Arab Academy for Science &Technology and Maritime Transport (AASTMT)
College of Computing and Information Technology (CCIT)
Computing Alg. CS312 – Spring 2014
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**Q1. Solve the following linear programming problems geometrically.**

a. **maximize** $3x + y$

**subject to** $-x+y\leq 1$

$2x + y \leq 4$

$x \geq 0, y \geq 0$

b. **maximize** $x + 2y$

**subject to** $4x \geq y$

$y\leq 3+x$

$x \geq 0, y \geq 0$

**Hint:**

Sketch the feasible region of the problem in question. Follow this up by either applying the Extreme-Point Theorem or by inspecting level lines, whichever is more appropriate. Both methods were illustrated in the text.

**Q2.**

Trace the simplex method on the problem of Exercise Q1 (a. and b).

Then use the online visualization tool on:

http://www.mathstools.com/section/main/simplex_online#

and trace the source code uploaded on moodle

**Hint:**

Trace the simplex method on the instances given, as was done for an example in the text.