

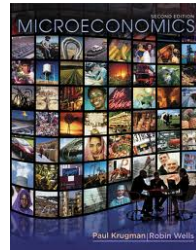
Economics 202

Principles Of Macroeconomics

Professor Yamin Ahmad

Lecture 2: Review of Some Key Concepts From Microeconomics

- Scarcity and Opportunity Cost
- PPF
- Marginal Cost, Marginal Benefit
- Absolute Advantage, Comparative Advantage and Gains From Trade



Review of Lecture 1

- Definition of Economics: study of choices amongst scarce resources
- Microeconomics/Macroeconomics
- Theory/Empiricism
- Positive/Normative

Note: The lecture notes are incomplete without having attended lectures

Opportunity Cost

Definition:

Opportunity Cost = Value of best foregone alternative

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Examples of Opportunity Cost

- Going to college vs. Working
- McDonalds vs. Taco Bell
- New computer vs. Holiday
- Lost theater tickets

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Examples of Opportunity Cost (Cont...)

- Farmer choosing wheat or corn:

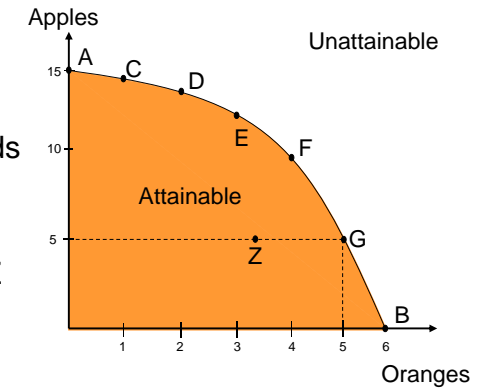
– 0 corn	&	65,000 wheat
– 10,000 corn	&	60,000 wheat
– 20,000 corn	&	52,000 wheat
– 30,000 corn	&	38,000 wheat
– 40,000 corn	&	20,000 wheat

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Production Possibility Frontier (PPF)

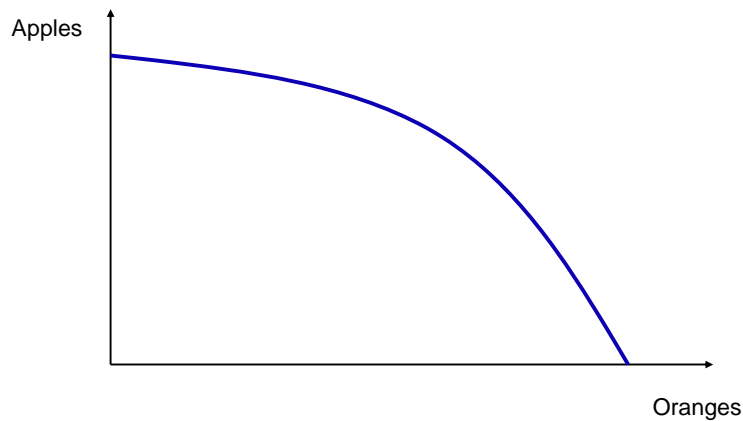
- Consider a model economy where everything remains the same (*ceteris paribus*) apart from the two goods we are considering
- Points A,B,C,D,E,F,G,Z are all points which are attainable



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The Production Possibility Boundary



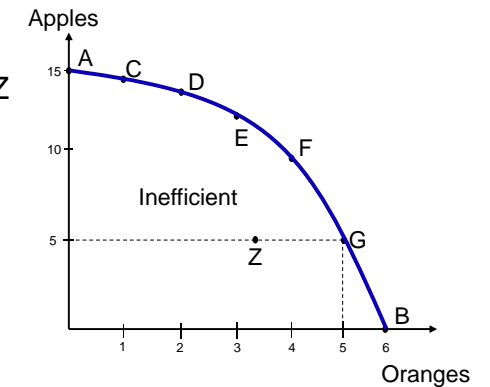
- Points on the boundary are efficient

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Production Possibility Frontier (PPF)

- Any point inside the boundary is inefficient: Z
- At a point such as Z, resources are either unemployed or misallocated



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Production Efficiency

Definition:

Cannot produce more of one good without:
 (1) producing less of another
 (2) using more inputs

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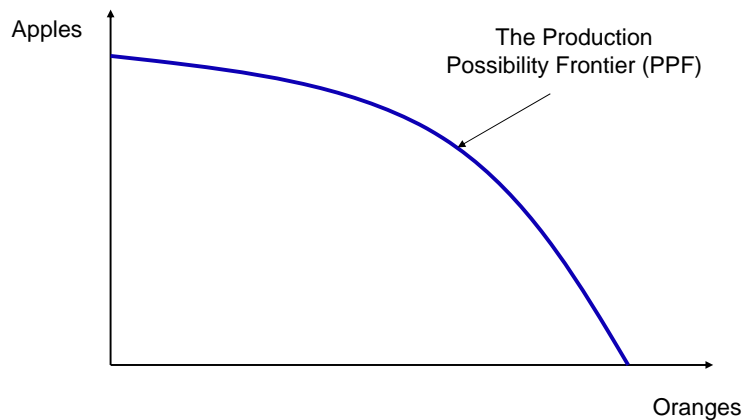
Production Possibility Frontier (PPF)

Definition:

The set of production efficient output combinations

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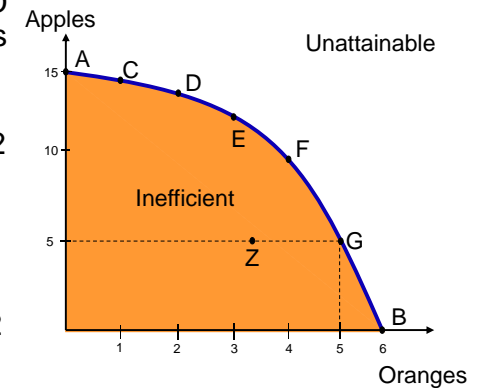
Production Possibility Frontier (PPF)



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Opportunity Cost & PPF

- Consider a move from D to E: increase # oranges by 1 ton
- Amount of Apples decreases from 14 to 12 tons
- The opportunity cost of one ton of oranges, is 2 tons of apples
- 1 ton of oranges costs 2 tons of apples

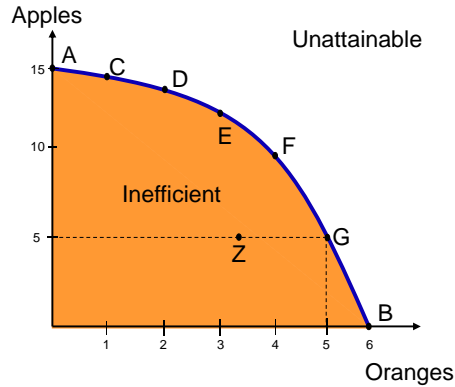


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Opportunity Cost & PPF

- A move from E to D increases apples by 2 tons
- Amount of oranges decreases by 1 ton
- The opportunity cost of one ton of oranges, is 2 tons of apples
- 1 tons of apples costs ½ ton of oranges



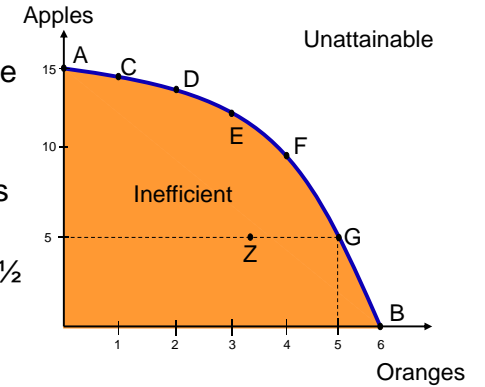
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Opportunity Cost & PPF

Note that the opportunity cost of apples is the inverse of the opportunity cost of oranges:

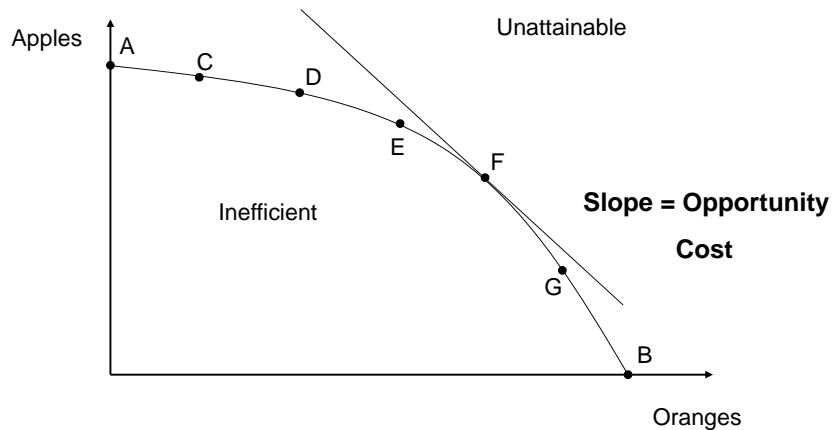
- One ton of oranges costs 2 tons of apples
- One ton of apples costs ½ ton of oranges



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Production Possibility Frontier (PPF) and Opportunity Cost

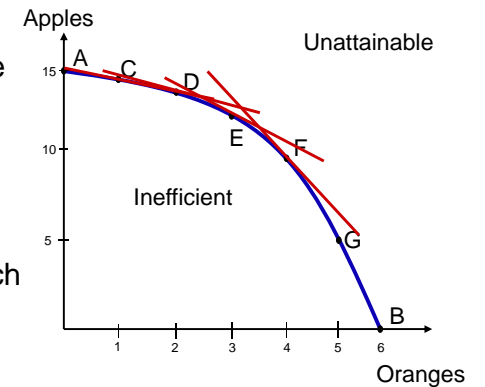


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Opportunity Cost & PPF

- Because resources are not all equally productive in all activities, the PPF bows outward—is **concave**
- The outward bow of the PPF means that as the quantity produced of each good increases, so does its opportunity cost



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3 Important Points About The PPF

- The slope
 - $|\text{slope}| = \text{opportunity cost of good on bottom axis in terms of good on left axis}$
- The slope is negative
 - Can PPF slope upwards?
- The PPF is bowed outwards (concave)

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The PPF and Marginal Cost

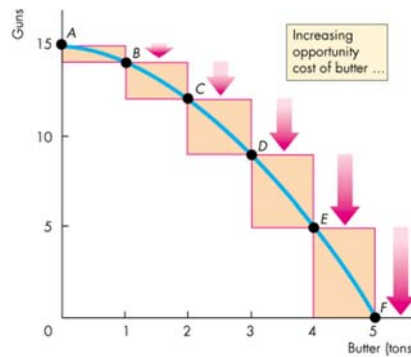
- All the points along the *PPF* are efficient.
- Marginal Cost
 - The *PPF* determines opportunity cost.
 - The **marginal cost** (or MC for short) of a good or service is the opportunity cost of producing *one more unit* of it.

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Using Resources Efficiently

- This figure illustrates the marginal cost of butter
- Recall that as we move along the *PPF* in part (a), the opportunity cost (and hence the marginal cost) of butter increases



(a) PPF and opportunity cost

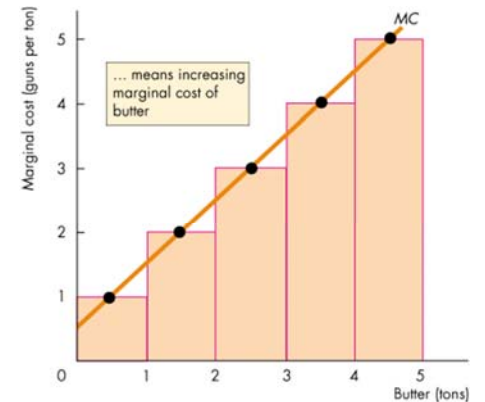
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Using Resources Efficiently

In part b (shown here) the blocks illustrate the increasing opportunity cost of butter.

The black dots, and the line labeled *MC* show the marginal cost of butter.



(b) Marginal cost

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Marginal Benefit

- The **marginal benefit** of a good or service is the benefit received from consuming one more unit of it
- We measure marginal benefit by the amount that a person is *willing to pay* for an additional unit of a good or service.

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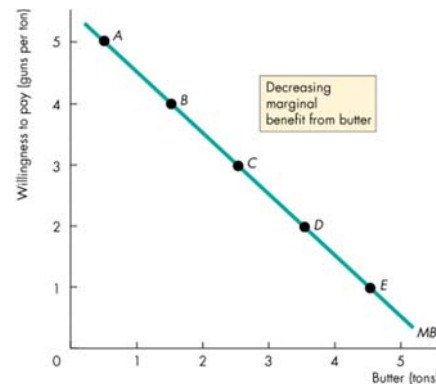
Principle of Decreasing Marginal Benefit

- It is a general principle that the more we have of any good or service, the smaller is its marginal benefit and the less we are willing to pay for an additional unit of it.
- We call this general principle the **principle of decreasing marginal benefit**.

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Using Resources Efficiently

- The **marginal benefit curve** shows the relationship between the marginal benefit of a good and the quantity of that good consumed
- The curve slopes downward to reflect the principle of decreasing marginal benefit



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Economic Growth

- The expansion of production possibilities—and increase in the standard of living—is called **economic growth**.
- Two key factors influence economic growth:
 - Technological change
 - Capital accumulation

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Economic Growth

- **Technological change** is the development of new goods and of better ways of producing goods and services.
- **Capital accumulation** is the growth of capital resources, which includes *human capital*.

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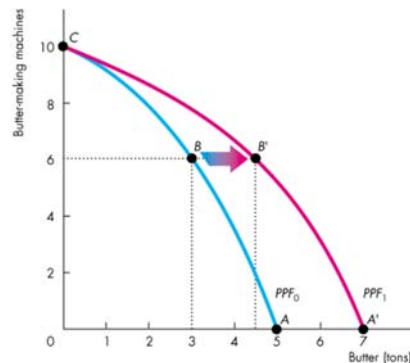
Economic Growth

- The Cost of Economic Growth
 - To use resources in research and development and to produce new capital, we must decrease our production of consumption goods and services.

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Economic Growth

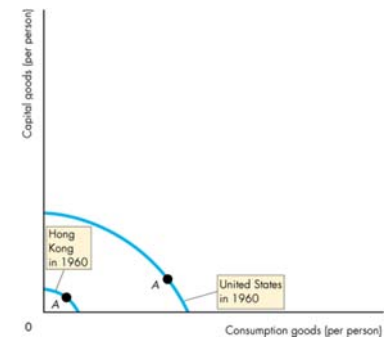
- We can produce butter or butter-making machines along PPF_0 .
- By using some resources to produce butter making machines, the PPF shifts outward in the future.



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Economic Growth

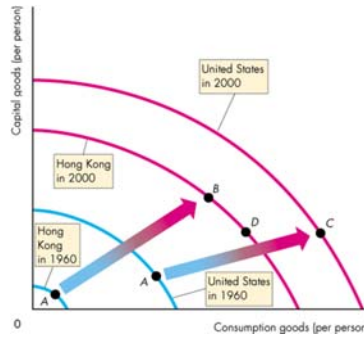
- Economic Growth in the United States and Hong Kong
 - In 1960, Hong Kong's production possibilities (per person) were much smaller than those in the United States.



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Economic Growth

- By 2000, Hong Kong's production possibilities (per person) were still smaller than those in the United States.
- But Hong Kong grew faster than the United States grew by devoting more of its resources to capital accumulation.



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Comparative Advantage

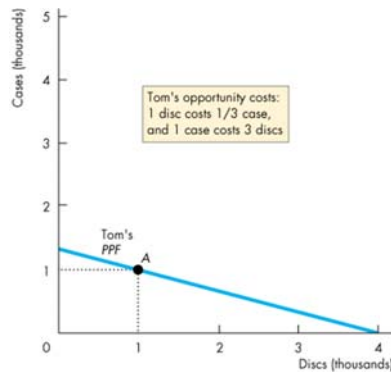
Definition:

- Comparative Advantage
 - A person has a **comparative advantage** in an activity if that person can perform the activity at a lower opportunity cost than anyone else.

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Gains From Trade

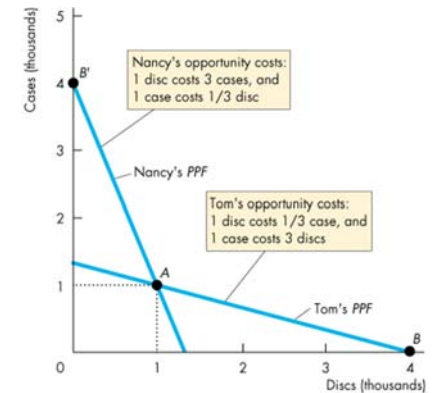
- Figure shows Tom's PPF for discs and cases.
- Tom can produce 1,000 discs and 1,000 cases at point A.
- Along his PPF, Tom's opportunity cost of a disc is 1/3 of a case and his opportunity cost of a case is 3 discs.



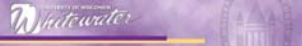
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Gains From Trade

- Figure shows Nancy's PPF for discs and cases.
- Nancy can produce 1,000 discs and 1,000 cases at point A.
- Along her PPF, Nancy's opportunity cost of a disc is 3 cases and her opportunity cost of a case is 1/3 of a disc.



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Gains From Trade

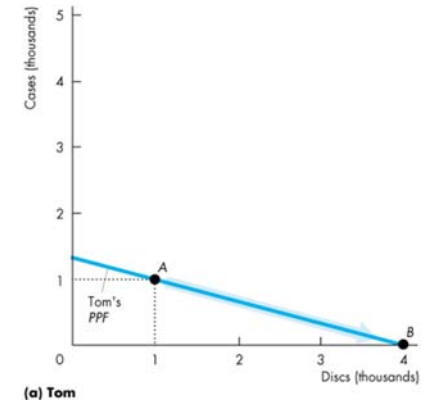
- If Tom and Nancy produce discs and cases independently, they can produce 1,000 CD units each (2,000 total).
- But because Tom's opportunity cost of producing discs is less than Nancy's, he has a *comparative advantage* in disc production.
- And because Nancy's opportunity cost of cases is less than Tom's, she has a *comparative advantage* at producing cases.
- Tom and Nancy can gain from trade.

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Gains From Trade

- Achieving the Gains from Trade
 - Figure shows what happens if Tom and Nancy specialize in what they do best and trade with each other.
 - Tom moves along his *PPF* and produces 4,000 discs at point *B*.

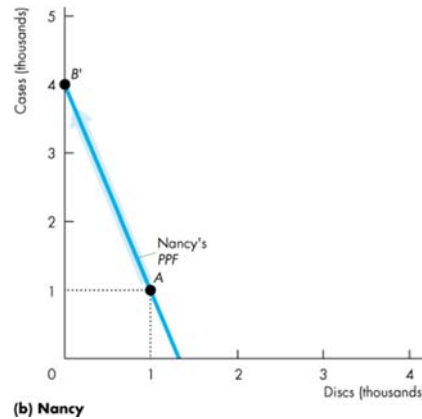


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Gains From Trade

- Nancy moves along her *PPF* and produces 4,000 cases at point *B'*.
- Tom and Nancy are now producing 4,000 CD units—double what they can achieve without specialization.
- They can now trade discs for cases.

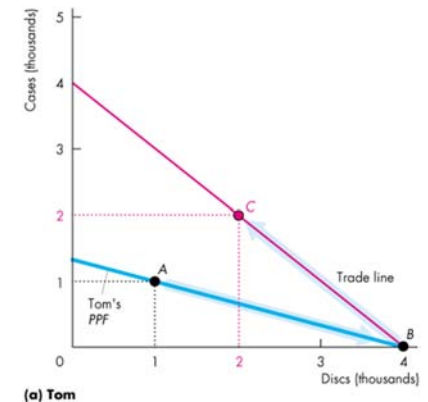


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Gains From Trade

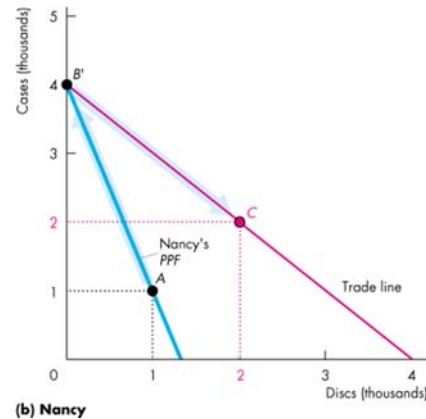
- If Tom and Nancy exchange cases and discs at one case per disc (one disc per case), they exchange along the Trade line.
- Tom ends up at point *C* with 2,000 CD units each—double what he can achieve without specialization and trade.



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Gains From Trade

- Nancy also ends up with 2,000 CD units each—double what she can achieve without specialization and trade.



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Absolute Advantage

- Absolute Advantage
 - A person (or nation) has an **absolute advantage** if that person (or nation) can produce more goods with a given amount of resources than another person (or nation) can.
 - Because the gains from trade arise from **comparative advantage**, people can gain from trade if they also have an absolute advantage.

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Gains From Trade

- Suppose Nancy is now 4 times as productive as before:
 - She can produce 16000 cases per hour, and 5332 CDs per hour by devoting all her resources to each of these goods respectively (-originally she could only produce 4000 cases per hour and 1332 CDs per hour)
- Nancy has an **absolute advantage** in the production of both goods – using the same quantity of resources as Tom, she can produce more of both goods than Tom
- However, Nancy does not have a comparative advantage in both goods – her opportunity cost of 1CD is still 3 cases

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The End

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