218f009d861d898f68320b025c9d4a6
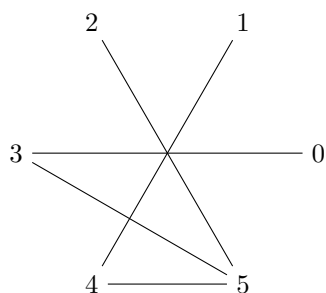
- signature: 011110011010011
- g: Graph with 6 nodes and 9 edges
- order: 6
- size: 9
- max degree: 4
- degrees: 2,2,2,4,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 1
- is complete: 0
- min cycle basis weight: 12
- min cycle basis size: 4
- diameter: 2
- radius: 2
- is eulerian: 1
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 9
- p4: 3
- property hash: d84cc860ae63c47e73e497dae38f3477545b47733e414990522e0f0f60275ad3
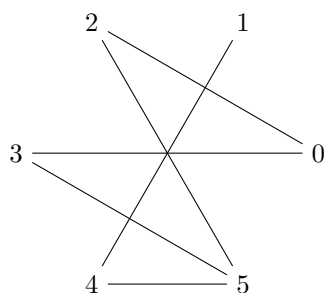
Chapter 4

p4 = 4 (9 graphs)

- signature: 000100010001011
- g: Graph with 6 nodes and 5 edges
- order: 6
- size: 5
- max degree: 3
- degrees: 1,1,1,1,3,3
- is tree: 1
- is bipartite: 1
- has bridge: 1
- is chordal: 1
- is complete: 0
- min cycle basis weight: 0
- min cycle basis size: 0
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 1
- is regular: 0
- p3: 6
- p4: 4
- property hash: d3c8340b28a64f0a62683dca9f36a56a4802d89a3eeb3c066ff747c4891a74c3
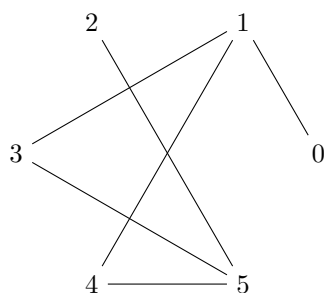
- signature: 001000010001011
- g: Graph with 6 nodes and 5 edges
- order: 6
- size: 5
- max degree: 3
- degrees: 1,1,1,2,2,3
- is tree: 1
- is bipartite: 1
- has bridge: 1
- is chordal: 1
- is complete: 0
- min cycle basis weight: 0
- min cycle basis size: 0
- diameter: 4
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 1
- is regular: 0
- p3: 5
- p4: 4
- property hash: c4b391c168754306af8a50fd5c7d5df582917e6f3ef37e5d521478e253e1cd6a
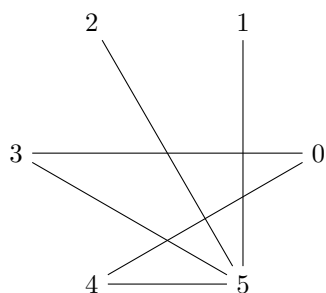
- signature: 011000010001011
- g: Graph with 6 nodes and 6 edges
- order: 6
- size: 6
- max degree: 3
- degrees: 1,2,2,2,2,3
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 4
- min cycle basis size: 1
- diameter: 4
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 2
- is regular: 0
- p3: 7
- p4: 4
- property hash: 10c2feecaf5c6ec9fa63b9125ec459f7da42d7c51adc69b520d9245884b6284e
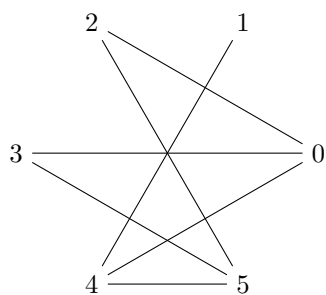
- signature: 100000110001011
- g: Graph with 6 nodes and 6 edges
- order: 6
- size: 6
- max degree: 3
- degrees: 1,1,2,2,3,3
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 4
- min cycle basis size: 1
- diameter: 4
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 2
- is regular: 0
- p3: 8
- p4: 4
- property hash: b0278d13cadf5f98ed8fe1e3943a9114e5bf491ae05d4956905101c17585c3d1
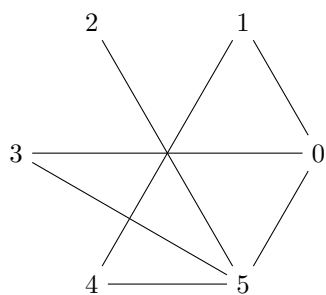
- signature: 001100001001011
- g: Graph with 6 nodes and 6 edges
- order: 6
- size: 6
- max degree: 4
- degrees: 1,1,2,2,2,4
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 4
- min cycle basis size: 1
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 2
- is regular: 0
- p3: 9
- p4: 4
- property hash: 6bf2ad74343c8cca4ee41f76fe57175dfca4168cd41b3ad0d5fee0bc895537b2
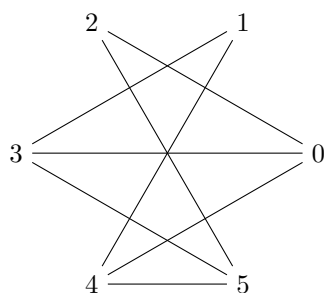
- signature: 011100010001011
- g: Graph with 6 nodes and 7 edges
- order: 6
- size: 7
- max degree: 3
- degrees: 1,2,2,3,3,3
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 8
- min cycle basis size: 2
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 11
- p4: 4
- property hash: a8f320d2eced901c99384d2c957b4c9b273dcc72954afe74520cedeb6489e6ab
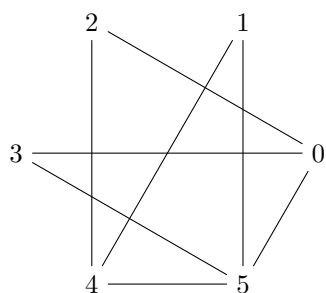
- signature: 101010010001011
- g: Graph with 6 nodes and 7 edges
- order: 6
- size: 7
- max degree: 4
- degrees: 1,2,2,2,3,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 7
- min cycle basis size: 2
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 9
- p4: 4
- property hash: d6bca67354f6d1d7e701ef3379260f28cd4992f4d0285810c6f071a8c2af5d4d
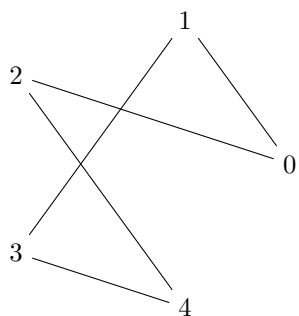
- signature: 011100110001011
- g: Graph with 6 nodes and 8 edges
- order: 6
- size: 8
- max degree: 3
- degrees: 2,2,3,3,3,3
- is tree: 0
- is bipartite: 1
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 12
- min cycle basis size: 3
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 4
- is regular: 0
- p3: 14
- p4: 4
- property hash: 95839c0fac0daec3d2dd1c483115b25ce7a27c07159808bcc92b54b029886fd6

- signature: 011010011010011
- g: Graph with 6 nodes and 8 edges
- order: 6
- size: 8
- max degree: 4
- degrees: 2,2,2,3,3,4
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 10
- min cycle basis size: 3
- diameter: 2
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 4
- is regular: 0
- p3: 9
- p4: 4
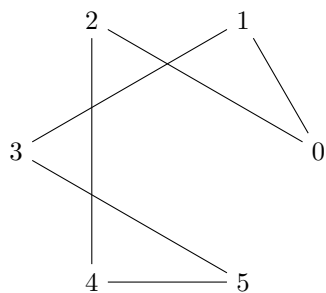- property hash: 018104cc750f9fcbcf9ca11114d198d8c0fcd373ff945729a488bc0c9db23e8e
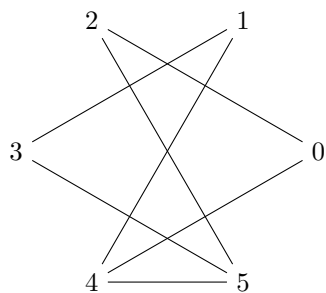
Chapter 5

p4 = 5 (1 graphs)

- signature: 1100010011
- g: Graph with 5 nodes and 5 edges
- order: 5
- size: 5
- max degree: 2
- degrees: 2,2,2,2,2
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 5
- min cycle basis size: 1
- diameter: 2
- radius: 2
- is eulerian: 1
- is planar: 1
- number of faces: 2
- is regular: 1
- p3: 5
- p4: 5
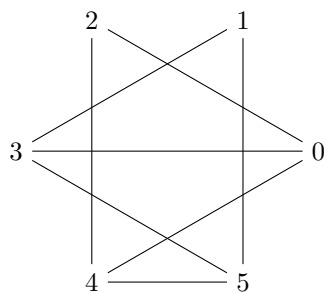- property hash: 8181b82b8bf3814ab44ea7a99a158bcd5a2bfb337c88b164c04b7f44288d2ac4

Chapter 6

p4 = 6 (4 graphs)

- signature: 110000100010011
- g: Graph with 6 nodes and 6 edges
- order: 6
- size: 6
- max degree: 2
- degrees: 2,2,2,2,2,2
- is tree: 0
- is bipartite: 1
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 6
- min cycle basis size: 1
- diameter: 3
- radius: 3
- is eulerian: 1
- is planar: 1
- number of faces: 2
- is regular: 1
- p3: 6
- p4: 6
- property hash: 94e71ef635553dbba82fb825ffbdb92681a82d9cce7ea578be96221a77303a54
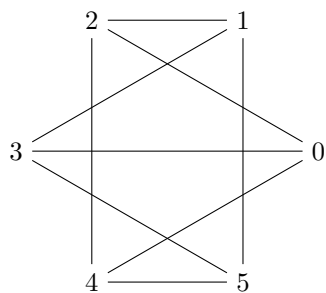
- signature: 010100110001011
- g: Graph with 6 nodes and 7 edges
- order: 6
- size: 7
- max degree: 3
- degrees: 2,2,2,2,3,3
- is tree: 0
- is bipartite: 1
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 8
- min cycle basis size: 2
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 10
- p4: 6
- property hash: 0d37d15d2bdb8275d94a0f9aeca55ae56316027f7435ade215e6ecbc01bd531f
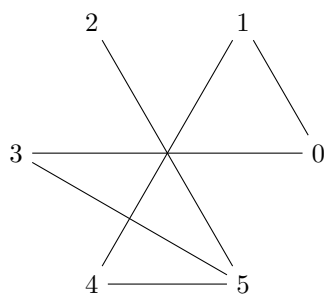
- signature: 011100101010011
- g: Graph with 6 nodes and 8 edges
- order: 6
- size: 8
- max degree: 3
- degrees: 2,2,3,3,3,3
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 10
- min cycle basis size: 3
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 4
- is regular: 0
- p3: 8
- p4: 6
- property hash: f3a6df97b34c34621f3f21cfa59b00ecf9d13fe7b47135f9aa1d731b58779ead
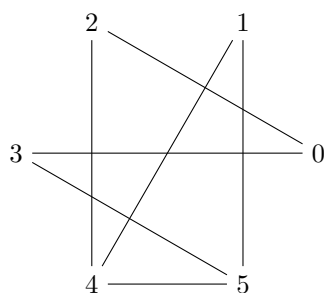
- signature: 011101101010011
- g: Graph with 6 nodes and 9 edges
- order: 6
- size: 9
- max degree: 3
- degrees: 3,3,3,3,3,3
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 14
- min cycle basis size: 4
- diameter: 2
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 1
- p3: 12
- p4: 6
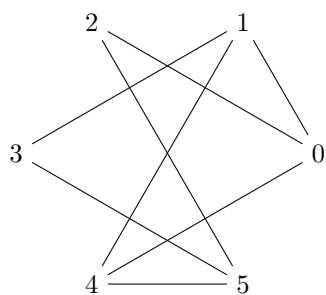- property hash: 51f8faee6f7c17cd9ca845af60a5f539872c53e9bcc8921a944032656f107bdc

Chapter 7

p4 = 7 (4 graphs)

- signature: 101000010001011
- g: Graph with 6 nodes and 6 edges
- order: 6
- size: 6
- max degree: 3
- degrees: 1,2,2,2,2,3
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 5
- min cycle basis size: 1
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 2
- is regular: 0
- p3: 7
- p4: 7
- property hash: 444856449c42efc4df37479ac7e1df172cbeec88ee76c9db1d7945dd93bab2d5
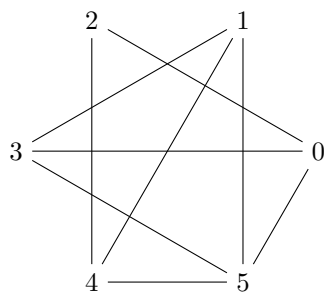
- signature: 011000011010011
- g: Graph with 6 nodes and 7 edges
- order: 6
- size: 7
- max degree: 3
- degrees: 2,2,2,2,3,3
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 8
- min cycle basis size: 2
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 7
- p4: 7
- property hash: 26bb35e0a7d783edeb8223aacf22349d7776d284a29cccceb5130cea17199aff
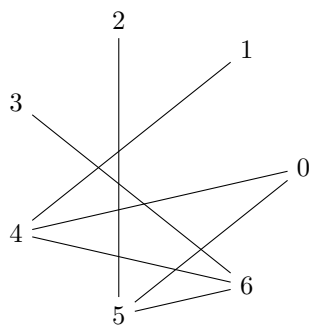
- signature: 110100110001011
- g: Graph with 6 nodes and 8 edges
- order: 6
- size: 8
- max degree: 3
- degrees: 2,2,3,3,3,3
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 11
- min cycle basis size: 3
- diameter: 2
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 4
- is regular: 0
- p3: 11
- p4: 7
- property hash: ec6260f9323413ca2af148d39874e5cf0b8d433c617fdcc1e2038bcd712dc951
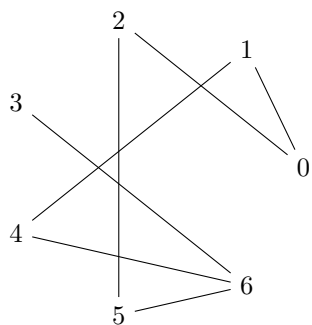
- signature: 011010111010011
- g: Graph with 6 nodes and 9 edges
- order: 6
- size: 9
- max degree: 4
- degrees: 2,3,3,3,3,4
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 13
- min cycle basis size: 4
- diameter: 2
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 10
- p4: 7
- property hash: 8ee4ab9d43d3defabeb45d0226efb1fdd7518b770a2ff45d44da3f2c79510c59
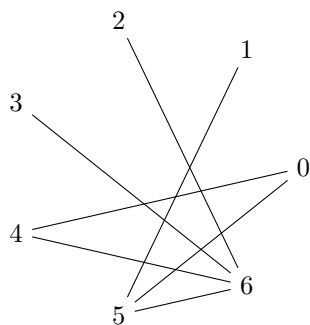
Chapter 8

p4 = 8 (42 graphs)

- signature: 000110001000010001011
- g: Graph with 7 nodes and 7 edges
- order: 7
- size: 7
- max degree: 3
- degrees: 1,1,1,2,3,3,3
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 4
- min cycle basis size: 1
- diameter: 4
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 2
- is regular: 0
- p3: 10
- p4: 8
- property hash: a84dc7f826c26afc77595e6121fa6675bee536571a90d6a5aedbd831a3ca2128
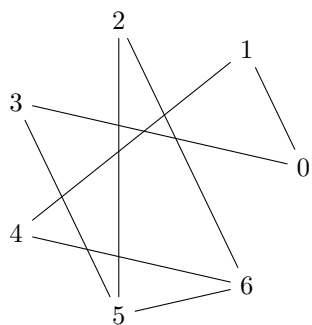
- signature: 110000001000010001011
- g: Graph with 7 nodes and 7 edges
- order: 7
- size: 7
- max degree: 3
- degrees: 1,2,2,2,2,2,3
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 6
- min cycle basis size: 1
- diameter: 4
- radius: 3
- is eulerian: 0
- is planar: 1
- number of faces: 2
- is regular: 0
- p3: 8
- p4: 8
- property hash: 055727ab3388792762a5c4023cf5109aa052d17c81640271ee37c797d4715393
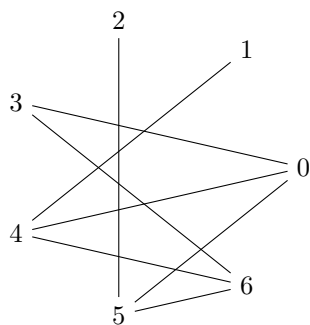
- signature: 0001100001000001001011
- g: Graph with 7 nodes and 7 edges
- order: 7
- size: 7
- max degree: 4
- degrees: 1,1,1,2,2,3,4
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 4
- min cycle basis size: 1
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 2
- is regular: 0
- p3: 11
- p4: 8
- property hash: d9113a7b2b2ce616bc7ca79f3ffb15f10153db48dbaf26229f960387e539802d
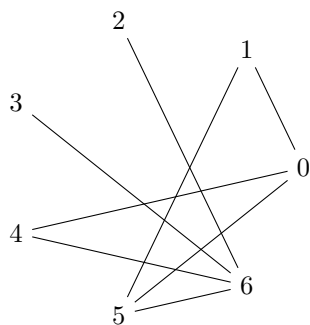
- signature: 101000001000011010011
- g: Graph with 7 nodes and 8 edges
- order: 7
- size: 8
- max degree: 3
- degrees: 2,2,2,2,2,3,3
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 9
- min cycle basis size: 2
- diameter: 3
- radius: 3
- is eulerian: 0
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 8
- p4: 8
- property hash: de16d62120ac490765f4a295ff69794016f9938f4448c0aab7a91f88ab001ab7
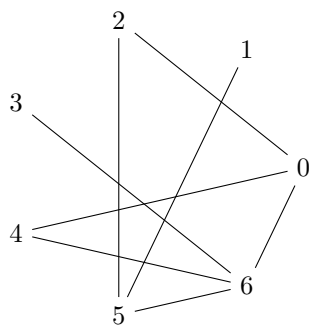
- signature: 001110001000010001011
- g: Graph with 7 nodes and 8 edges
- order: 7
- size: 8
- max degree: 3
- degrees: 1,1,2,3,3,3,3
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 8
- min cycle basis size: 2
- diameter: 4
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 13
- p4: 8
- property hash: 16c3951aa7af33fa11206867b868bb8670c46022d07f6e609f6d55e9c099b713
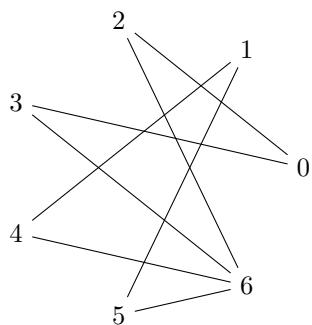
- signature: 100110000100001001011
- g: Graph with 7 nodes and 8 edges
- order: 7
- size: 8
- max degree: 4
- degrees: 1,1,2,2,3,3,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 7
- min cycle basis size: 2
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 11
- p4: 8
- property hash: 76cee932380a064e8e30a87663c9a4ae455e05884baa7fd15ef9651ed29eed8f
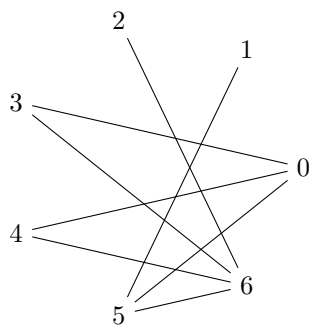
- signature: 010101000100010001011
- g: Graph with 7 nodes and 8 edges
- order: 7
- size: 8
- max degree: 4
- degrees: 1,1,2,2,3,3,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 7
- min cycle basis size: 2
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 11
- p4: 8
- property hash: 76cee932380a064e8e30a87663c9a4ae455e05884baa7fd15ef9651ed29eed8f
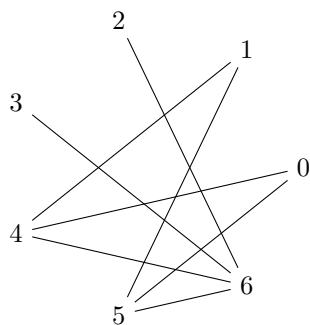
- signature: 011000001100001001011
- g: Graph with 7 nodes and 8 edges
- order: 7
- size: 8
- max degree: 4
- degrees: 2,2,2,2,2,2,4
- is tree: 0
- is bipartite: 1
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 8
- min cycle basis size: 2
- diameter: 4
- radius: 2
- is eulerian: 1
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 12
- p4: 8
- property hash: 3a2c615f09b36ca255ed0d794ccc41ee159551325d4a9569b44d1e8ffa12afeb
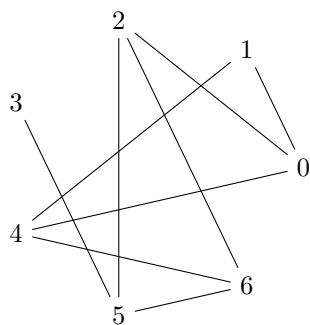
- signature: 001110000100001001011
- g: Graph with 7 nodes and 8 edges
- order: 7
- size: 8
- max degree: 4
- degrees: 1,1,2,2,3,3,4
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 8
- min cycle basis size: 2
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 14
- p4: 8
- property hash: 9acff7d3264adbe93b86f47ef41c8f47abace9da3cb90eebc05b8aee9e6ea0ab
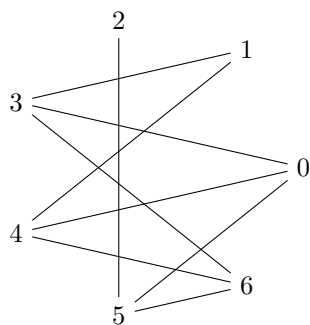
- signature: 000110001100001001011
- g: Graph with 7 nodes and 8 edges
- order: 7
- size: 8
- max degree: 4
- degrees: 1,1,2,2,3,3,4
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 8
- min cycle basis size: 2
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 14
- p4: 8
- property hash: 9acff7d3264adbe93b86f47ef41c8f47abace9da3cb90eebc05b8aee9e6ea0ab
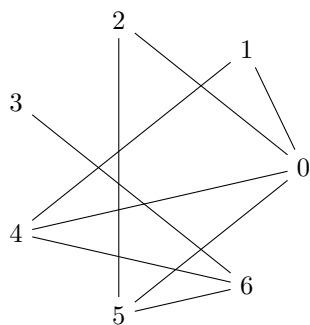
- signature: 110100001000011010011
- g: Graph with 7 nodes and 9 edges
- order: 7
- size: 9
- max degree: 3
- degrees: 1,2,3,3,3,3,3
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 10
- min cycle basis size: 3
- diameter: 4
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 4
- is regular: 0
- p3: 10
- p4: 8
- property hash: 961ab4c37ca35aaa66b92f86adc7b95bbebf4dcba50361c1ebf5e5700c6bb345
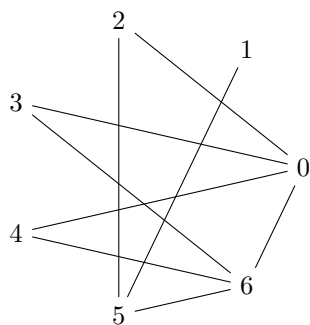
- signature: 001110011000010001011
- g: Graph with 7 nodes and 9 edges
- order: 7
- size: 9
- max degree: 3
- degrees: 1,2,3,3,3,3,3
- is tree: 0
- is bipartite: 1
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 12
- min cycle basis size: 3
- diameter: 4
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 4
- is regular: 0
- p3: 16
- p4: 8
- property hash: 776b7e391d15246d51ac0ad59acd31878d0ae0c21619dc0e98db1ebee95fff22
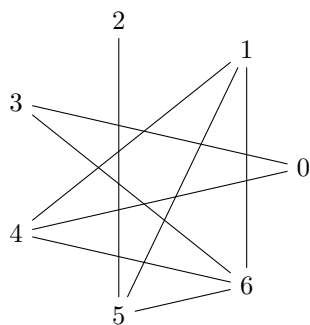
- signature: 110110001000010001011
- g: Graph with 7 nodes and 9 edges
- order: 7
- size: 9
- max degree: 4
- degrees: 1,2,2,3,3,3,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 10
- min cycle basis size: 3
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 4
- is regular: 0
- p3: 11
- p4: 8
- property hash: 33f3f4402b24dc0a11f117cadec610407b913ab9609ed5085f43c123c3d72ad5
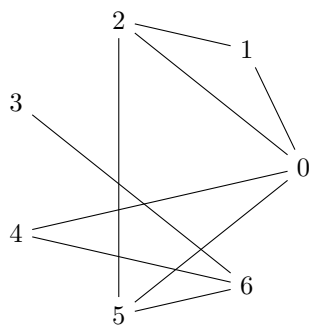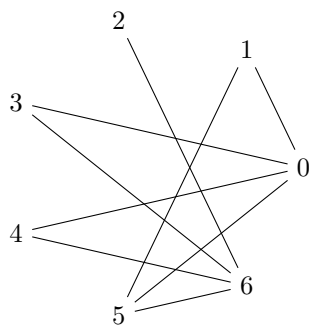
- signature: 011101000100010001011
- g: Graph with 7 nodes and 9 edges
- order: 7
- size: 9
- max degree: 4
- degrees: 1,2,2,2,3,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 10
- min cycle basis size: 3
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 4
- is regular: 0
- p3: 12
- p4: 8
- property hash: ce268478adc4da93a09e9d3c88867da0f2b03662030d5c53a7b381f47907516e
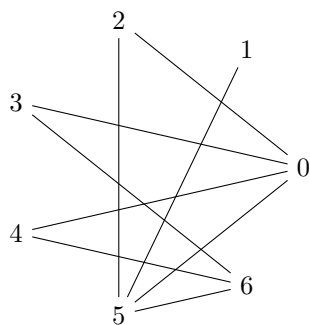
- signature: 001100001110010001011
- g: Graph with 7 nodes and 9 edges
- order: 7
- size: 9
- max degree: 4
- degrees: 1,2,2,3,3,3,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 10
- min cycle basis size: 3
- diameter: 4
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 4
- is regular: 0
- p3: 11
- p4: 8
- property hash: 47a6f68401e3598f478a7f4047092ac4c602e3c44bc4a1e7a576121a63d1b89e

- signature: 110110100000010001011
- g: Graph with 7 nodes and 9 edges
- order: 7
- size: 9
- max degree: 4
- degrees: 1,2,2,3,3,3,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 10
- min cycle basis size: 3
- diameter: 4
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 4
- is regular: 0
- p3: 11
- p4: 8
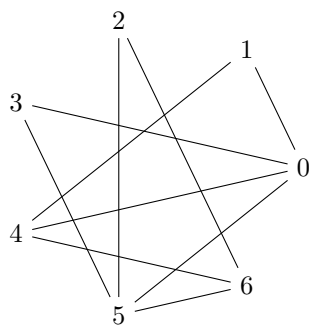- property hash: 47a6f68401e3598f478a7f4047092ac4c602e3c44bc4a1e7a576121a63d1b89e
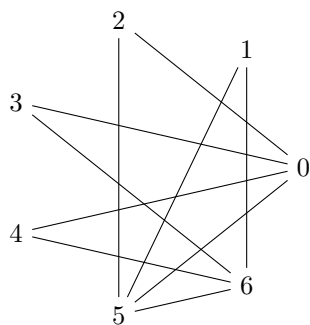
- signature: 101110000100001001011
- g: Graph with 7 nodes and 9 edges
- order: 7
- size: 9
- max degree: 4
- degrees: 1,2,2,2,3,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 11
- min cycle basis size: 3
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 4
- is regular: 0
- p3: 15
- p4: 8
- property hash: c43608334aa7fbfdbddf2491b18e22af1fa58927d7402ff94c0df6431a7bf066
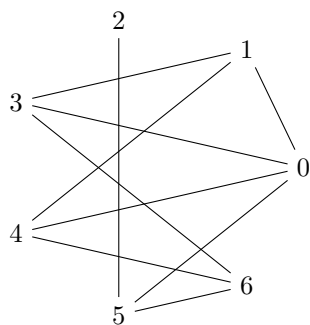
- signature: 011110000100010001011
- g: Graph with 7 nodes and 9 edges
- order: 7
- size: 9
- max degree: 4
- degrees: 1,2,2,2,3,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 11
- min cycle basis size: 3
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 4
- is regular: 0
- p3: 15
- p4: 8
- property hash: c43608334aa7fbfdbddf2491b18e22af1fa58927d7402ff94c0df6431a7bf066
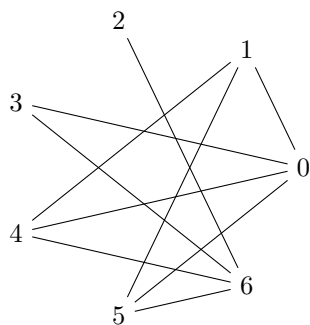
- signature: 101110001000011010011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 4
- degrees: 2,2,2,3,3,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 13
- min cycle basis size: 4
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 12
- p4: 8
- property hash: 6cb7a6ec57c16c6cf83a98646022073d5de84b45dd82afc141d4a2096f8b23cd
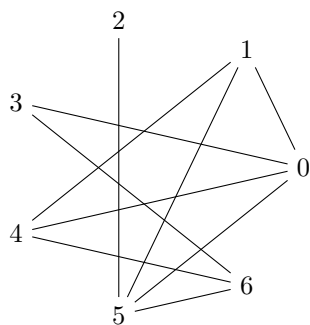
- signature: 011110000110010001011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 4
- degrees: 2,2,2,2,4,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 14
- min cycle basis size: 4
- diameter: 2
- radius: 2
- is eulerian: 1
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 16
- p4: 8
- property hash: 0aeb2b124349e924a5bbd209ef61404ec61914059225249749ca1d7f694ad088
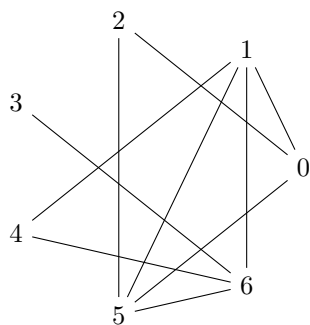
- signature: 101110011000010001011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 4
- degrees: 1,3,3,3,3,3,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 14
- min cycle basis size: 4
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 15
- p4: 8
- property hash: d3b86db52629b9921b7618515f1ce529b237c3d4e8db8f2b990284080837e7cc
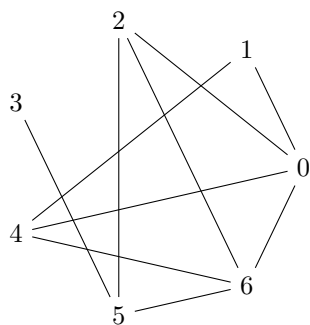
- signature: 101110001100001001011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 4
- degrees: 1,2,3,3,3,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 14
- min cycle basis size: 4
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 16
- p4: 8
- property hash: 14f612159ea94a34bfa60bbd9d6b8d9c4be73821be5b63abe30cddf72bfc8c71

- signature: 101110001100010001011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 4
- degrees: 1,2,3,3,3,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 14
- min cycle basis size: 4
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 16
- p4: 8
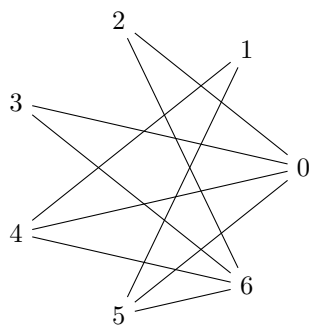- property hash: 14f612159ea94a34bfa60bbd9d6b8d9c4be73821be5b63abe30cddf72bfc8c71
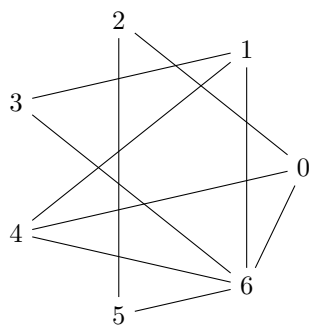
- signature: 110010001110010001011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 4
- degrees: 1,2,2,3,4,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 1
- is complete: 0
- min cycle basis weight: 12
- min cycle basis size: 4
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 11
- p4: 8
- property hash: 97c5462562e20db1d4aee8eca5ca29a8ba01e99bad2d9952dfc8f0e8bd4f3e28
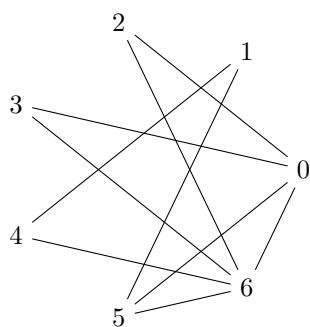
- signature: 110101001000011010011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 4
- degrees: 1,2,3,3,3,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 1
- is complete: 0
- min cycle basis weight: 12
- min cycle basis size: 4
- diameter: 4
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 10
- p4: 8
- property hash: bbe525a072df94e71c7de65183c959779e7a655aa64657b8030059fc8ac6be85
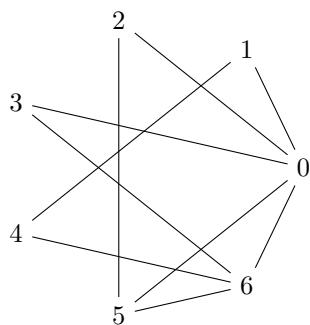
- signature: 011110001100001001011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 4
- degrees: 2,2,2,3,3,4,4
- is tree: 0
- is bipartite: 1
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 16
- min cycle basis size: 4
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 21
- p4: 8
- property hash: e8cd7b9705c3f92759ed6ee602283acc77e28c38f100013366cae6e4b3ffd5e3
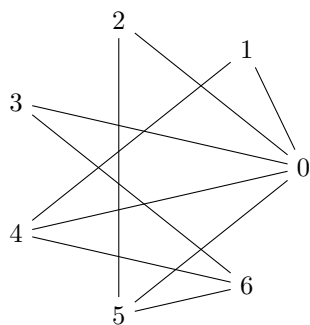
- signature: 010101011010010001011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 5
- degrees: 2,2,2,3,3,3,5
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 13
- min cycle basis size: 4
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 13
- p4: 8
- property hash: a2e7cb536f5e85037e910f3d3c9d00a9f1d8f2ad92691a4339dc07d8fb9eed99
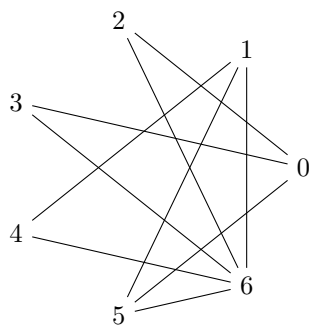
- signature: 011011001100001001011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 5
- degrees: 2,2,2,2,3,4,5
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 13
- min cycle basis size: 4
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 14
- p4: 8
- property hash: c7de976b9cea8221c24f459b6f49f5db4e744bf536a7bf79b36442ec987c9846

- signature: 1110111001000010001011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 5
- degrees: 2,2,2,2,3,4,5
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 13
- min cycle basis size: 4
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 14
- p4: 8
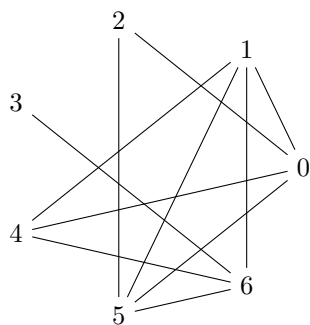- property hash: c7de976b9cea8221c24f459b6f49f5db4e744bf536a7bf79b36442ec987c9846
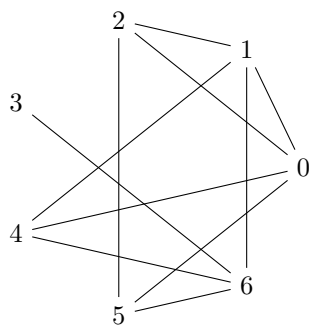
- signature: 111110001000010001011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 5
- degrees: 2,2,2,3,3,3,5
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 14
- min cycle basis size: 4
- diameter: 2
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 16
- p4: 8
- property hash: 89c9cb6f0ce0f8ea39f703707477cc70c5d053c3893a92a27d5ede0e0e14feb2
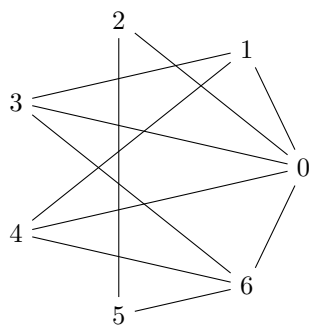
- signature: 011010001110001001011
- g: Graph with 7 nodes and 10 edges
- order: 7
- size: 10
- max degree: 5
- degrees: 2,2,2,3,3,3,5
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 14
- min cycle basis size: 4
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 5
- is regular: 0
- p3: 16
- p4: 8
- property hash: 4304cf1c0c33875c1a4ae11cf2057e7b469ed0a61104ba0842c72c2285dacdeb
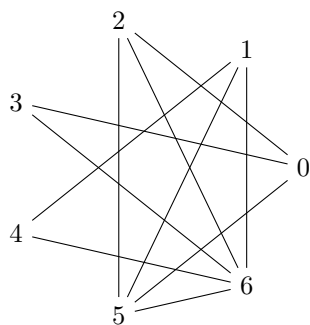
- signature: 110110001110010001011
- g: Graph with 7 nodes and 11 edges
- order: 7
- size: 11
- max degree: 4
- degrees: 1,2,3,4,4,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 15
- min cycle basis size: 5
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 6
- is regular: 0
- p3: 13
- p4: 8
- property hash: 65b7eb49d96041e0c12f1ffee6577ea4087d32c6510ce7981f9d2ba6ca73f77a
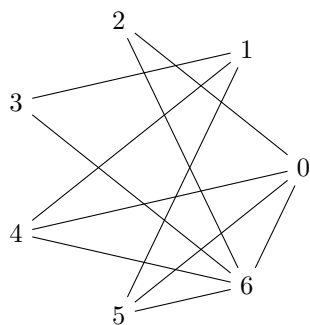
- signature: 110110101010010001011
- g: Graph with 7 nodes and 11 edges
- order: 7
- size: 11
- max degree: 4
- degrees: 1,3,3,3,4,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 1
- is chordal: 0
- is complete: 0
- min cycle basis weight: 16
- min cycle basis size: 5
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 6
- is regular: 0
- p3: 15
- p4: 8
- property hash: 92c79d2927d979775591fe7a2d1688e1eb3d70456b58457475db665ec78961f8
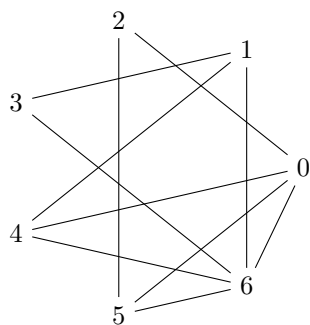
- signature: 111101011000010001011
- g: Graph with 7 nodes and 11 edges
- order: 7
- size: 11
- max degree: 5
- degrees: 2,2,3,3,3,4,5
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 16
- min cycle basis size: 5
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 6
- is regular: 0
- p3: 15
- p4: 8
- property hash: cec7f6336f4ae1747f34e06af58d29f0b30913b54132bd977439976c66c1055f

- signature: 011010001110011001011
- g: Graph with 7 nodes and 11 edges
- order: 7
- size: 11
- max degree: 5
- degrees: 2,2,3,3,3,4,5
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 16
- min cycle basis size: 5
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 6
- is regular: 0
- p3: 15
- p4: 8
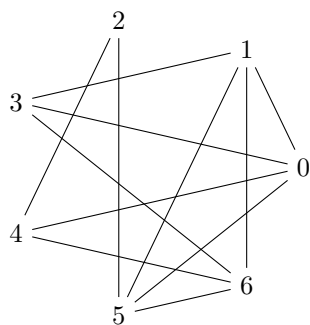- property hash: cec7f6336f4ae1747f34e06af58d29f0b30913b54132bd977439976c66c1055f
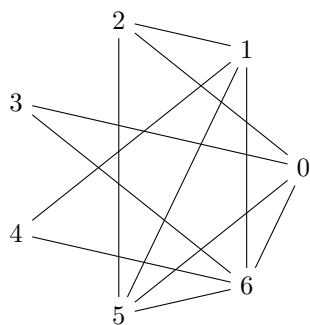
- signature: 010111011100001001011
- g: Graph with 7 nodes and 11 edges
- order: 7
- size: 11
- max degree: 5
- degrees: 2,2,3,3,3,4,5
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 17
- min cycle basis size: 5
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 6
- is regular: 0
- p3: 18
- p4: 8
- property hash: 006d4b36cf2260194093a04d78d738b3d42c7884983f46e329f60ce986885f14
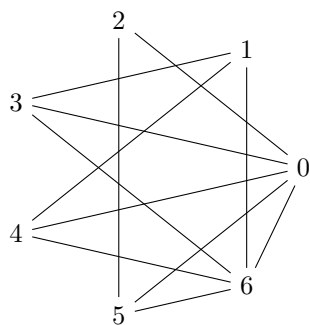
- signature: 010111011010010001011
- g: Graph with 7 nodes and 11 edges
- order: 7
- size: 11
- max degree: 5
- degrees: 2,2,3,3,3,4,5
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 1
- is complete: 0
- min cycle basis weight: 15
- min cycle basis size: 5
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 6
- is regular: 0
- p3: 12
- p4: 8
- property hash: f67a483b3363b1e55cc410be0881c2d1c85b1b9acb429d4cb370863497152d23
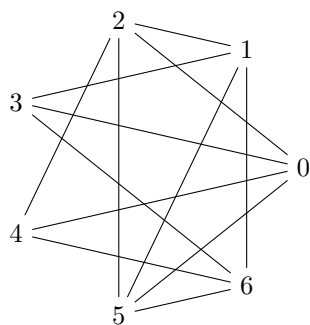
- signature: 101110010110110001011
- g: Graph with 7 nodes and 12 edges
- order: 7
- size: 12
- max degree: 4
- degrees: 2,3,3,4,4,4,4
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 20
- min cycle basis size: 6
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 7
- is regular: 0
- p3: 19
- p4: 8
- property hash: a3ef46d91fb3246d078e8d0e104314889849d9c8ddf27c9ee47c6359ceecbba0
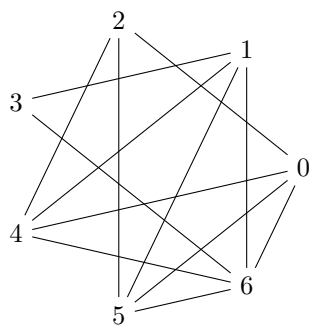
- signature: 011011101110010001011
- g: Graph with 7 nodes and 12 edges
- order: 7
- size: 12
- max degree: 5
- degrees: 2,2,3,4,4,4,5
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 18
- min cycle basis size: 6
- diameter: 2
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 7
- is regular: 0
- p3: 15
- p4: 8
- property hash: cbd5b9cc78f9a3c444ddbda0bf1badf158f9d0420978de3fa5efc70072d2acec

- signature: 011111011010010001011
- g: Graph with 7 nodes and 12 edges
- order: 7
- size: 12
- max degree: 5
- degrees: 2,3,3,3,3,5,5
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 18
- min cycle basis size: 6
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 7
- is regular: 0
- p3: 15
- p4: 8
- property hash: 34d371582a6c1e89dedc0a415d85215a754badc9913a7541b868fe73afef65d5
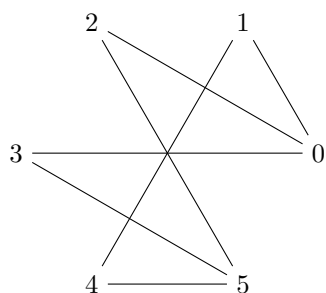
- signature: 011110110110110001011

- g: Graph with 7 nodes and 13 edges

- order: 7

- size: 13

- max degree: 4

- degrees: 3,3,4,4,4,4,4

- is tree: 0

- is bipartite: 0

- has bridge: 0

- is chordal: 0

- is complete: 0

- min cycle basis weight: 23

- min cycle basis size: 7

- diameter: 2

- radius: 2

- is eulerian: 0

- is planar: 0

- number of faces: 8

- is regular: 0

- p3: 21

- p4: 8

- property hash: a59584c94b29ce8e6ee6e579e9273bf28217f8edf40b0d93de65d69563ec3e98

- signature: 010111011110110001011
- g: Graph with 7 nodes and 13 edges
- order: 7
- size: 13
- max degree: 5
- degrees: 2,3,4,4,4,4,5
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 21
- min cycle basis size: 7
- diameter: 3
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 8
- is regular: 0
- p3: 17
- p4: 8
- property hash: 7294cbffecddaabb5e36c3f747ddb5dbe7f0a729fa7cac05d7dc30578074d6b5

Chapter 9

p4 = 9 (1 graphs)

- signature: 111000010001011
- g: Graph with 6 nodes and 7 edges
- order: 6
- size: 7
- max degree: 3
- degrees: 2,2,2,2,3,3
- is tree: 0
- is bipartite: 0
- has bridge: 0
- is chordal: 0
- is complete: 0
- min cycle basis weight: 9
- min cycle basis size: 2
- diameter: 2
- radius: 2
- is eulerian: 0
- is planar: 1
- number of faces: 3
- is regular: 0
- p3: 10
- p4: 9
- property hash: 10e530549749e8bfab385a5820e77a6be687266eb8555cb25ca81df74a6e0ff9