Microeconomics — class 5

1.

Calculate expenditure function and Hicksian demand correspondence for $u(x_1, x_2)$ equal to

a) $a_1 \cdot x_1 + a_2 \cdot x_2$ with $a_i > 0$ (perfect substitutes);

b) $\min\{a_1 \cdot x_1, a_2 \cdot x_2\}$ with $a_i > 0$ (perfect complements);

c) $x_1^{a_1} \cdot x_2^{a_2}$ with $a_i > 0$ (Cobb-Douglas utility).

2.

Calculate excercise 1 again using duality and results from previous problem set. Compare results.

3.

Let $v(p_1, p_2, m) = \frac{m^2}{(p_1+p_2)^2}$.

Can v be the indirect utility function for a consumer with standard assumptions?

Calculate the expenditure function and (assuming, our reasoning is correct) both demand correspondences.

What was initial u? Any conclusions?

4.

Let $e(p_1, p_2, \bar{u}) = \sqrt{p_1 \cdot p_2} \cdot \bar{u}$.

Can e be the expenditure function for a consumer with standard assumptions?

Calculate the indirect utility function and (assuming, our reasoning is correct) both demand correspondences.