

## Bilkent University Department of Mathematics

## PROBLEM OF THE MONTH

**Term:** December 2011

A sequence  $\{a_n\}$  is said to be good if  $a_1 = 1$  and  $|a_{k+1}| = |a_k + 1|$ . Let  $c_n = \min |\sum_{i=1}^n a_i|$ , where the minimum is taken over all good sequences. Prove that the sequence  $\{c_n\}$  is unbounded from above.