Math 752 - Hopf algebras
Worksheet 3
Spring 2017

1. For p odd, write down a periodic resolution of $\mathbf{F}_p$ as an $\mathbf{F}_p[C_p]$-module. (Hint: now take $N = 1 + g + \cdots + g^{p-1}$). Use this to compute $\mathrm{H}^*(\mathbf{F}_p[C_p])$.

2. Try a 'mixed' example, like $\mathrm{H}^*(\mathbf{F}_3[C_2])$. What do you get this time?

3. What about $\mathrm{H}^*(\mathbf{F}_p[C_6])$, for the cases $p = 2$, $p = 3$, and $p > 3$?