Macroeconomics 2014
Problem set #5
Due: June 3rd at the beginning of the class

a)Make a photocopy of your answer and keep your photocopy and turn in the original so that we can discuss the answer after your submission of your homework. Sometimes, the return of your homework can be late. So use the photocopy for your selfstudy.

b)The submission of the homework is counted as the attendance of the class. Thus, the submission of your homework by people other than yourself is not accepted.

c) The late homework is not accepted.

1. Consider the following solow model.

$$Y = K^{0.5}L^{0.5}$$

saving rate is 0.5

depreciation rate is 0.1

population growth rate is zero

population is always equal to one

(a) Consider the following situation. Initially capital stock per capita is on the steady state. This implies that in this country capital stock per capita is 25 as we learn from PS#4. Now suppose that this country experiences a severe war like gulf war and capital stock was destroyed by bomb and assume that capital stock per capita decreased to half, which is 12.5. Now I have a question. By using the method explained in the table 7-2 on the text and Excel program, calculate how many years it takes to reach the steady state again starting from capital stock per capital equal to 12.5. (For answering this question, when the capital stock per capita be within plus minus 1 percent of the steady state capital stock per capita which is equal to 25, then we can say that capital stock per capita reaches the steady state level. In other word, when the capital stock per capita reaches $25 \pm 0.25 = 24.75$ or 25.25, we say that the economy reaches the steady state.)

For submitting the answer of this question, you need to attach the table that is made by excel and show when the capital stock per capita reaches 24.75.