Tarea 02

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Exercise 2.5.1: What is the communication cost of each of the following algorithms, as a function of the size of the relations, matrices, or vectors to which they are applied?

a. The matrix-vector multiplication algorithm of Section 2.3.2.
b. The union algorithm of Section 2.3.6.
c. The aggregation algorithm of Section 2.3.8.

Exercise 3.4.1: Evaluate the S-curve $1 - (1 - s^r)^b$ for $s = 01, 02, \ldots, 09$, for the following values of r and b:

- $r = 3$ and $b = 10$.
- $r = 6$ and $b = 20$.
- $r = 5$ and $b = 50$.

Respuesta 3.4.1:

- Para $r = 3$ y $b = 10$

s	$1 - (1 - s^r)^b$
.1	0.00995512
.2	0.077180588
.3	0.239448893
.4	0.483870732
.5	0.736924424
.6	0.912267475
.7	0.985015105
.8	0.999234054
.9	0.999997864

- Para $r = 6$ y $b = 20$

s	$1 - (1 - s^r)^b$
.1	0.000019999810001669616
.2	0.001279222058761964
.3	0.014479466504172311
.4	0.07880932311056221

s	$1-(1-s^r)^b$
.5	0.27018714400947597
.6	0.6154146360312677
.7	0.9181859965846739
.8	0.9977121251546806
.9	0.9999997398129465

- Para $r = 5$ y $b = 50$

s	$1-(1-s^r)^b$
.1	0.0004998775195954597
.2	0.01587519984502117
.3	0.11453988231042189
.4	0.4022839522088044
.5	0.7955506304323648
.6	0.9825338277068608
.7	0.9998989958361557
.8	0.9999999976077777
.9	1