Problem Set 1 (due October 8)

Exercise 1 Prove the following:
The optimization problem $⟨f, D⟩$ has a solution if and only if the supremum of $f(D)$ belongs to $f(D)$. (use the definition of supremum at page 14 of Sundaram)

Exercise 2 Let $⟨f, D, Θ⟩$ be an optimization problem in parametric form.

1. Define the value function of this optimization problem.
2. What is the range of the value function?

Exercise 3 Prove that if $p >> 0$, $B(p, I)$ is bounded (use the definition of bounded set at page 23 of Sundaram).

Exercise 4 Exercise 1, Chapter 2 of Sundaram.

Exercise 5 Exercise 3, Chapter 2 of Sundaram.

Exercise 6 Exercise 4, Chapter 2 of Sundaram.