

## Homework 5

1. From the Alexa top 1000 sites (take top 1K from 1M sites [1]) select **randomly** 200 domains.
  - a. Show the selected domains (sorted in the lexicographic order).
  - b. For each domain check whether it supports SPF, Sender ID, DKIM, DMARC, HSTS, HPKP, and CT. Report the obtained results and attach logs demonstrating used commands and obtained responses.

[1] <http://s3.amazonaws.com/alexa-static/top-1m.csv.zip>

2. Analyze the following policies. In particular, specify the strongest threat models that the policies protect from. Be as precise and complete as possible.
  - a. SPF policy of gmail.com
  - b. SPF policy of yahoo.comWhich SPF policy is more secure/conservative?
3. Propose and motivate HPKP and HSTS policies for [www.sutd.edu.sg](http://www.sutd.edu.sg).

Resources (references may be helpful too):

<https://arxiv.org/pdf/1702.05311.pdf>

[http://jbonneau.com/doc/KB14-hsts\\_pinning\\_survey\\_working\\_draft.pdf](http://jbonneau.com/doc/KB14-hsts_pinning_survey_working_draft.pdf)

<https://www.certificate-transparency.org/>