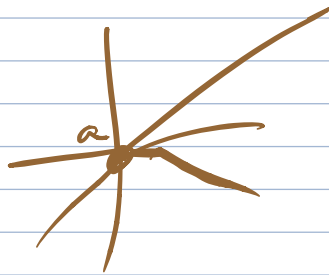


Redes

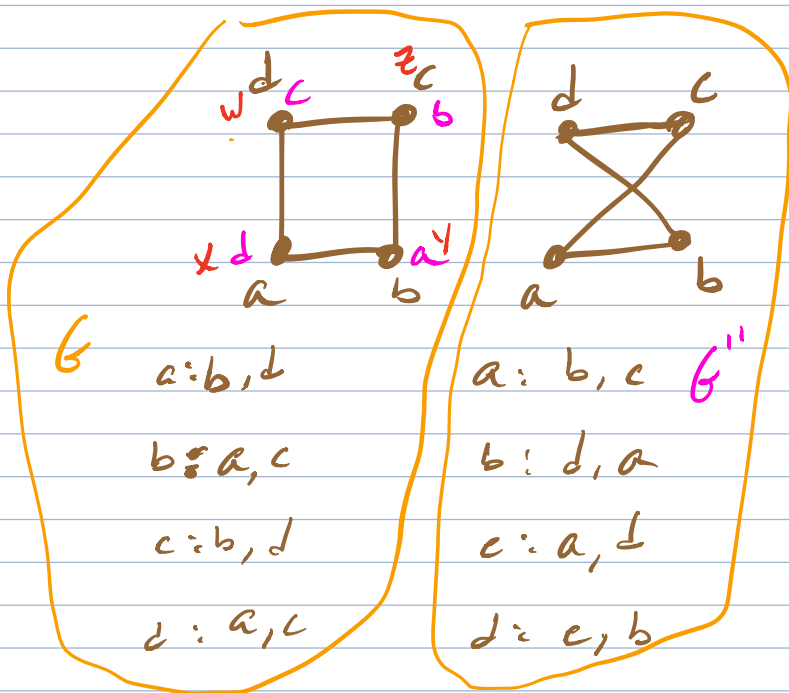


$$\partial a = 7$$



$$\partial_{in} a = 1$$

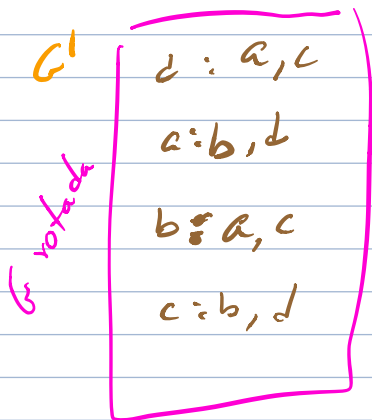
$$\partial_{out} a = 3$$



f	
a	a
b	b
c	d
d	c
ab	ab
bc	bd
cd	dc
da	ca

\Rightarrow 1-1 sobre incidencias

$$G \cong G''$$



$$f: G \rightarrow G'$$

f es biyección

$$1-1: f(a) = f(b) \Rightarrow a = b$$

$$\text{sobre: } a' \in G' \Rightarrow \exists a \in G,$$

$$f(a) = a'$$

manda nodos a nodos y aristas a aristas

$$G \cong G'$$

$$G = G'$$

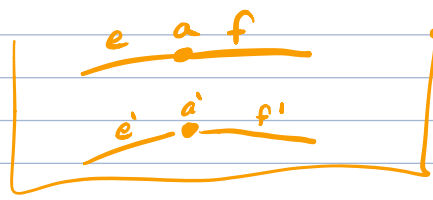
$$\{a, b, c, d\} \rightarrow \{d, a, b, c\}$$

$$\text{incidencia: } e = (a, b)$$

$$\Rightarrow f(e) = e' = (a', b')$$

$$\text{donde } f(a) = a', f(b) = b'$$

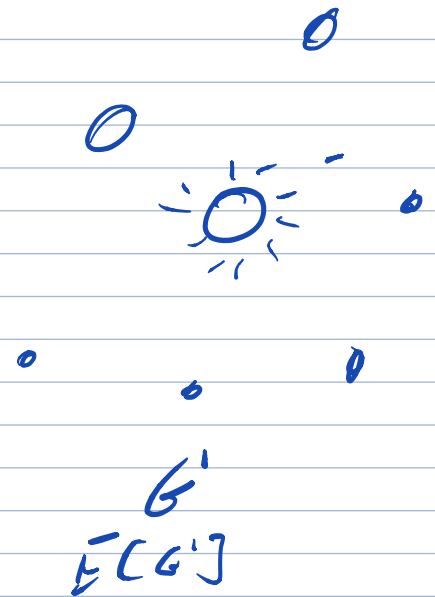
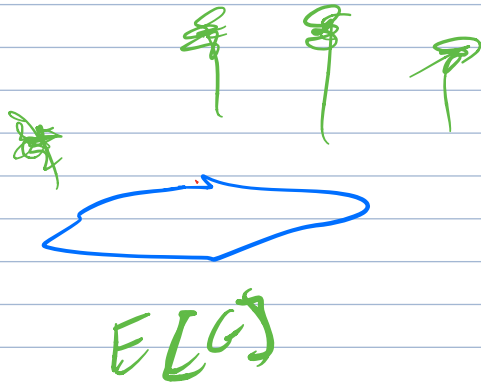
La imagen de una arista tiene como extremos a las imágenes de sus extremos



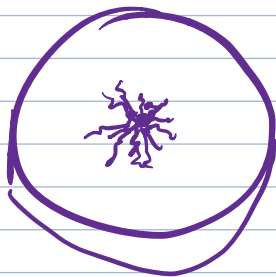
transitividad?
o es incidencia?

$$E[G] \approx E[G']$$

el mismo comportamiento "general"



Bacterias

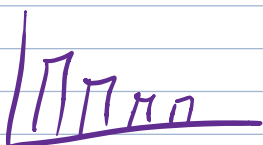


$E[G]$

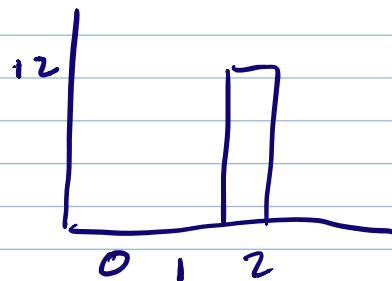
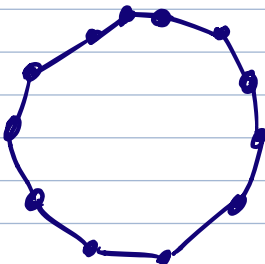
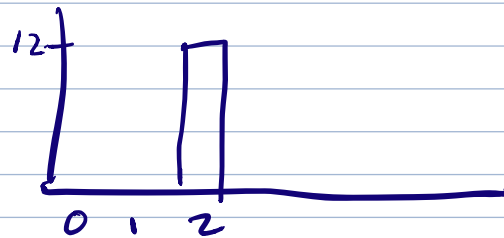
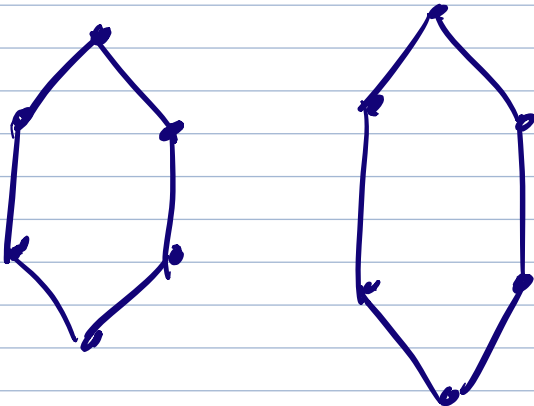
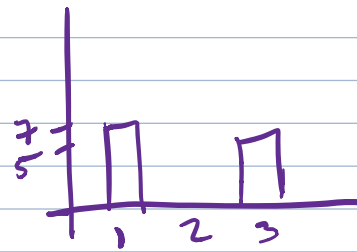
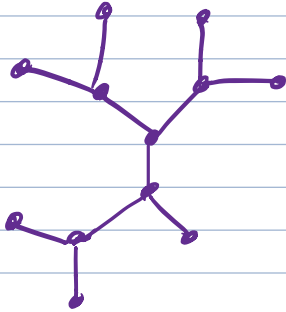
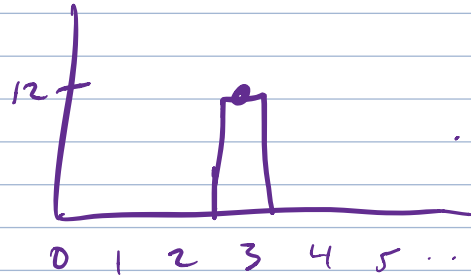
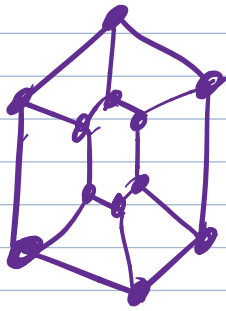
Población humana

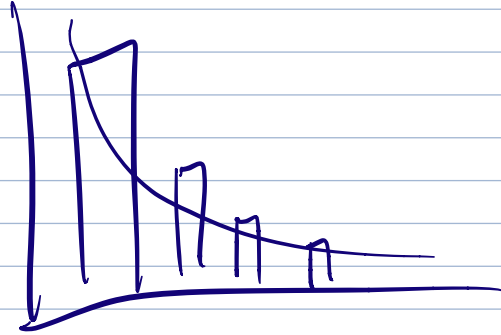
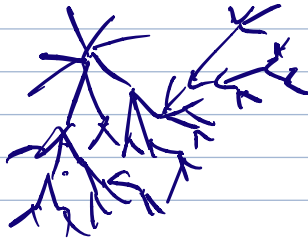
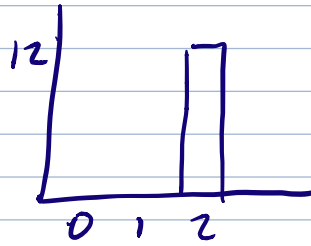
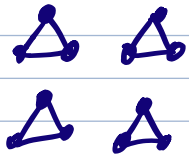


$E[G]$



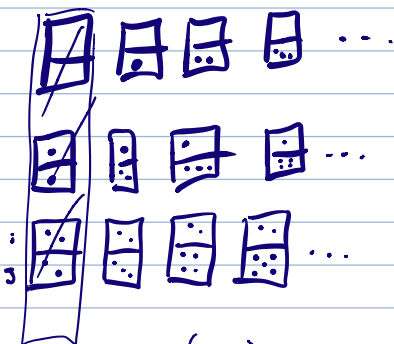
12 nodos





Redes aleatorias

Red geométrica — nodos tienen coordenadas (x, y)
 — aristas son segmentos de recta



$$(i, j)_{n \times n}$$

$$i = 0, 1, \dots, n-1$$

$$j = i+1, i+2, i+3, \dots, n-1$$

$$(j, i)$$

Lista para curso de Prog. con Python

Propuestas de horario

Francisco	viernes 13:00
Anel	Viernes 13:00
Xavier	
Noe	
Luis Manuel.	viernes
Jaime	viernes 13:00
Mauricio	
Nicolás	Viernes 10:00

codewars

Felipe. Contreras @ uacm.edu.mx

hobber.mallow@gmail.com