The $f$-vector of a $d$-dimensional polytope $P$ stores the number of faces of each dimension. When $P$ is simplicial the Dehn-Sommerville relations condense the $f$-vector into the $g$-vector, which has length $\lceil (d + 1)/2 \rceil$. Thus, to determine the $f$-vector of $P$, we only need to know approximately half of its entries. This raises the question: Which $\lceil (d + 1)/2 \rceil$ subsets of the $f$-vector of a general simplicial polytope are sufficient to determine the whole $f$-vector? We prove that the answer is given by the Catalan matroid. This is joint work with Nicole Yamzon. (Received September 07, 2017)