6.897
L25.2
May 10, 2005

[SURVEY] Michael Lieberman: does G have H as subgraph?

- $\Omega(n^2)$ bits necessary in worst case
- approximation: H-free or ε-far from H-free
  - ↳ $\geq \varepsilon n^2$ edges must be removed before H-free ($\Rightarrow$ dense)
- $f(1/\varepsilon)$-bit algorithm is possible
  - ↳ smaller if H is bipartite [Alon]
- for non-dense graphs, need $\sqrt[3]{n}$ queries [Alon et al.]
- nonmatching sublinear upper bounds

→ assuming ε-far meaning $\geq \varepsilon n$ not εn^2.