UCL Department of Computer Science
CS M038/GZ06: Mobile and Cloud Computing
2010–2011, Term 2
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One-pager: BitTyrant (Piatek *et al.*, 2007)   **Due: Start of lecture, 28th January 2011**

Instructions: **in your own words,** *answer the following questions as* **succinctly** *as possible (in 200–500 words total, but shorter answers within this range are encouraged). Quoting figures or text from the assigned reading or from any other source is specifically prohibited.*

In Figure 8, the authors show analytical results that predict that as a high-upload-capacity client's active set size increases beyond a threshold of approximately 25 peers, its expected download throughput sharply decreases. Adding peers should add more parallel downloads, so why does it eventually *decrease* total download throughput?

The authors offer two definitions of *altruism* in the paper. *In your own words,* explain these two definitions of altruism.

Consider the behavior of a BitTyrant swarm in which high-upload-capacity peers limit their altruism. Which other peers will suffer the greatest reduction in download throughput as a result, and why?