TORSORS

HOMEWORK 2

Due on Friday August 31, 2012.

All references are to the notes posted for August 20-26 on moodle (Descent and Cech complexes)

(1) Prove Proposition 1.2.3 of the notes.

(2) Show that the sequence of maps in (2.1.1) of the notes forms a complex. In other words, show that $d^r \circ d^{r-1} = 0$ for $r \geq 0$, where $d^{-1} = \alpha_M$.

(3) Show that the sequence $\{k_r\}_{r \geq -2}$ introduced in the proof of Proposition 2.1.2 is a contracting homotopy, i.e., $k_r d^r + k_{r-1} d^{r-1} = 0$ for $r \geq -1$.