ECO 305: Intermediate Macroeconomics
Week 4 Homework: Solow Growth Model

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1. What does the Solow model predict for what type of economies should grow at relatively high rates and what type of economies should grow at relatively low rates? Use the graphical Solow model to show why this is the case.

2. Suppose there is an improvement in artificial intelligence technology that allows automation of tasks that increase production possibilities for companies across an economy. Use the Solow growth model to describe and illustrate the impact on the long-run level of capital stock per worker and use the production function to show the impact on real GDP per worker.

3. Suppose a government permanently increases its expenditures, but does not increase taxes, so that the rate of government borrowing increases. Use the Solow growth model to describe and illustrate the impact on the long-run level of capital stock per worker and use the production function to show the impact on real GDP per worker.

4. Suppose there is a drop in the growth rate of the population in a country. Use the Solow growth model to describe and illustrate the impact on the long-run level of capital stock per worker and use the production function to show the impact on real GDP per worker.

5. Suppose one country has a relatively low rate of savings and another country has a higher rate of savings. Use the Solow growth model to describe and illustrate the differences in the long-run level of capital stock per worker and use the production function to show the differences in real GDP per worker between the two countries.