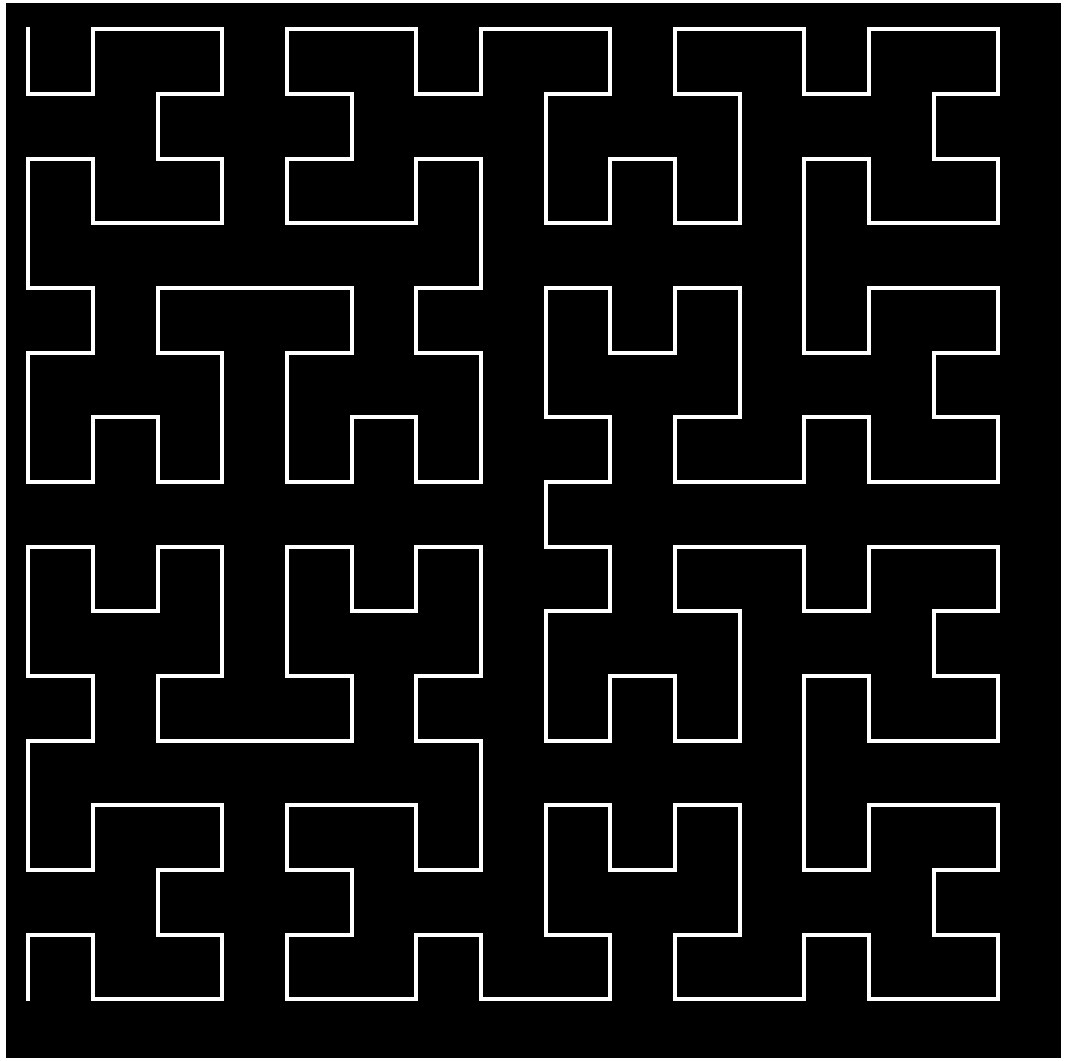
IPv4 Heatmaps

Duane Wessels
The Measurement Factory/CAIDA

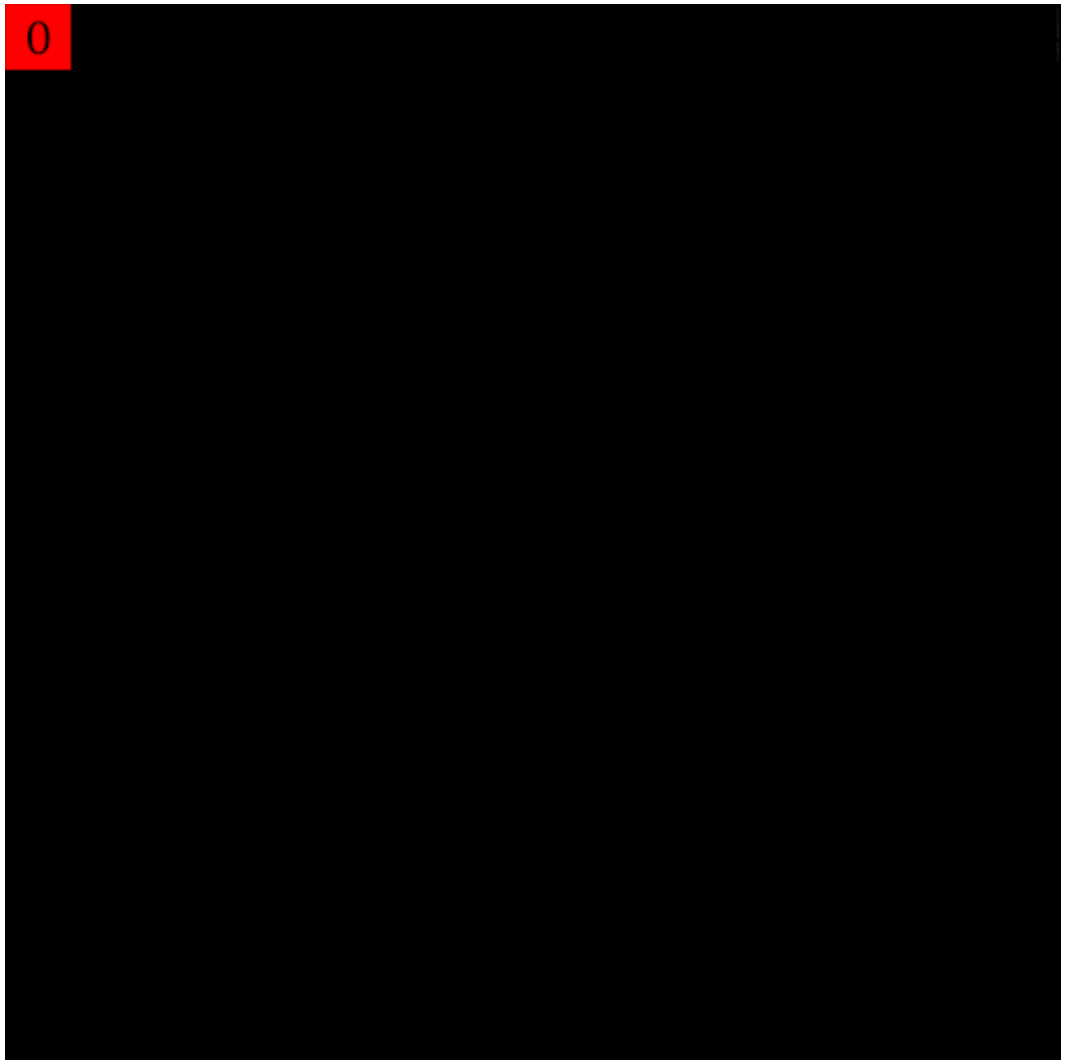
NANOG 41
October 16, 2007

http://xkcd.com/195/

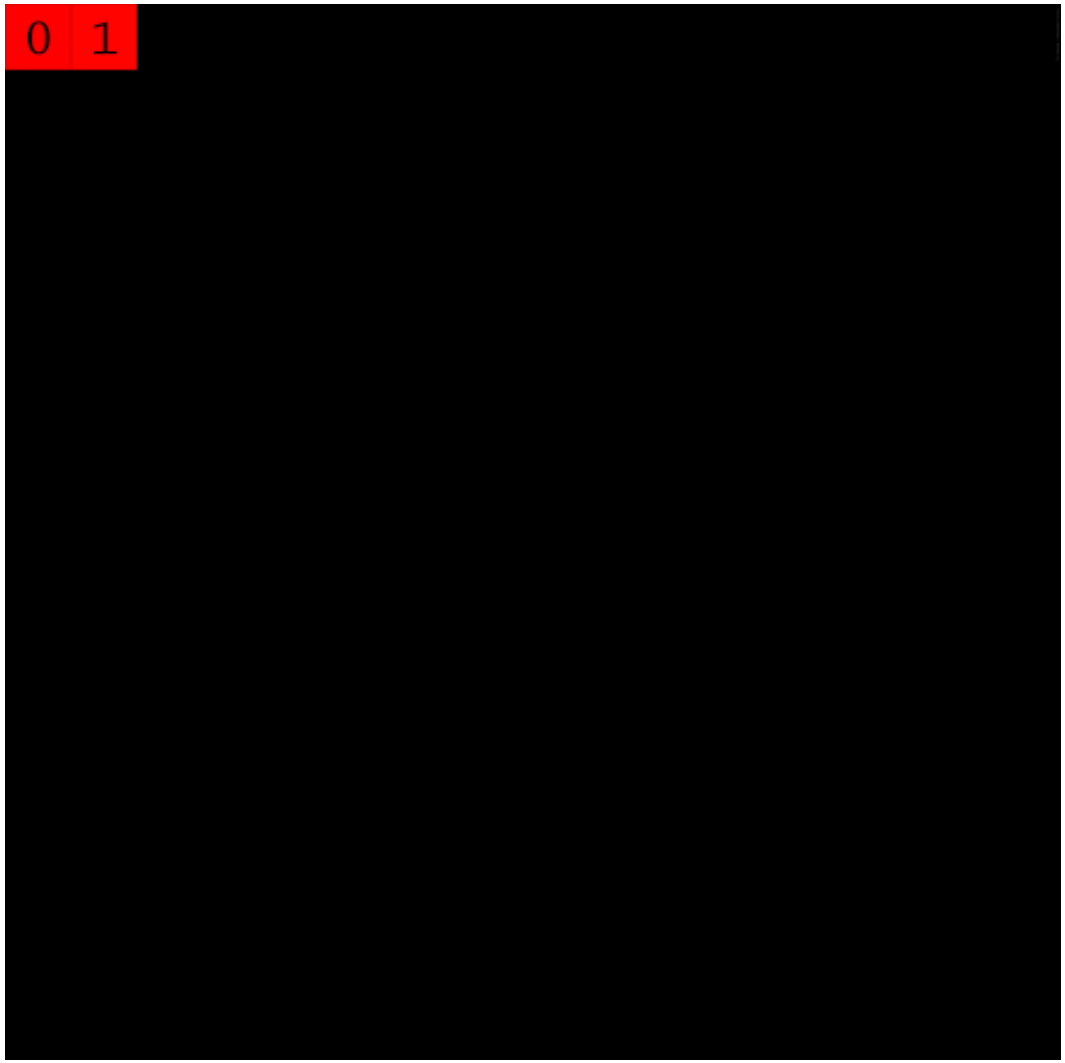
Hilbert Curve, 4th Order



Hilbert Curve



Hilbert Curve



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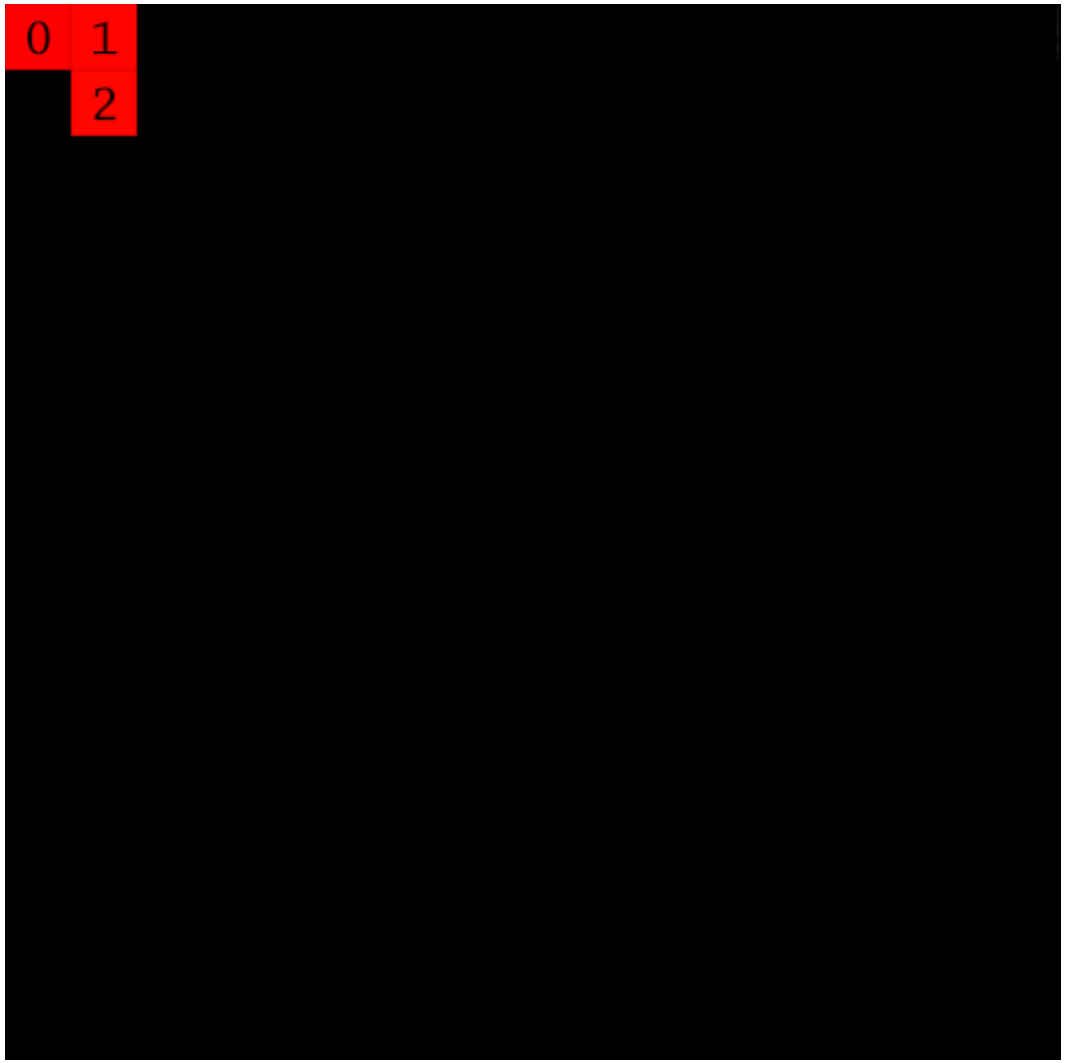

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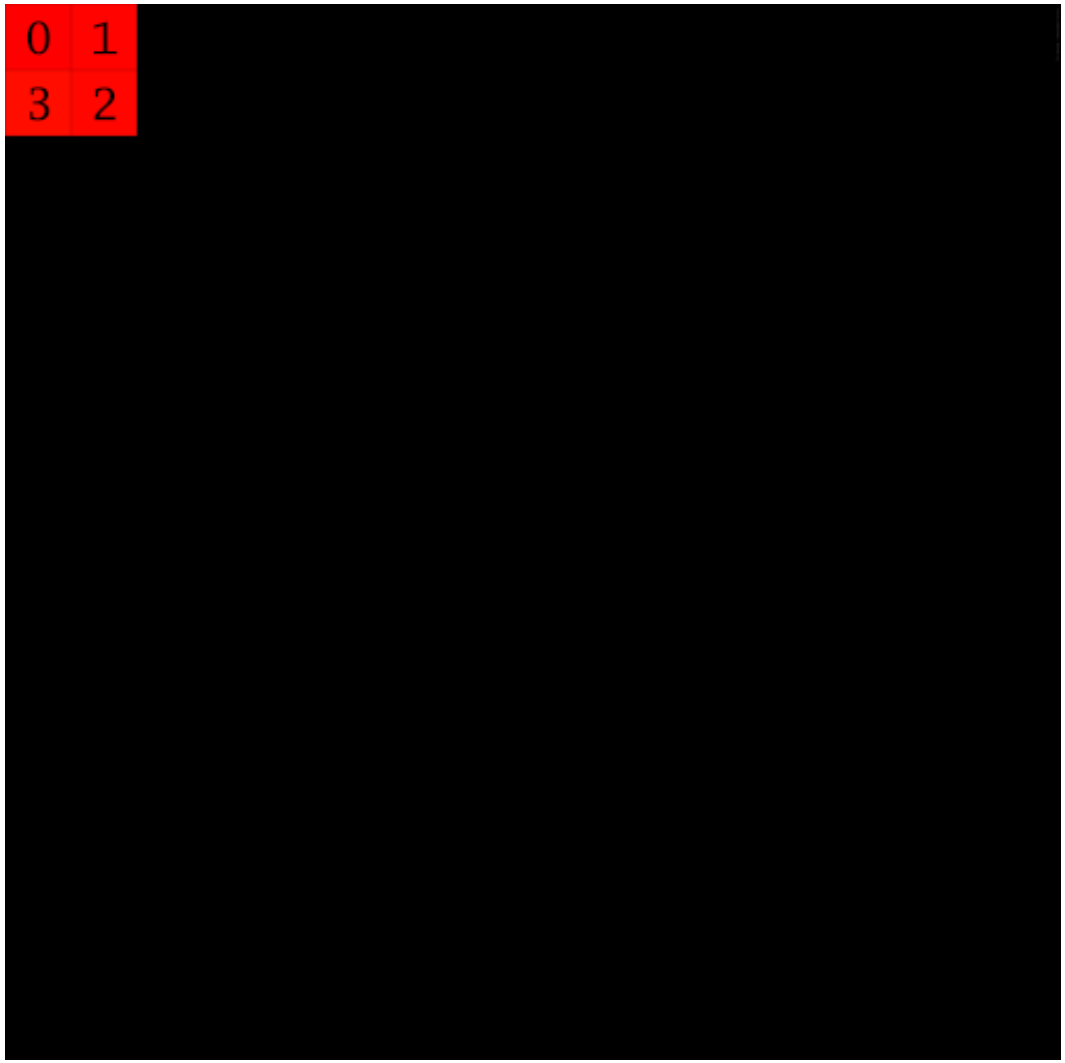

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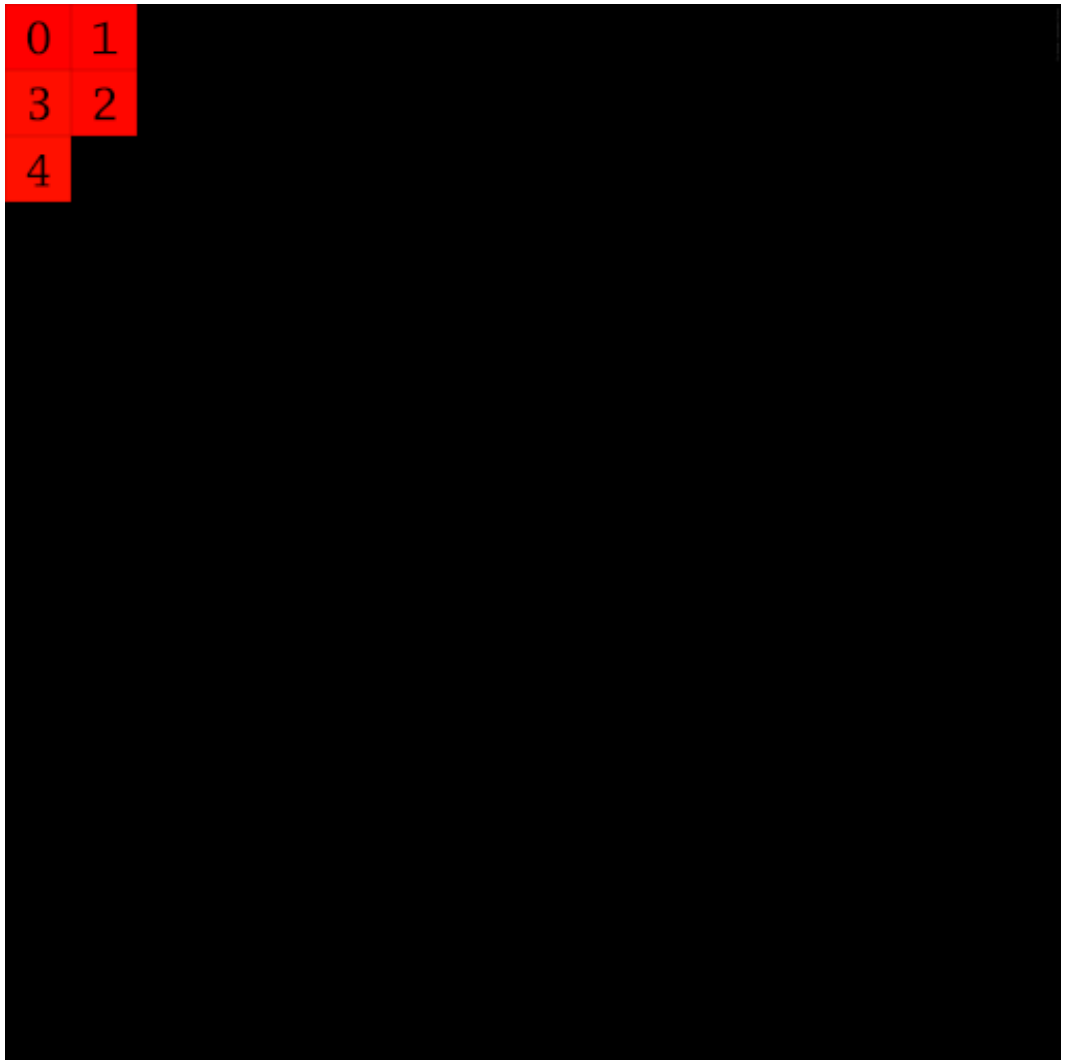

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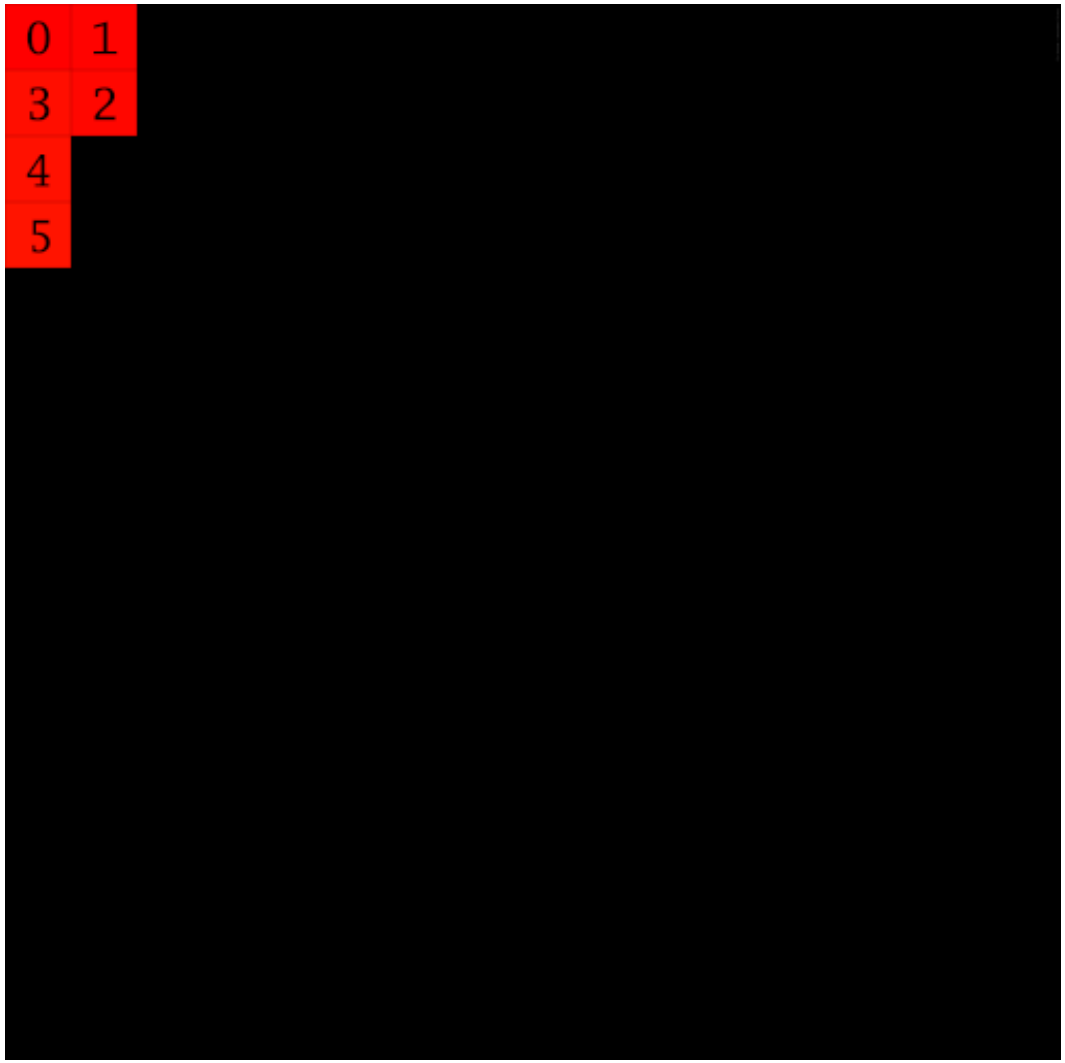

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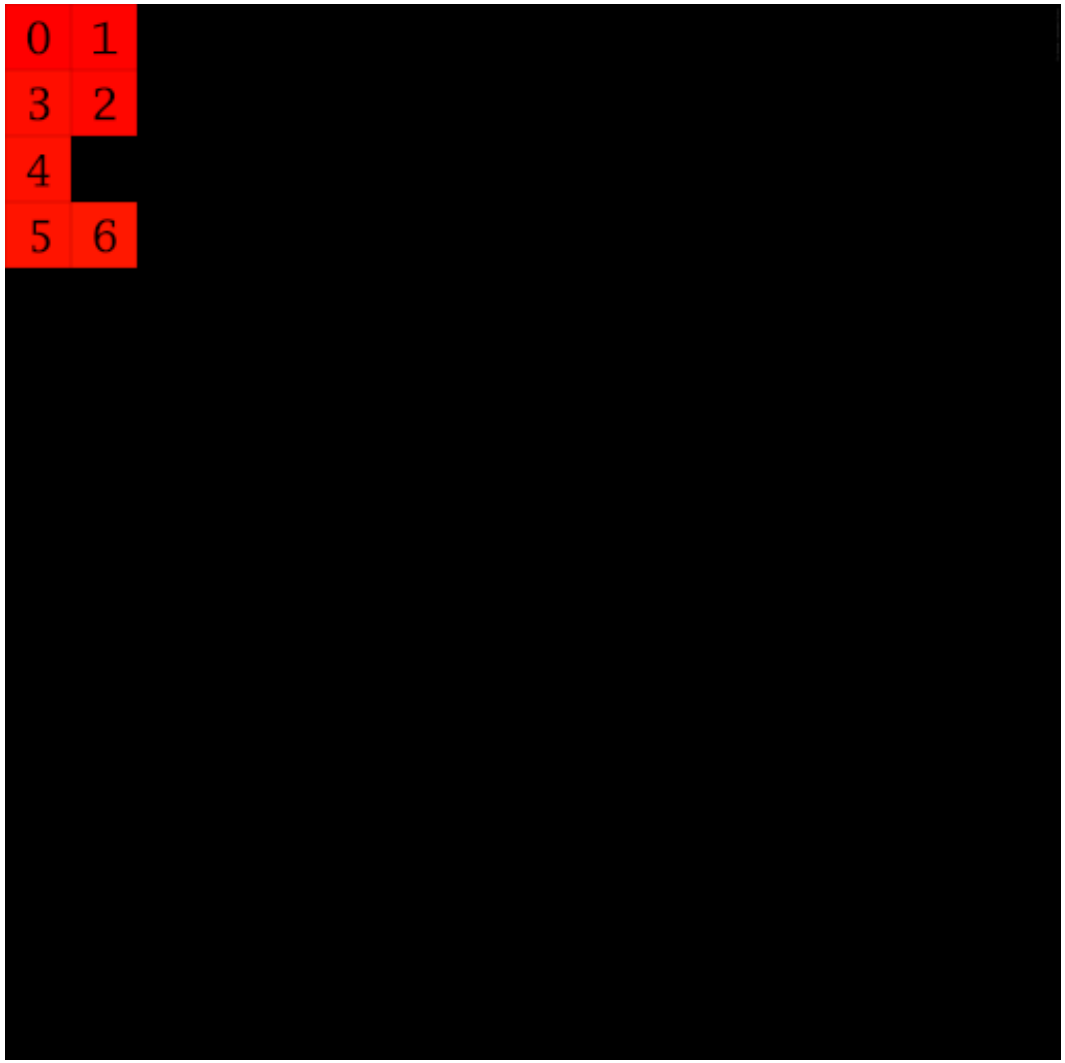

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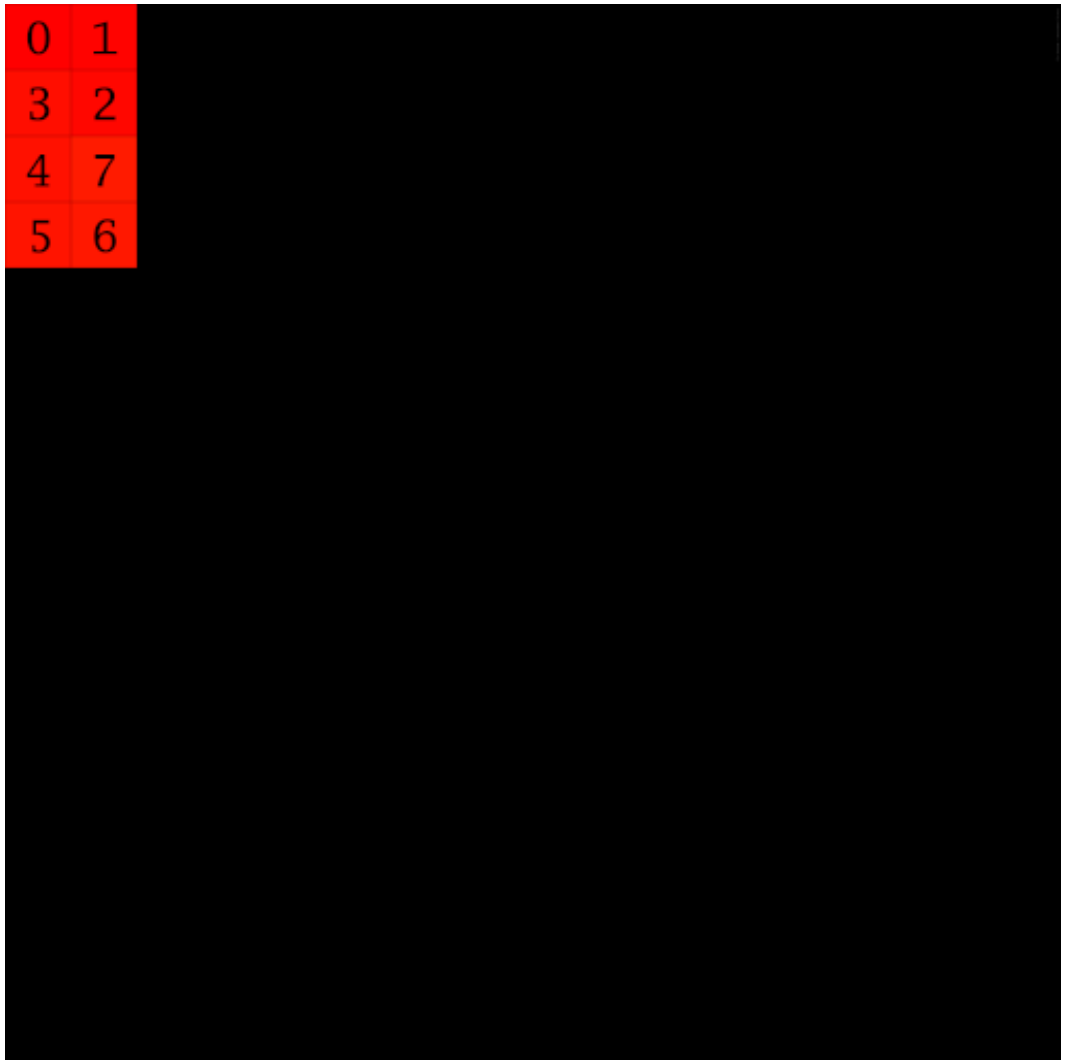

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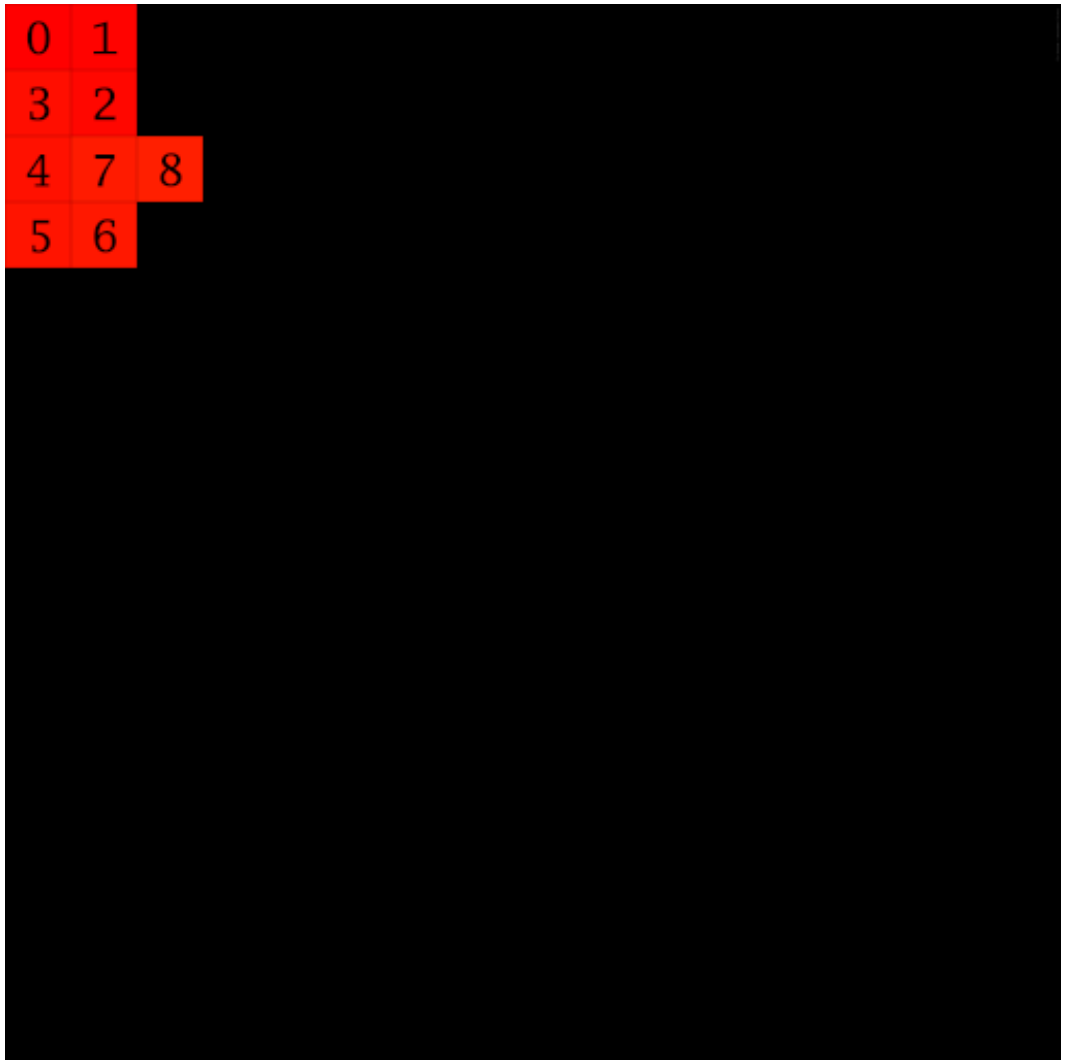

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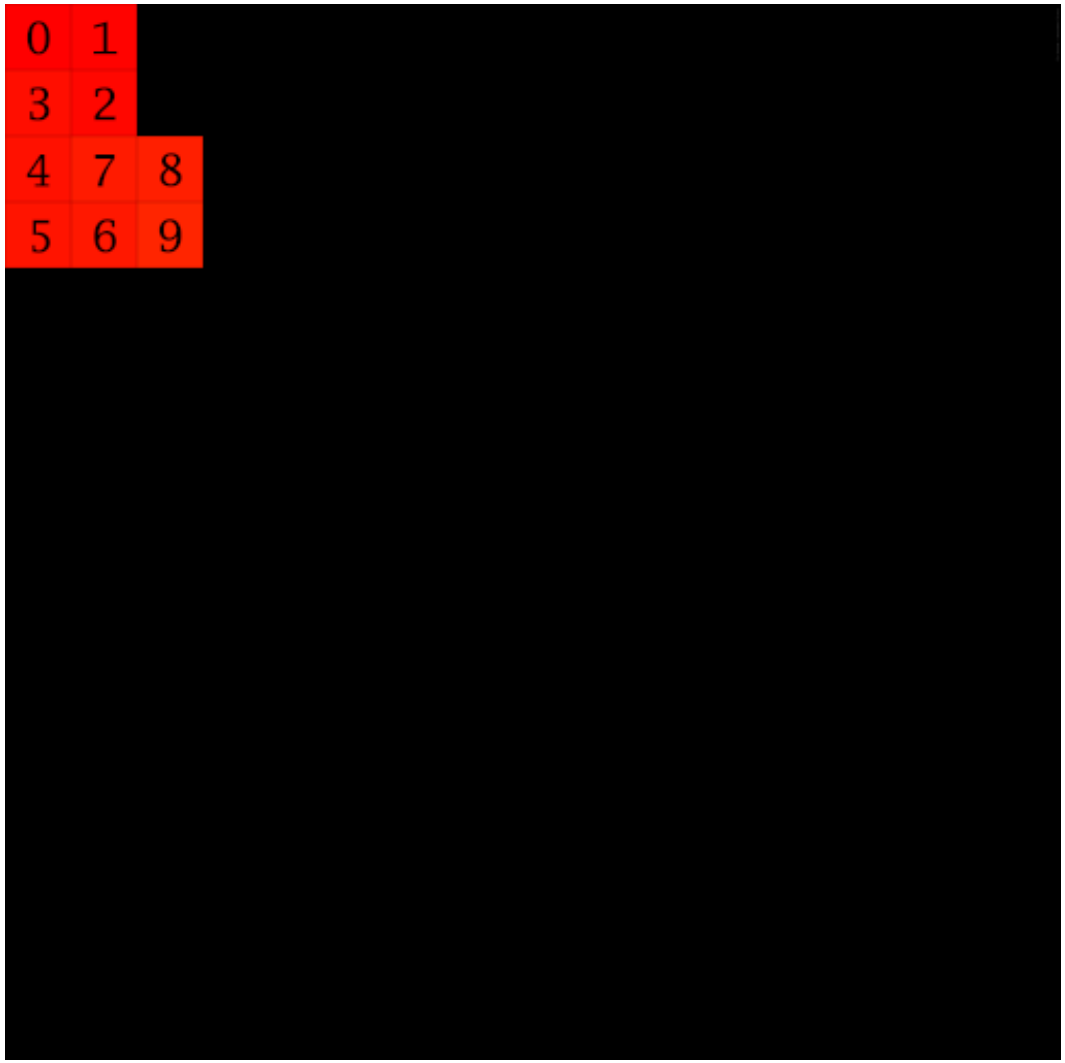

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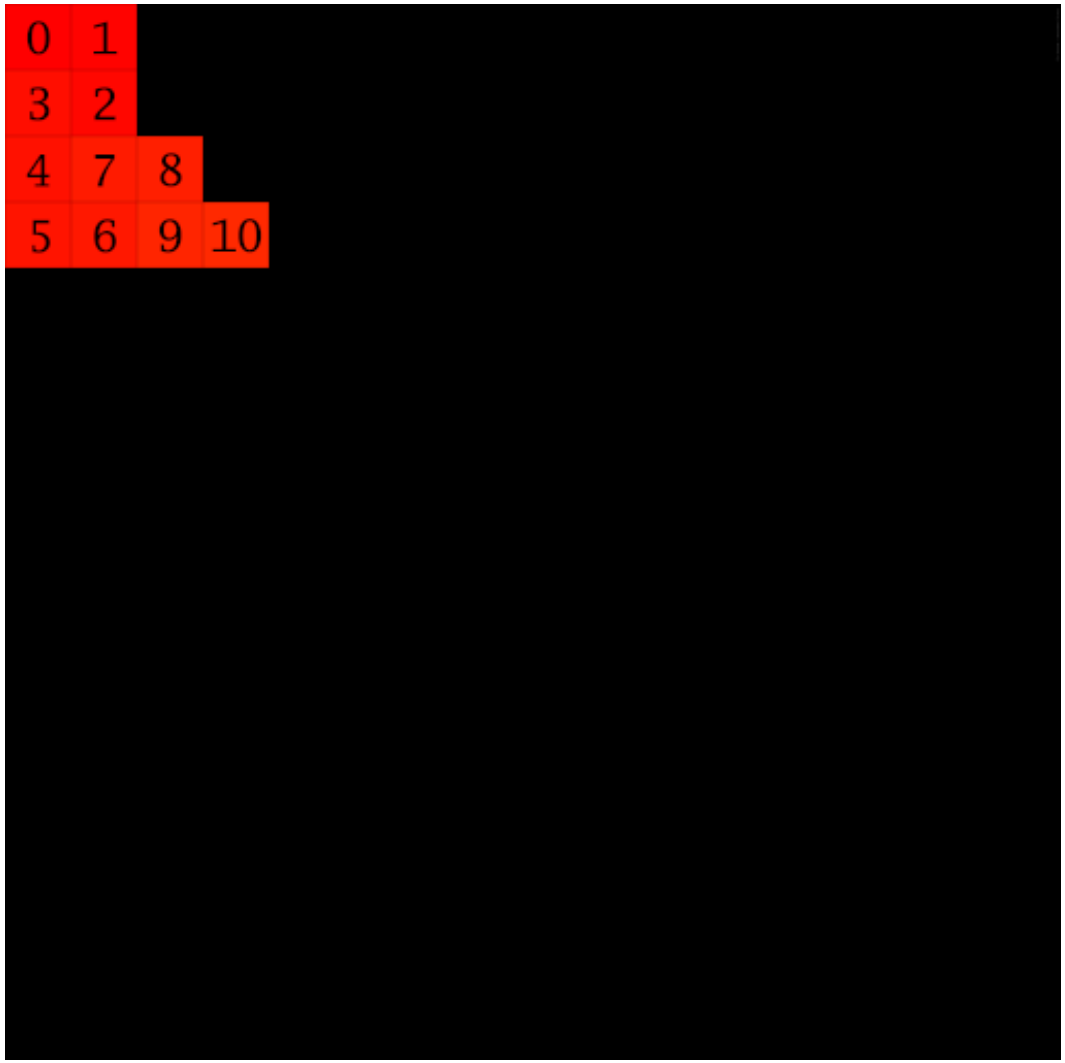

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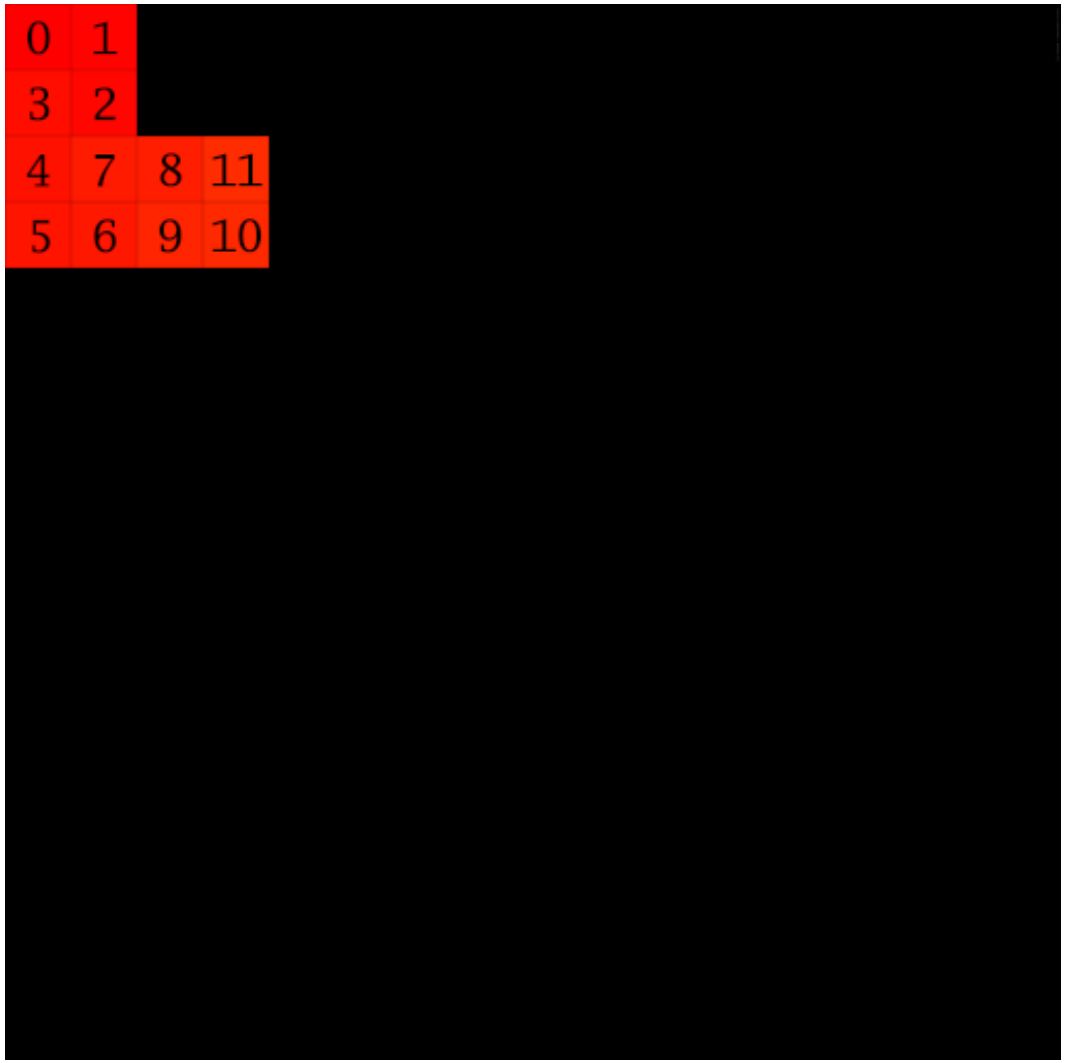

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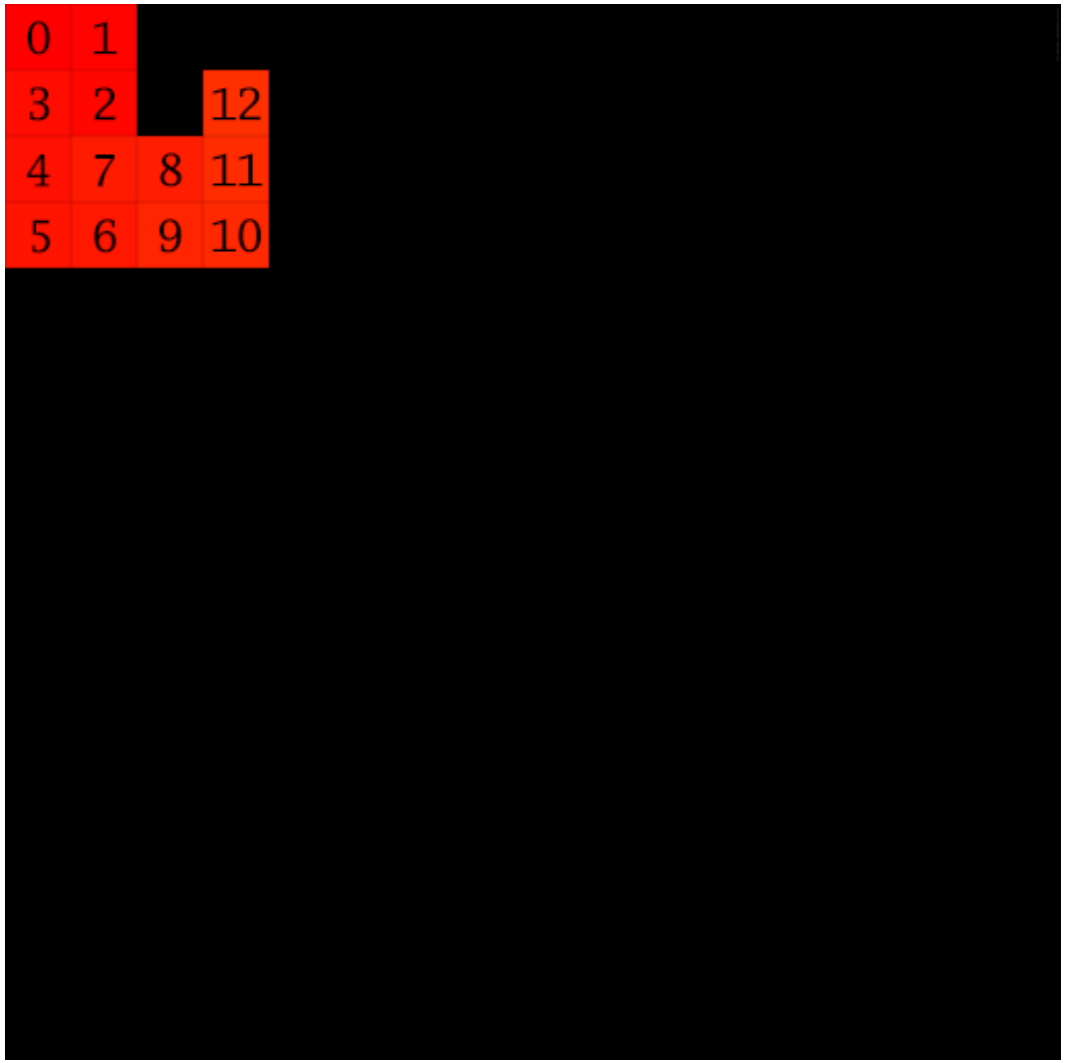

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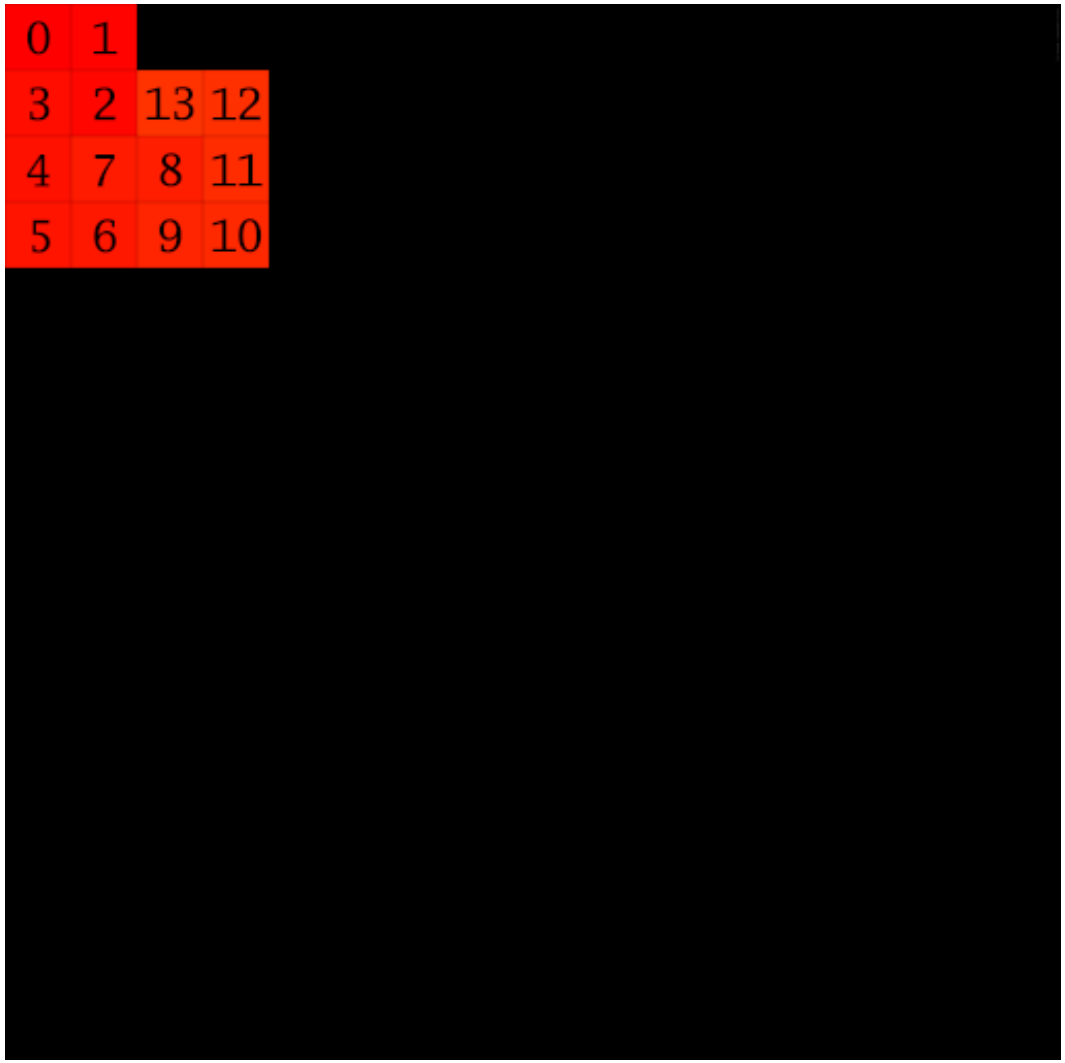

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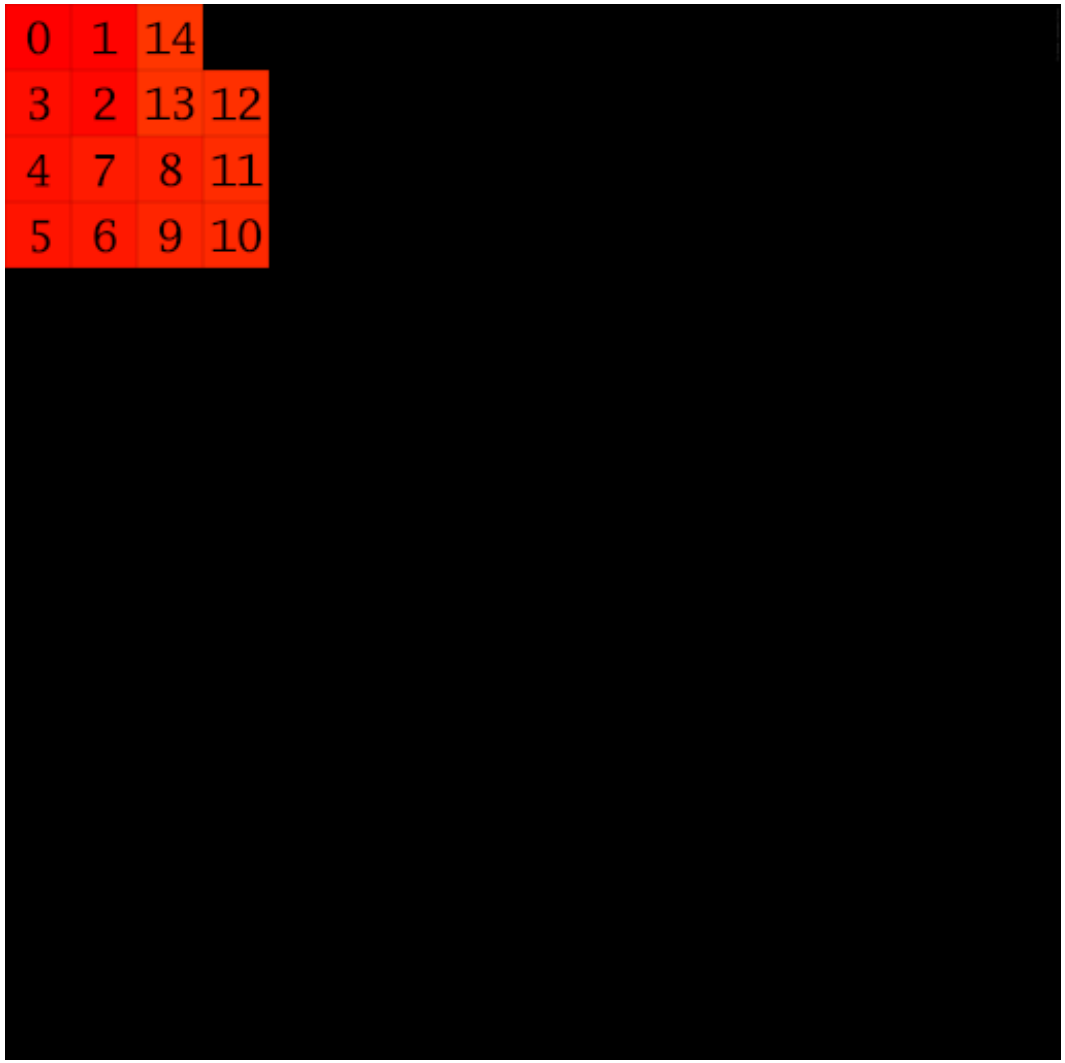

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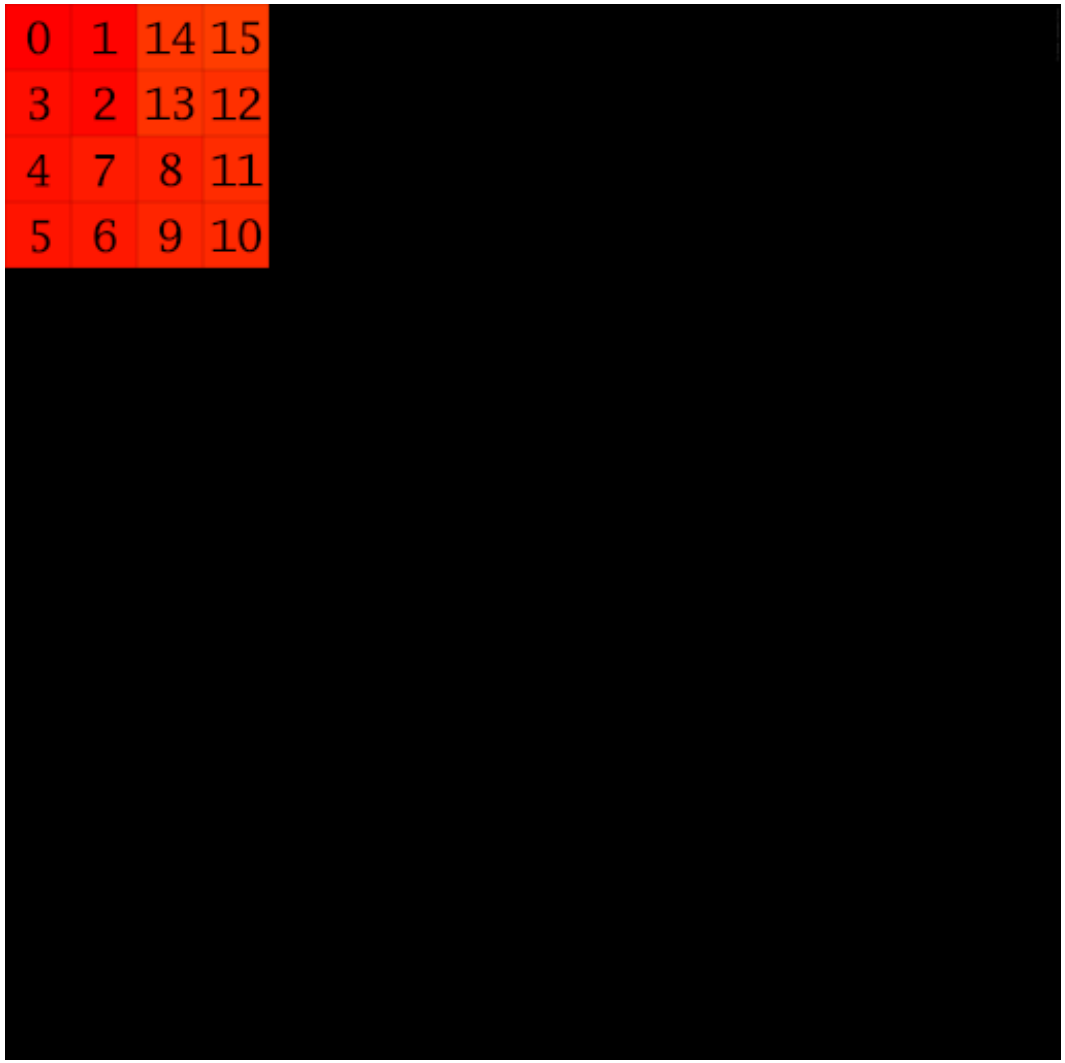

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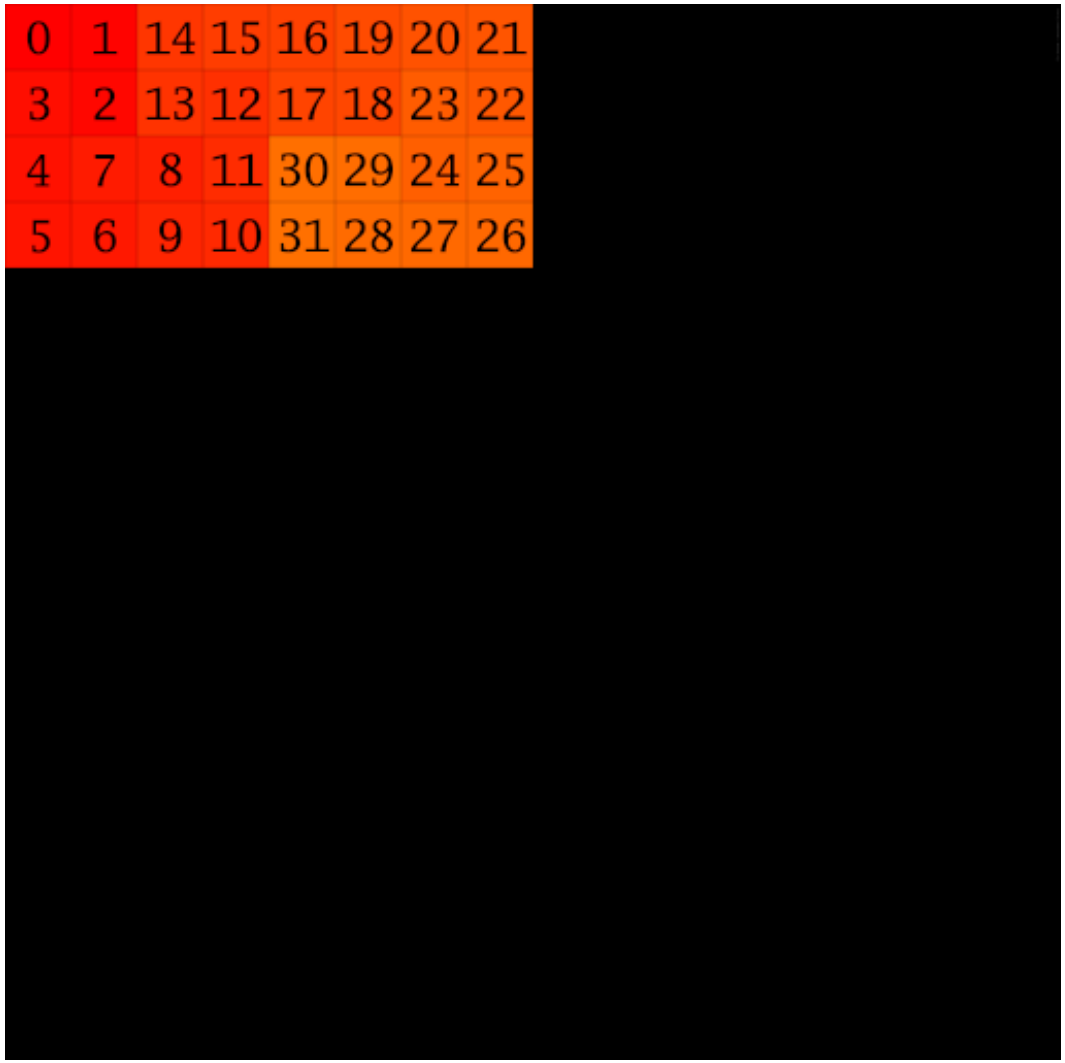

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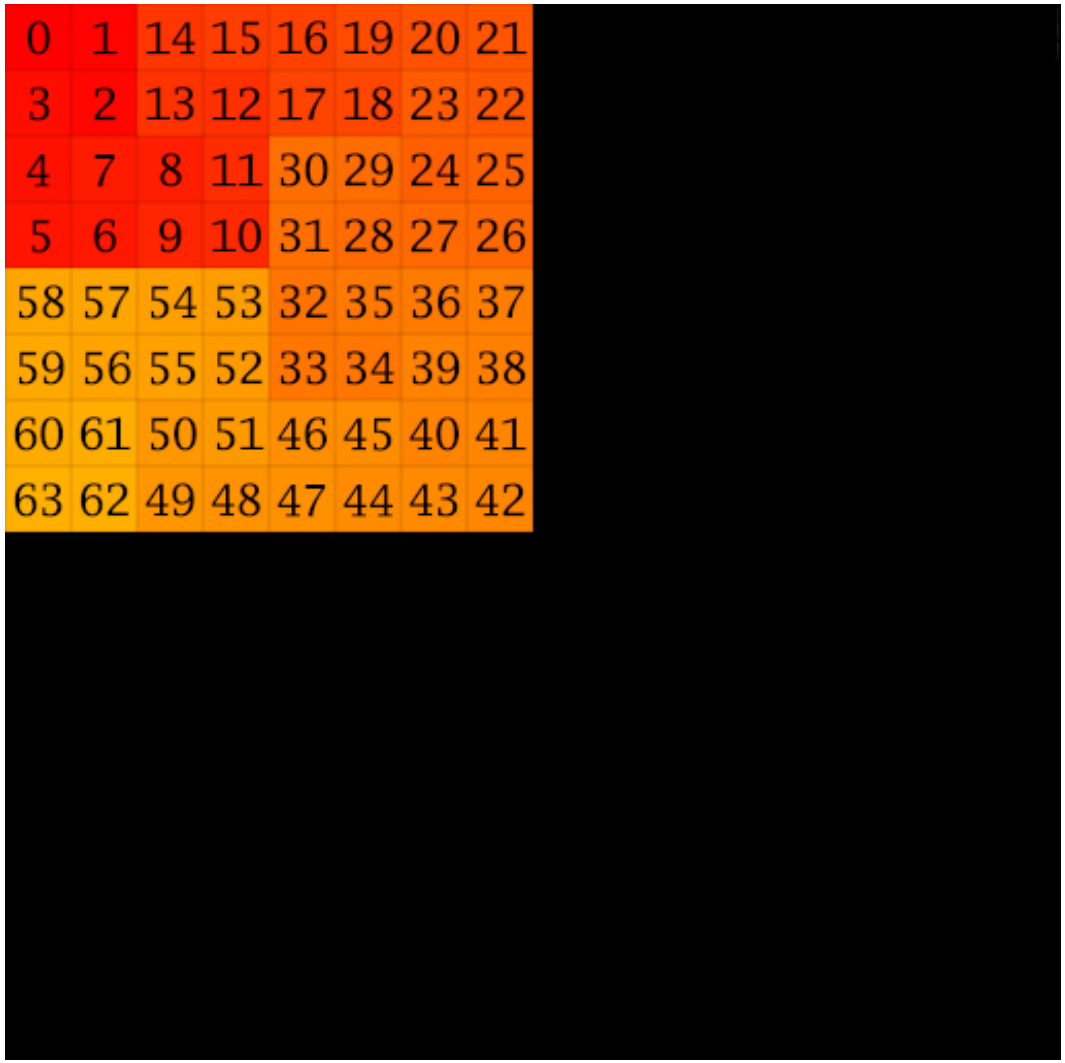

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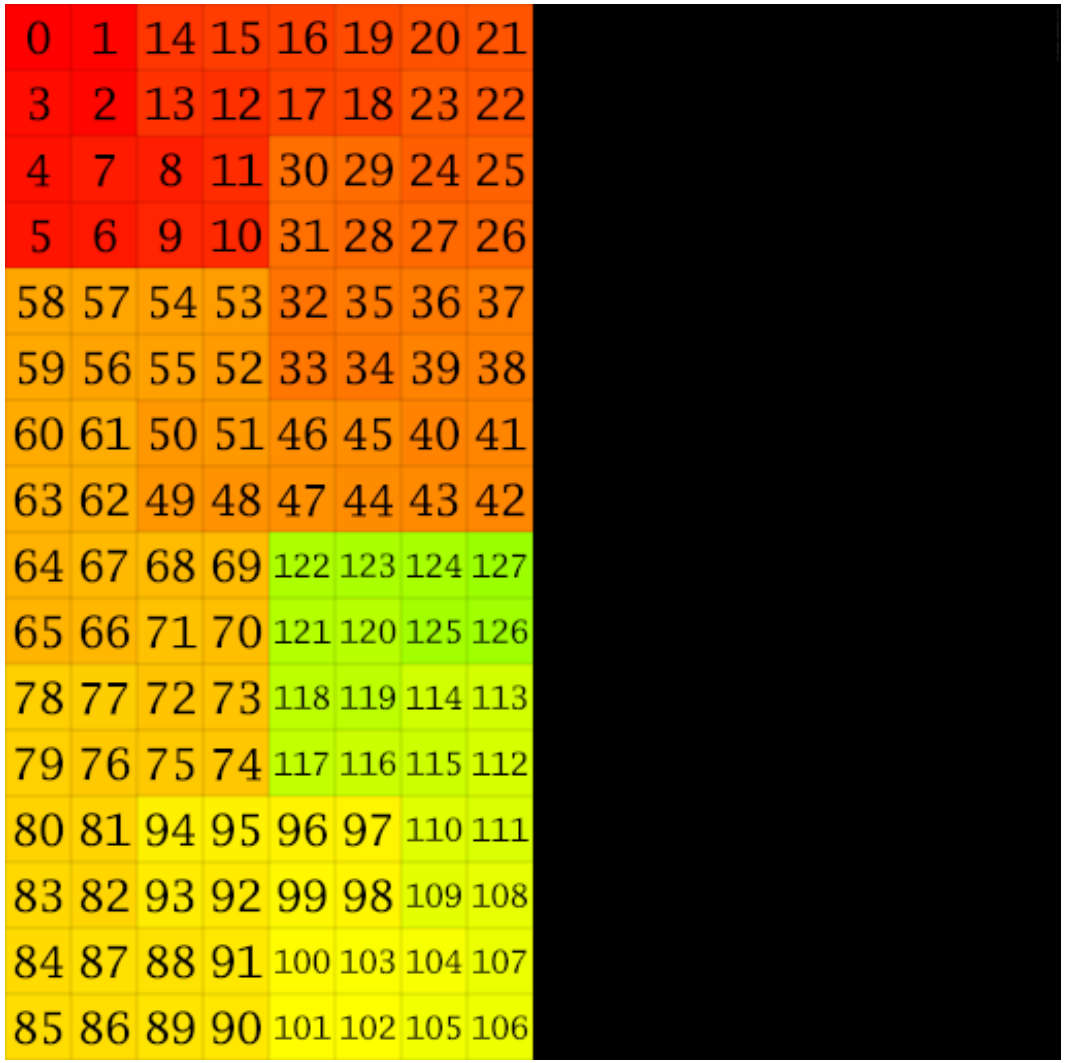
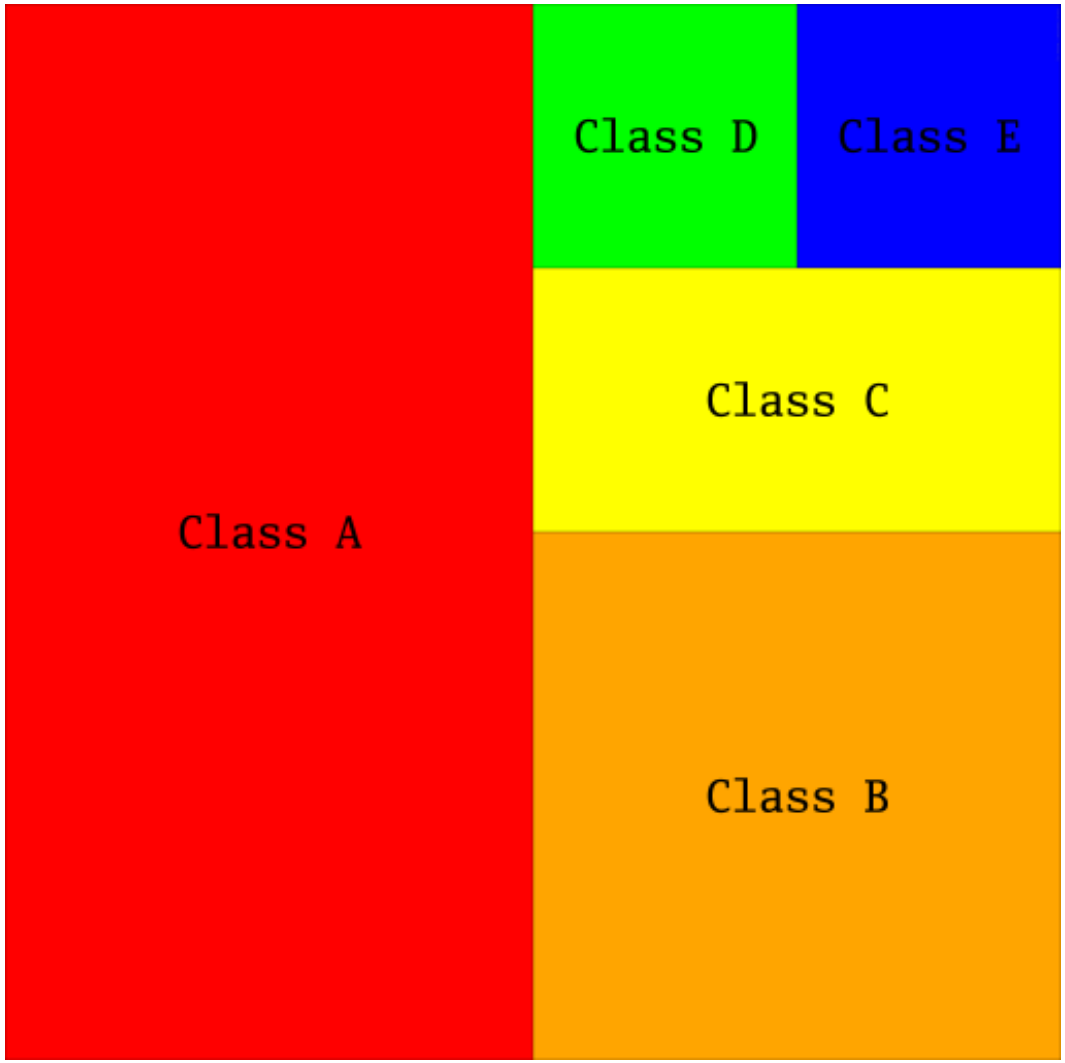
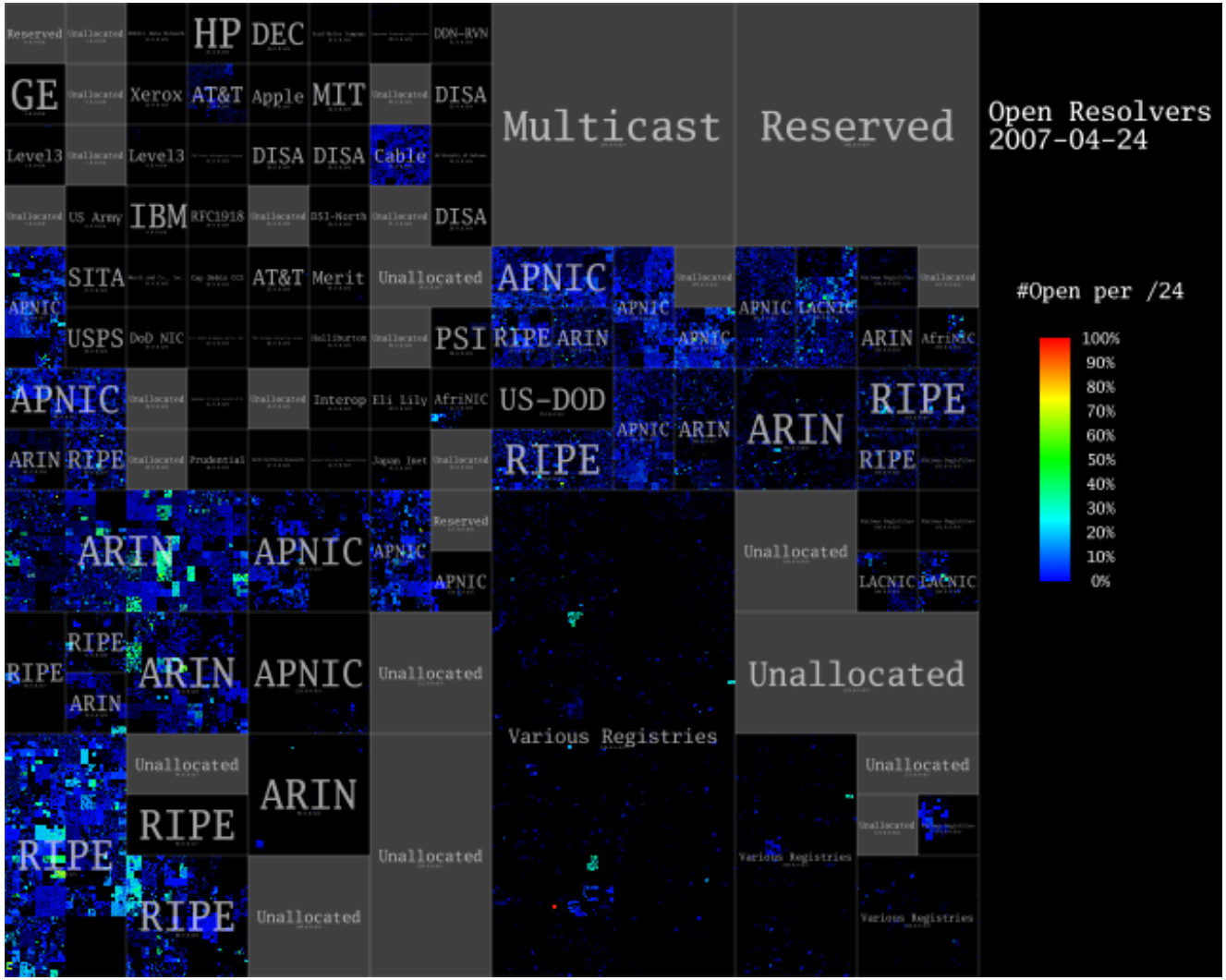


Hilbert Curve

Pre-CIDR

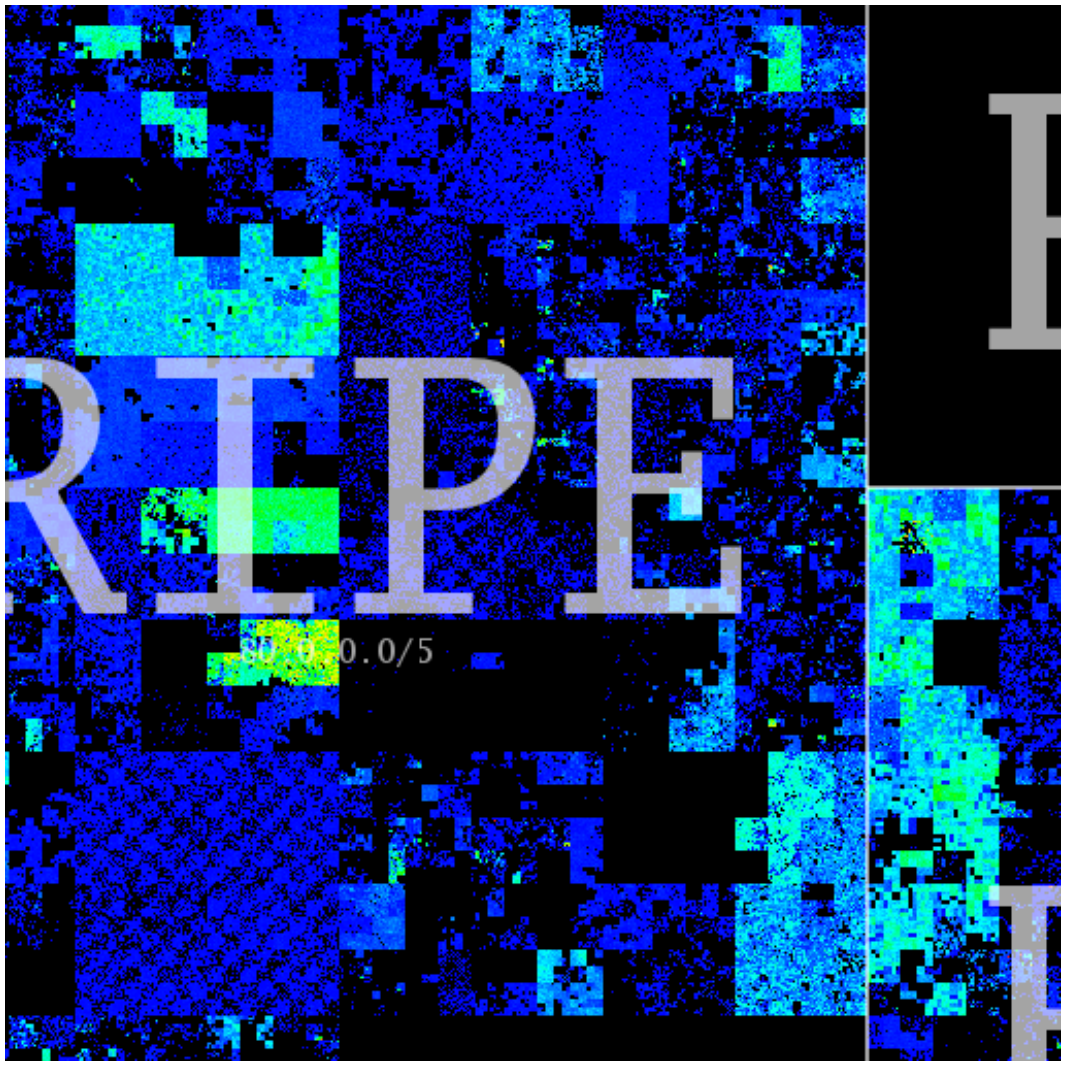


Open Resolvers



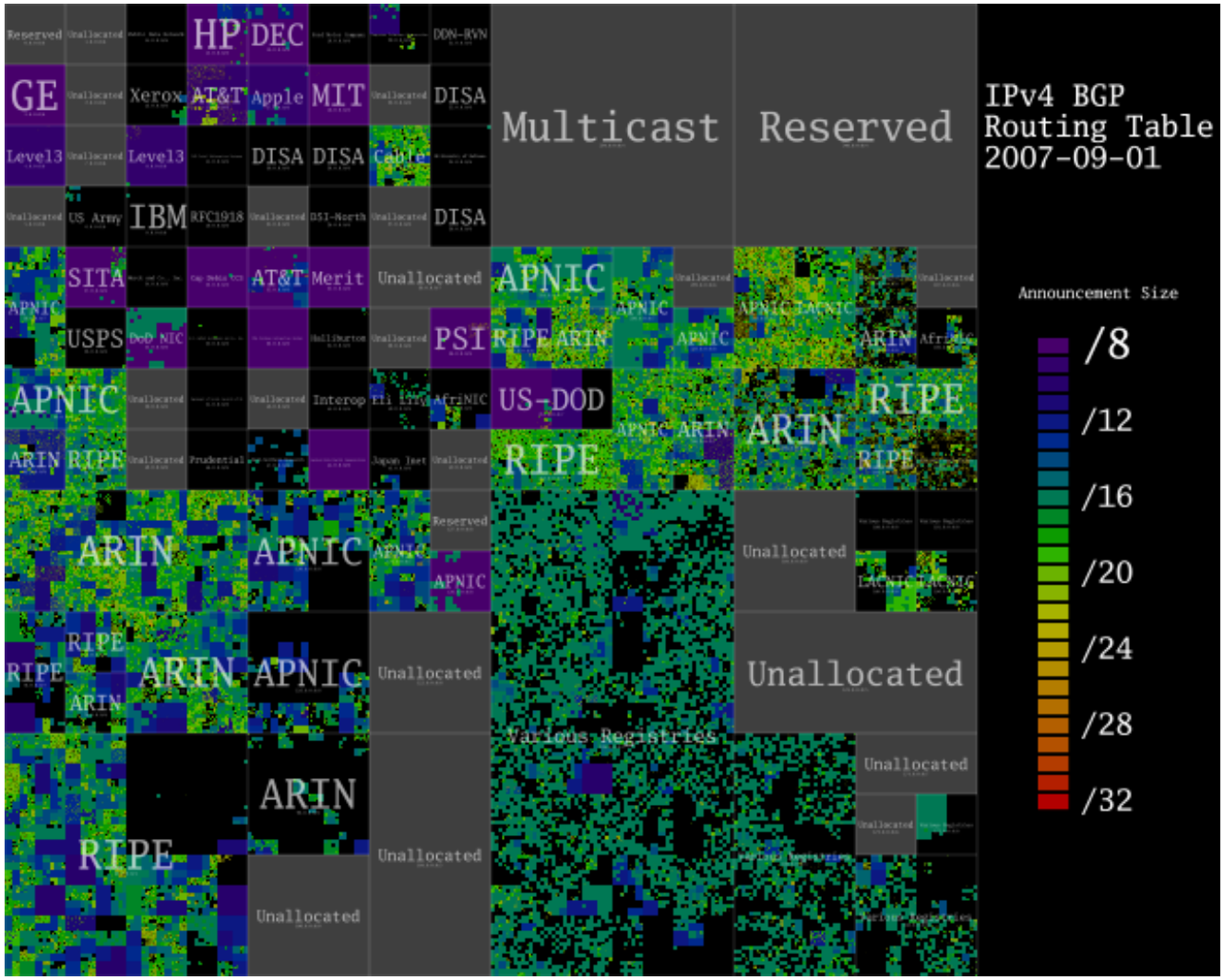
Open resolver survey by John Kristoff.

Open Resolvers



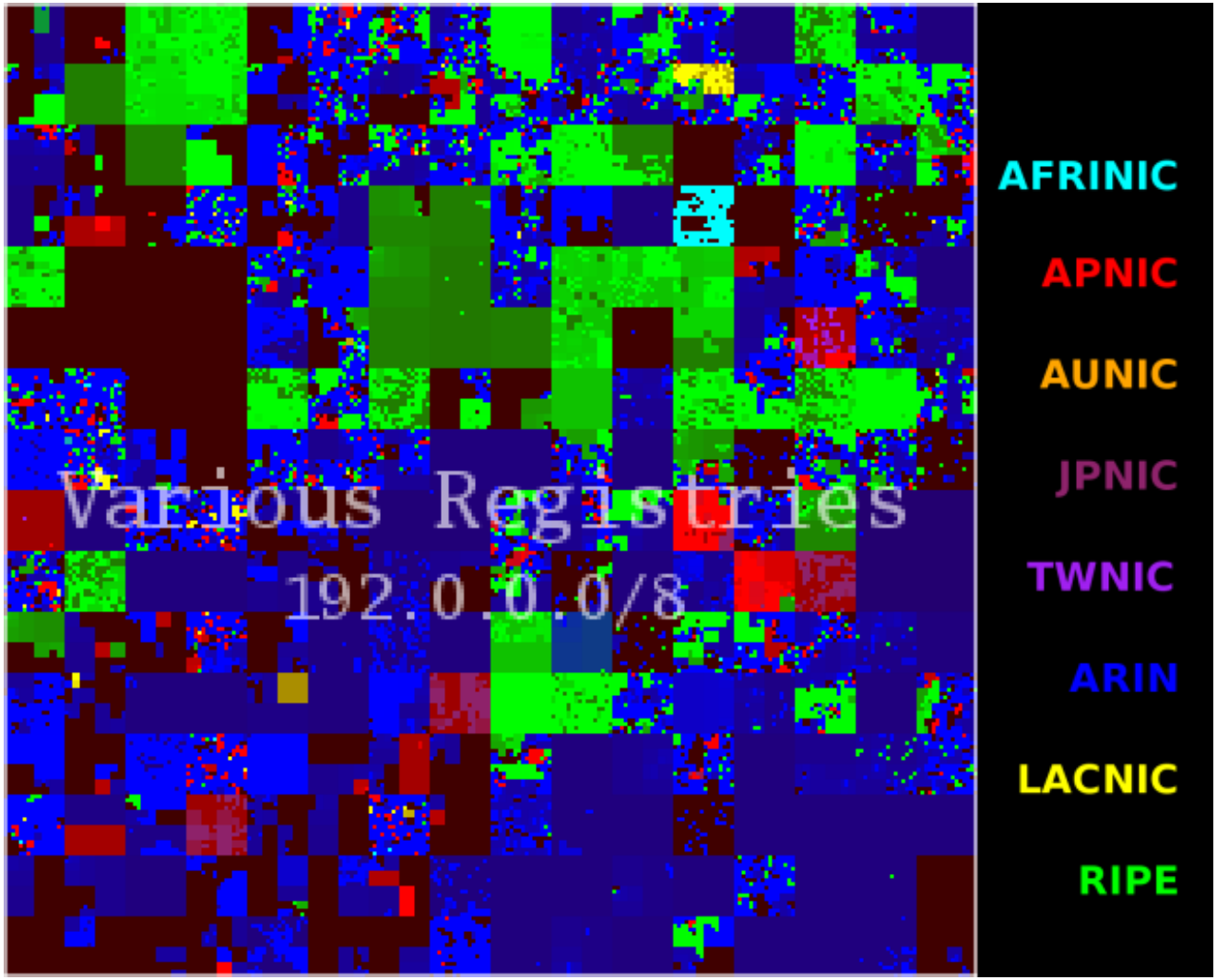
Open resolver survey by John Kristoff.

Routeviews

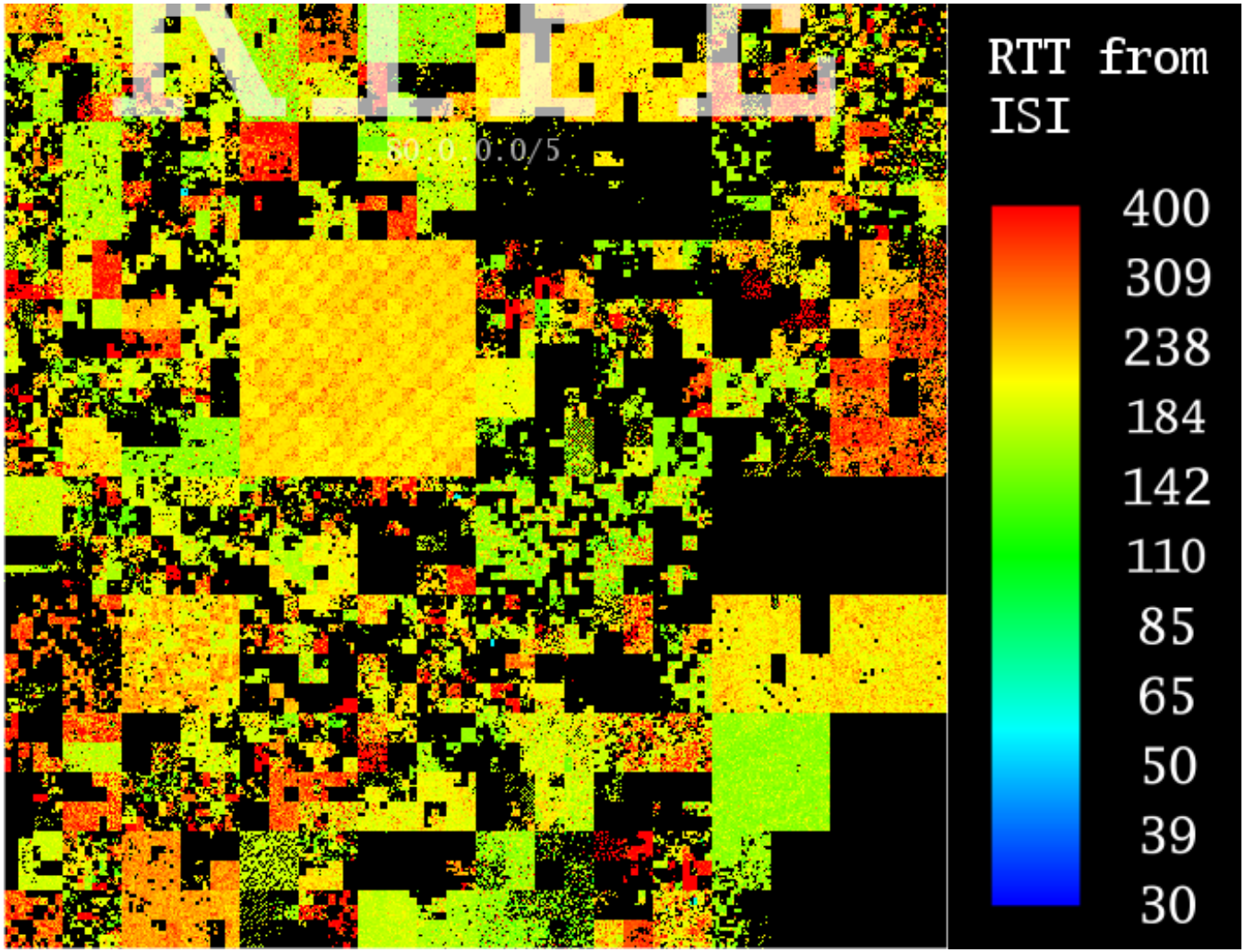

IPv4 BGP
Routing Table
2007-09-01
Announcement Size
/8
/12
/16
/20
/24
/28
/32
Multicast
Reserved
Unallocated
Various Registries
HP
DEC
GE
Xerox
AT&T
Apple
MIT
DISA
Level3
IBM
SITA
Merit
USPS
PSI
US-DOD
APNIC
ARIN
RIPE
AfriNIC
Interop
Prudential
Reserved

Routeviews

Whois


Various Registries
192.0.0.0/8
AFRINIC
APNIC
AUNIC
JPNIC
TWNIC
ARIN
LACNIC
RIPE

Round Trip Times



Information Sciences Institute at the University of Southern California. Internet Addresses Survey dataset, DHS PREDICT ID USC-LANDER/internet_address_survey_it15w-20061108. Traces taken 2006-11-08 to 2007-01-08. Provided by the USC/LANDER project. http://www.isi.edu/ant/lander/.

Related, Earlier Work

- http://nsrc.cse.psu.edu/tech_report/NAS-TR-0018-2005.pdf
- http://monkey.org/~phy/ipmaps/
- http://www.isi.edu/ant/address/
- http://icicle.dylex.net/~ipmap/
- xmap, http://nsa.unaligned.org/

http://maps.measurement-factory.com

Source code

Full-size images

Animations