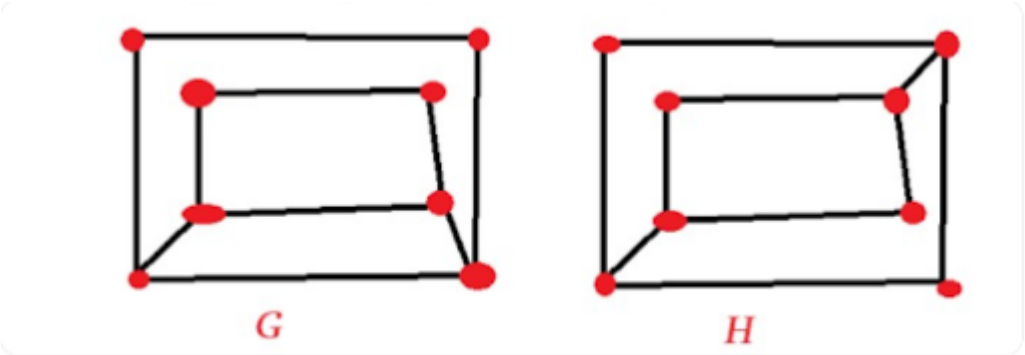
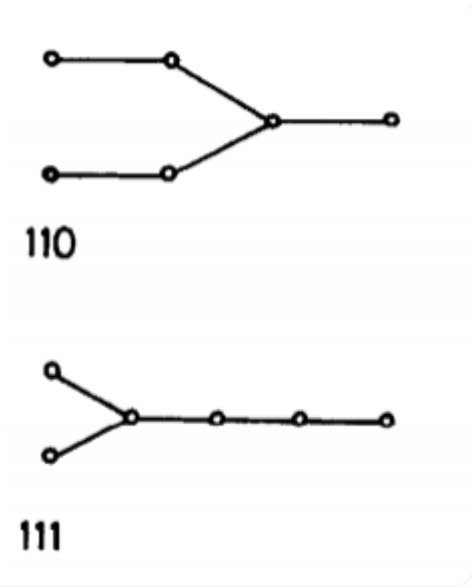
Chat con Edwin

Alejandro Leopoldo Tiraboschi, 29 jul, 16:34, Editado
Para probar que no son isomorfos, este medio difícil no?

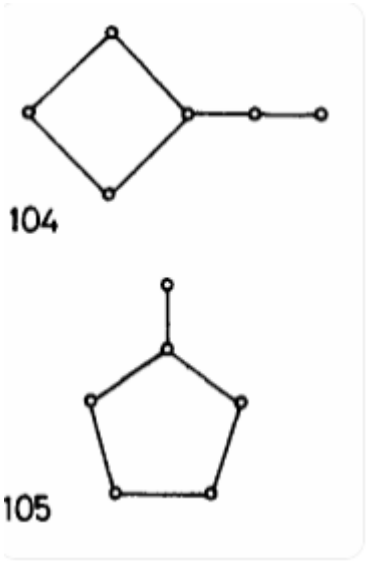


Una forma sería que uno tiene dos ciclos de longitud 4 y el otro no.

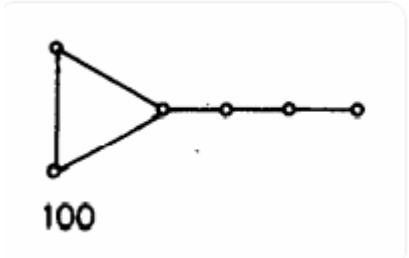
Alejandro Leopoldo Tiraboschi, 29 jul, 16:56, Editado
Estos también podrían ser:



o

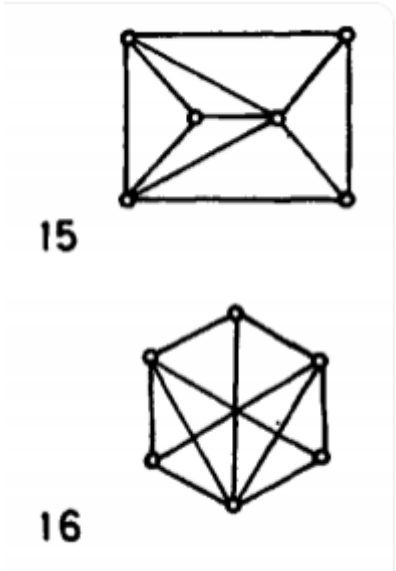


Alejandro Leopoldo Tiraboschi, 29 jul, 17:00
Este no es isomorfo tampoco a 104 y 105

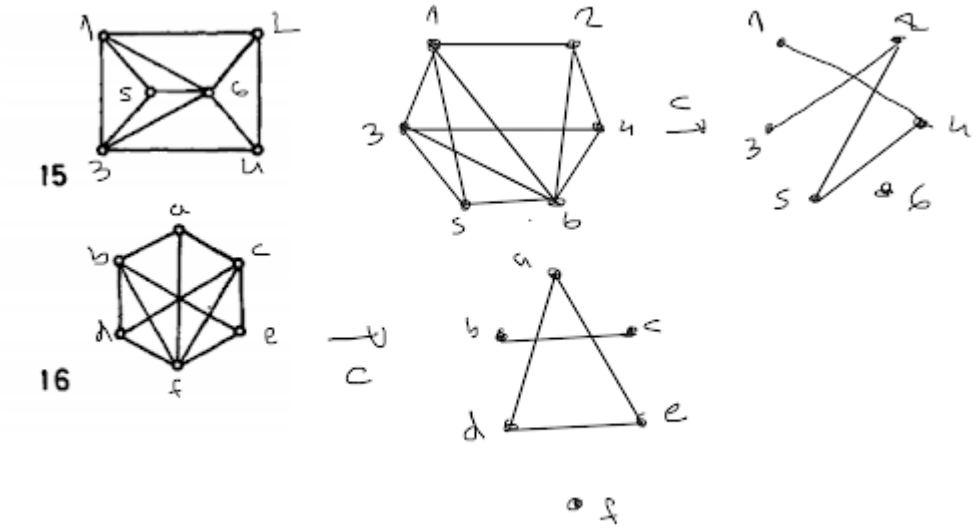


Alejandro Leopoldo Tiraboschi, 29 jul, 17:23
Estos:

Alejandro Leopoldo Tiraboschi, 29 jul, 17:23, Editado

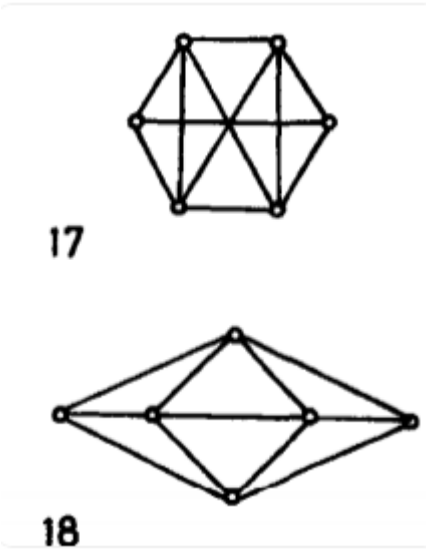


Alejandro Leopoldo Tiraboschi, 29 jul, 17:33
Este último es como vos querías. Sale fácil por complemento.
https://jamboard.google.com/d/1xMMGQTApe1AQAX--RdUeZ3GKrmVWGioGUXl7g9m6gFg/edit?usp=sharing

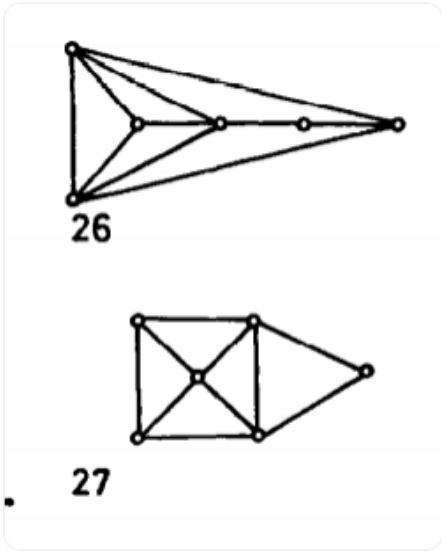


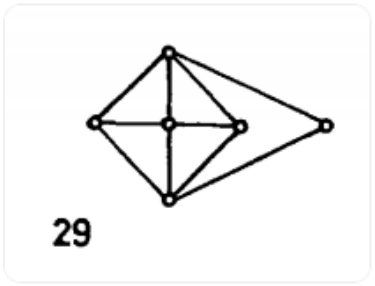
Jam sin título

Alejandro Leopoldo Tiraboschi, 29 jul, 17:40
Otro par: En el mismo Jamboard se ve que es fácil por complemento.



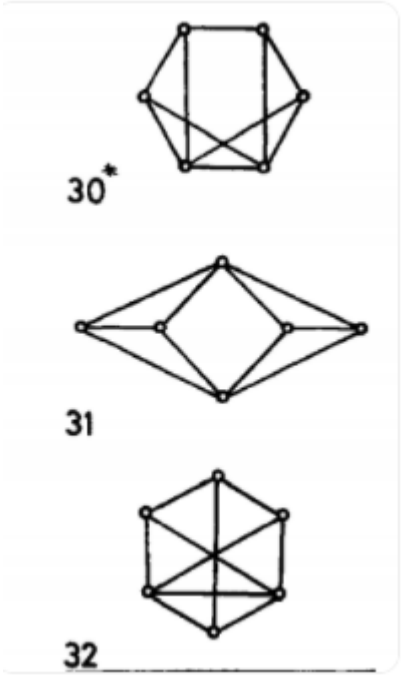
Alejandro Leopoldo Tiraboschi, 29 jul, 17:43
Otors ejemplos: los siguientes tres grafos no son isomorfos



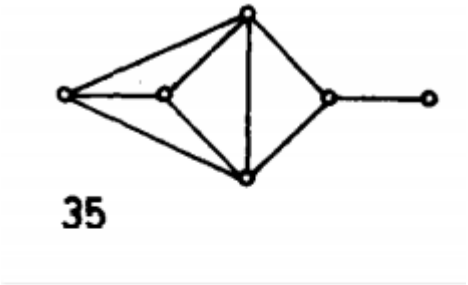


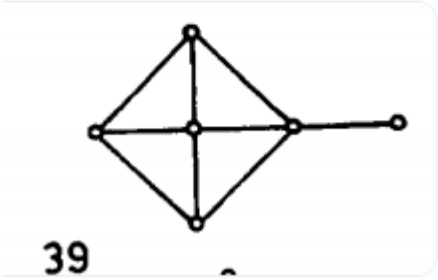
Alejandro Leopoldo Tiraboschi, 29 jul, 17:44, Editado
No se por que el único ejemplo en los libros es el que pusimos en el apunte. Está lleno.

Alejandro Leopoldo Tiraboschi, 29 jul, 17:51



Otro par:





Alejandro Leopoldo Tiraboschi, 29 jul, 17:56
Ya me cansé, pero debe haber más. En https://drive.google.com/file/d/1q6jgMtN0YD6Ys8RFOvObsRZGvVpCSUZt/view?usp=sharing está la lista de los grafos no siomorfos de 6 vértices. En una tabla está la lista de valencias. Todos los ejemplos que puse son grafos con la misma lista de valencias no isomorfos.

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A TABLE OF CONNECTED GRAPHS ON SIX VERTICES

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Received 21 February 1983
Revised 3 August 1983

This paper contains a table of 112 connected graphs on six vertices. The graphs are ordered lexicographically by their spectral moments in non-increasing order. The pictures of graphs are given to show as much symmetry as possible. Several data such as the spectrum, and its main part, coefficients of the characteristic and of the matching polynomial, numbers of circuits, etc., are given for each graph in the table. Several observations implied by this table are noted.

The purpose of this paper is to present a table of connected graphs on six vertices together with several useful data about them.

Tables of 6-vertex graphs already appeared in the literature (see, for example, [9]). In fact, the table from [9] was the basis for producing this table. New topics in this table are the way of graph presentation, the ordering of graphs and some data on these graphs.

We tried to produce 'nice' pictures of graphs. Automorphisms of graphs are identified with geometric symmetries of the picture as much as possible. Planar representations are preferred unless they contradict the first principle. The 112 connected graphs on six vertices are given in Table 1 and each graph is provided by an identification number. In planar graphs with a non-planar representation the identification numbers are provided by an asterisk.

Let $\lambda_1, \ldots, \lambda_n$ be the eigenvalues of a graph G. Then the quantity

$$S_k = \sum_{i=1}^{n} \lambda_i^k \qquad (k = 0, 1, \ldots)$$

is called the kth spectral moment of G. We have $S_0 = n$, $S_1 = l$, $S_2 = 2m$, $S_3 = 6t$, where n, l, m, t denote the number of vertices, the number of loops, the number of edges and the number of triangles of G, respectively.

Of course, two graphs are cospectral if and only if they have the same spectral moments.

The graphs are ordered lexicographically by their spectral moments in non-increasing order. Each group of graphs with a constant number of edges is separated in the tables from the neighbouring groups.

grafos-no-isomorfos-de-6-vertices.pdf

Alejandro Leopoldo Tiraboschi, 29 jul, 18:13
Esta es la lista de grafos conexos, no isomorfos, de 6 vértices con la misma lista de valencias (por renglón):
15 y 16 -> 5 4 4 3 3 3
17 y 18 -> 4 4 4 4 3 3
26, 27 y 29 -> 4 4 4 3 3 2
30, 31 y 32 -> 4 4 3 3 3 3
35 y 39 -> 4 4 3 3 3 1

36 y 43 -> 5 3 3 3 2 2
41, 44, 45, 46 y 49 -> 4 4 3 3 2 2
47, 48 y 50 -> 4 3 3 3 3 2
51 y 52 -> 3 3 3 3 3 3 (el ejercicio del práctico 5)
55, 60, 63 y 64 -> 4 3 3 3 2 1
57 y 59 -> 4 4 3 2 2 1
62, 67, 68 y 71 -> 4 3 3 2 2 2
66 y 73 -> 4 4 2 2 2 2
69, 70, 72 y 74 -> 3 3 3 3 2 2
77 y 78 -> 4 3 3 2 1 1
81, 83, 85 y 90 -> 4 3 2 2 2 1
82, 86, 87 y 91 -> 3 3 3 2 2 1
84, 89, 92 y 93 -> 3 3 2 2 2 2
97 y 101 -> 4 2 2 2 1 1
98, 99, 102 y 103 -> 3 3 2 2 1 1
100, 104 y 105 -> 3 2 2 2 2 1
110 y 111 -> 3 2 2 1 1 1
Algunos "no isomorfismos" deben ser medio complicados de demostrar. Pero hay ejercicios para poner hasta el 2050.
Voy a poner 15 y 16 (con variaciones) en este final y 17 y 18 para el que viene.