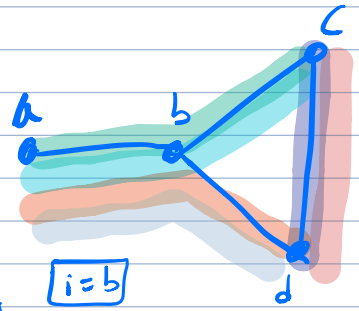


$i = b$

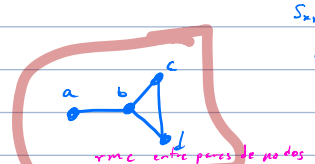
σ_{hj}

	a	b	c	d
a	0	0	1	1
b	0	0	0	0
c	1	0	0	1
d	1	0	1	0

$\sigma_{hj}(b)$

	a	b	c	d
a	0	0	1	1
b	0	0	0	0
c	1	0	0	0
d	1	0	0	0

$$b_b = \frac{4}{6} = \frac{2}{3} = 0.666\ldots$$



rmc entre pares de nodos que pasan por a

$S_{xy}(a)$

	a	b	c	d
a	0	0	0	0
b	0	0	0	0
c	0	0	0	0
d	0	0	0	0

$S_{xy}(a) = 0$

S_{xy} rmc entre pares de nodos

	a	b	c	d
a	0	0	1	1
b	0	0	0	0
c	1	0	0	1
d	1	0	1	0

$S_{xy} = 12$

rmc entre pares de nodos que pasan por d

$S_{xy}(d)$

	a	b	c	d
a	0	0	0	0
b	0	0	0	0
c	0	0	0	0
d	0	0	0	0

$S_{xy}(d) = 0$

rmc entre pares de nodos que pasan por b

$S_{xy}(b)$

	a	b	c	d
a	0	0	1	1
b	0	0	0	0
c	1	0	0	0
d	1	0	0	0

$S_{xy}(b) = 4$

rmc entre pares de nodos que pasan por c

$S_{xy}(c)$

	a	b	c	d
a	0	0	0	0
b	0	0	0	0
c	0	0	0	0
d	0	0	0	0

$S_{xy}(c) = 0$

$b_a = \frac{0}{12} = 0$

$b_b = \frac{4}{6} = \frac{2}{3}$

$b_c = \frac{0}{12} = 0$

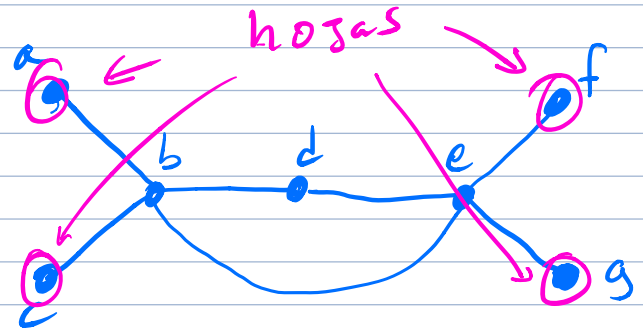
$b_d = \frac{0}{12} = 0$

1. ¿Lo sirón (present.)
2. networkx (programar)
3. definiciones y dudas.

Ej. Buscar las formas de representar (almacenar) (tipos de archivo) una gráfica. (de pref. si lo usa networkx)

.dot

$$b_i = \sum_{h \neq j \neq i} \frac{\sigma_{hj}(i)}{\sigma_{hj}}$$



intermediación

mat ady

	a	b	c	d	e	f	g
a	0	1	0	0	0	0	0
b	1	0	1	1	1	0	0
c	0	1	0	0	0	0	0
d	0	1	0	0	1	0	0
e	0	1	0	1	0	1	1
f	0	0	0	0	1	0	0
g	0	0	0	0	1	0	0

a

σ_{ng}

	a	b	c	d	e	f	g
a	0	0	0	0	0	0	0
b		0	1	1	1	1	1
c			0	1	1	1	1
d				0	1	1	1
e					0	1	1
f						0	1
g							0

30

$\sigma_{ng}(a)$

	a	b	c	d	e	f	g
a	0	0	0	0	0	0	0
b		0	0	0	0	0	0
c			0	0	0	0	0
d				0	0	0	0
e					0	0	0
f						0	0
g							0

0

$b_a = \frac{0}{30} = 0$

$b_c = 0$

$b_f = 0$

$b_g = 0$

b

σ_{ng}

	a	b	c	d	e	f	g
a	0	0	1	1	1	1	1
b		0	0	0	0	0	0
c			0	1	1	1	1
d				0	1	1	1
e					0	1	1
f						0	1
g							0

30

$\sigma_{ng}(b)$

	a	b	c	d	e	f	g
a	0	0	1	1	1	1	1
b		0	0	0	0	0	0
c			0	1	1	1	1
d				0	0	0	0
e					0	0	0
f						0	0
g							0

18

$b_b = \frac{18}{30} = \frac{3}{5}$

$b_e = \frac{3}{5}$

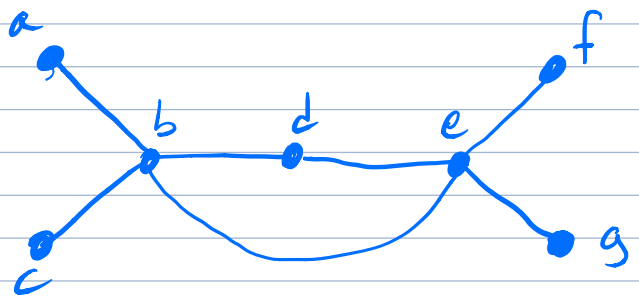
G_{n3} d

	a	b	c	d	e	f	g
a	0	1	1	0	1	1	1
b		0	1	0	1	1	1
c			0	0	1	1	1
d				0	0	0	0
e					0	1	1
f						0	1
g							0

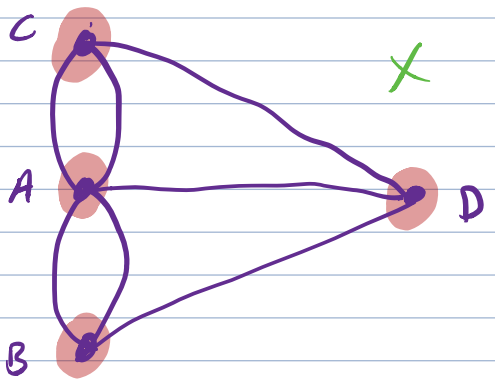
(30)

$G_{n3}(d)$

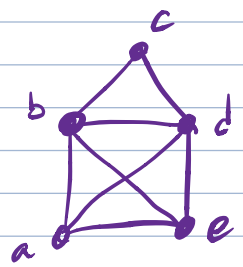
	a	b	c	d	e	f	g
a	0	0	0	0	0	0	0
b		0	0	0	0	0	0
c			0	0	0	0	0
d	(0)			0	0	0	0
e					0	0	0
f						0	0
g							0



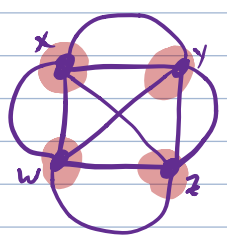
$b_3 = \frac{0}{30} = 0$



X



✓



X

def.

Gráfica euleriana:

ssi

$\exists P \rightarrow \forall e \in E$

$e \in P$

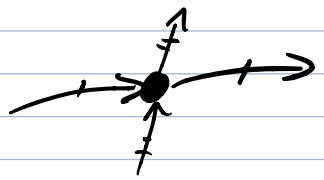
Teo. Euler

Una gráfica es euleriana

Ssi
- Tiene 0 nodos de grado impar

ó

- Tiene 2 nodos de grado impar



Completas

no dirigidas

K_1

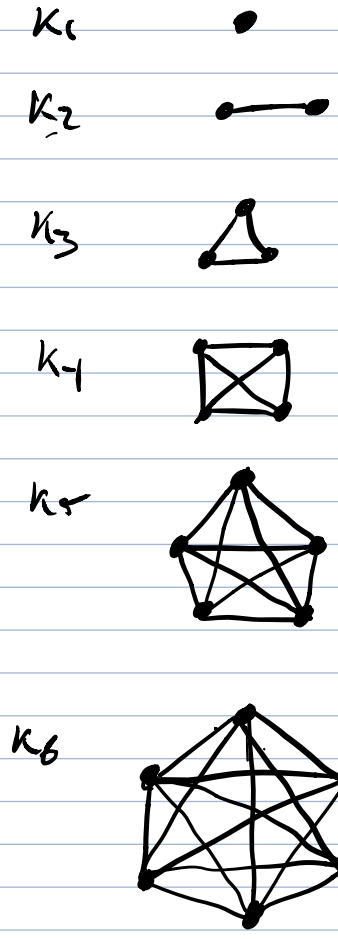
K_2

K_3

K_4

K_5

K_6



$\frac{n(n-1)}{2}$

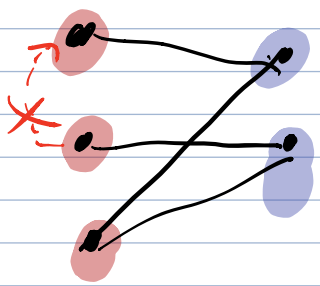
dirigidas

K_2^d

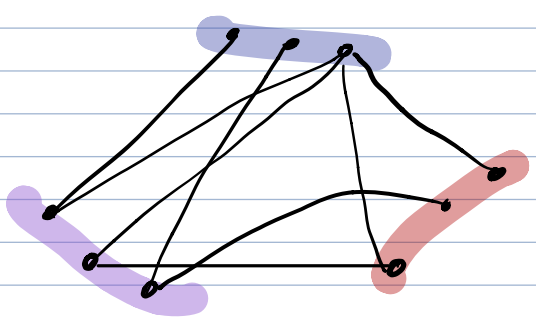
$n(n-1)$

Bipartitas

- Se puede dividir V en V' y V'' hay aristas entre nodos de V' y V'' pero no de V' y V' ni de V'' y V''

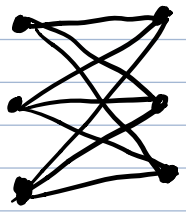


- Es <u>completa</u> si todos los de V' se conectan con todos los de V''



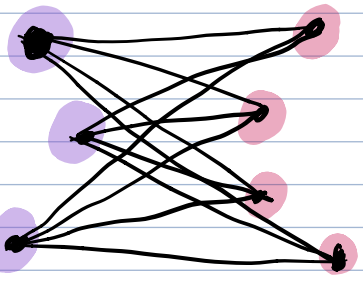
tripartita

$K_{3,3}$ bipartita completa con $|V'|=3$ $|V''|=3$



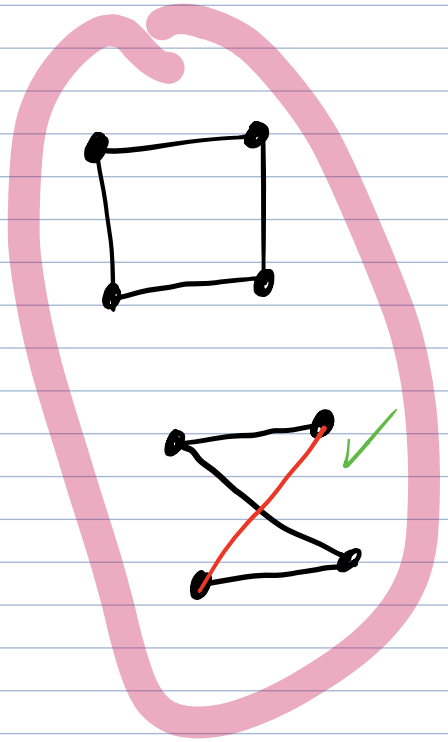
$K_{3,4}$

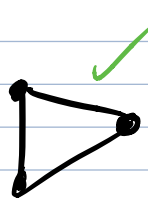
¿Cuántas aristas tiene $K_{n,m}$?

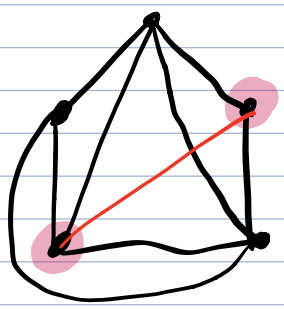


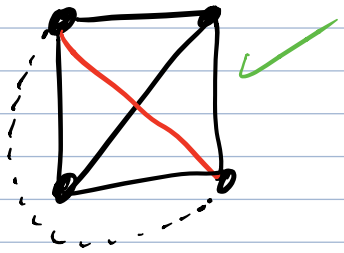
$R = n \cdot m$ aristas.

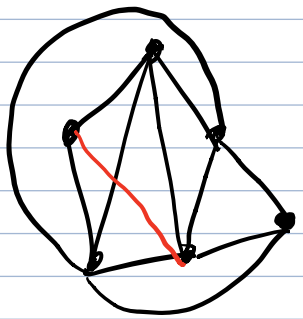
Gráfica plana.

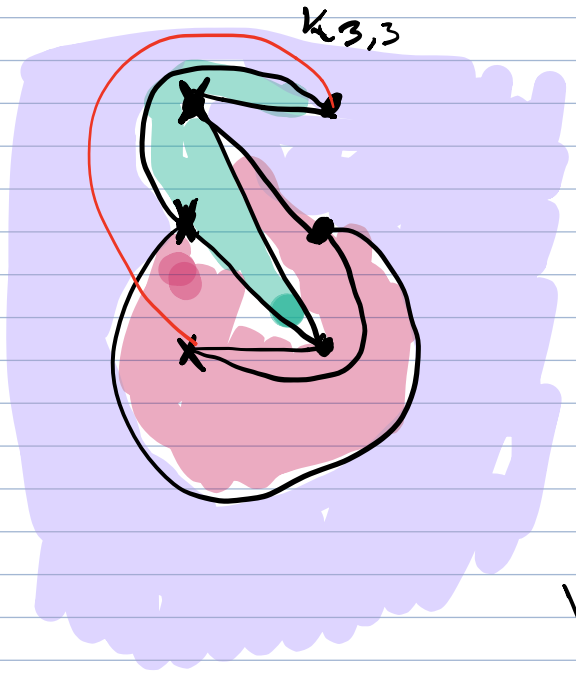




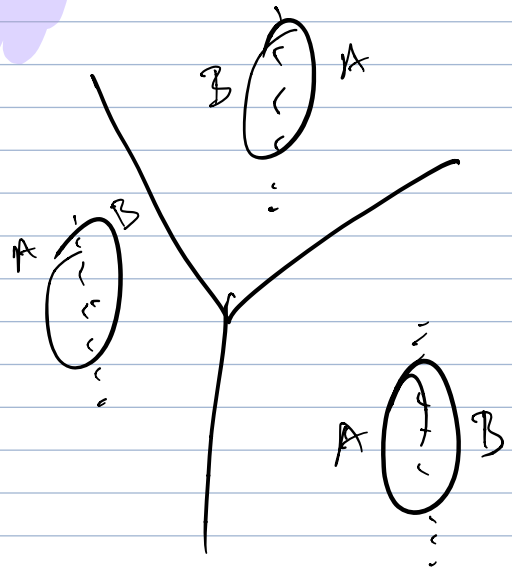


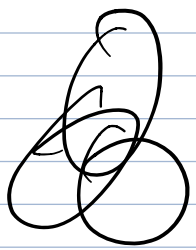






Una gráfica es plana SSi no contiene como subgráficas a K_5 ni a $K_{3,3}$





Dibujo con "lados paralelos a los ejes"