18.906: Problem Set 8

Due: Thursday, May 1.

1. Suppose that $n \geq 2$. Show that the cohomology ring $H^*(K(\mathbb{Z}, n), \mathbb{F}_2)$ is a polynomial algebra with generators $\mathrm{Sq}^I \iota_n$, where $I = (i_1, \ldots, i_r)$ runs through all admissable sequence of excess $e(I) < n$ such that $i_r > 1$.

(*Hint*: Use that $\mathbb{C}P^\infty$ is a $K(\mathbb{Z}, 2)$.)