**Example**

http://homepages.rpi.edu/~mitchj/handouts/ldeg/ldeg.html

**Appendix**

**A.** Proof of the statement “Dual function is convex problem since the objective to be maximized is concave and constraint is convex”.

Here we prove this for Lagrangian multiplier *λ*, and the same can be done for *v*.

Recall:

(A1)

(A2)

Hence, for and :

(A3)

Based on the definition in (A2) we know that always give a lower bound of :

(A4)

Note (A4) holds even if we take the infimum of , i.e.

(A5)

And (A5) is the definition of a concave function.

**B.**

**C.**