

Finite Ramsey Theorem For 3-Hypergraph: Better Bounds

Exposition by William Gasarch

December 10, 2024

Credit Where Credit is Due

The main theorem in these slides, in fact not just the 3-ary case but also the a -ary case, appeared in

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Here is a link

<https://www.cs.umd.edu/users/gasarch/TOPICS/canramsey/ErdosRado2.pdf>

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We will do much better.

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$$|H_{s+1}| \geq \frac{1}{2^s} |H_s| = \frac{1}{2^s} \frac{1}{2^{s-1}} |H_{s-1}| = \frac{1}{2^{s+(s-1)}} |H_{s-1}|.$$

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We will later see how big we need n to be.

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Hence H is homog for COL.

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