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# Intermediate Microeconomics

## Exercises

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Agribusiness Teaching Center  
Easter Term 2015

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# Edgeworth Box

*Robinson starts out with 10 lobsters and 5 coconuts. Friday starts out with 10 lobsters and 5 coconuts. After trading, Robinson ends up with 8 lobsters and 10 coconuts. Robinson feels neither better nor worse off than when he started but cannot get Friday to agree to any more trades. Friday feels better off than when he started.*

*Draw the Edgeworth box consistent with this story.*

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# Edgeworth Box

SUPPOSE THE MICROECONOMICS CLASS HAS A GRADUATION PARTY BUT AS A FINAL TEST THE STUDENTS MUST SHOW THEY HAVE LEARNED SOMETHING ABOUT TRADE. THE MEN ARE GIVEN FOOD WHEN THEY WALK IN AND THE WOMEN ARE GIVEN DRINK. SUPPOSE THEY HAVE IDENTICAL PREFERENCES WHERE FOOD AND DRINK PROVIDE

UTILITY:

$$U = F_{\text{OOD}}^a D_{\text{RINKS}}^b$$

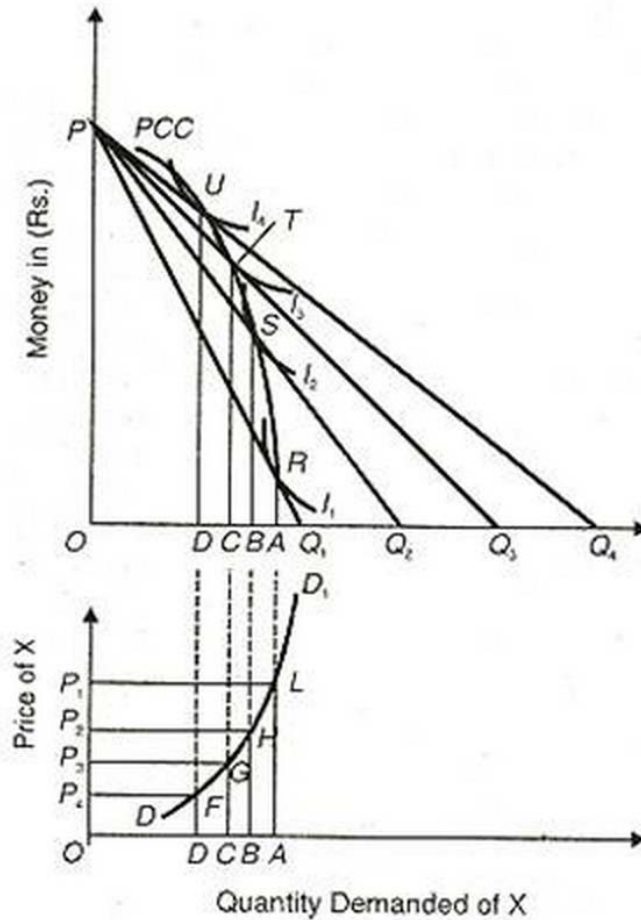
- SHOW THE CONTRACT CURVE IN THE EDGEWORTH BOX
- EXPLAIN WHEN EXCHANGE WILL BE POSSIBLE AND SHOW THE CORE

NOW ASSUME THAT THE WOMEN HAVE PREFERENCES REPRESENTED AS:

$$U = \min(F_{\text{OOD}}; D_{\text{RINKS}})$$

- SHOW THE CONTRACT CURVE AND THE CORE

# Giffen Good



SHOW THAT AN INCREASE  
IN THE PRICE OF GIFFEN  
GOOD MAKES THE  
CONSUMERS BETTER OFF

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## Consumer Choice

Aram earns 500 drams per hour. He has 110 hours per week available for either labour or leisure. In the old days he paid no taxes and received nothing from the government. Now he gets a 20000 dram payment per week from the government and he must pay half of his labour income in taxes. (His before-tax wages are the same as they were before. And he has no other source of income than wages and payments from the government.) He notices that with the government payment and his taxes, he can exactly afford the combination of leisure and consumption goods that he used to choose. How many hours per week did he work in the old days?

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# Production

Consider the following short-run production function:

$$q = 5L^2 - \frac{1}{3}L^3$$

At what level of  $L$  do diminishing marginal returns begin?

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