Question 1: Consumption and Saving (20 points)

Suppose a person’s utility is of the form:

\[
U(c_1, c_2) = \frac{c_1^{1-\frac{1}{\delta}}}{1 - \frac{1}{\delta}} + \beta \frac{c_2^{1-\frac{1}{\delta}}}{1 - \frac{1}{\delta}}
\]

\[\delta = 0.5, \beta = 0.36\]

We also know that \(y_1 = 10, y_2 = 28.8, r = 0.44\) (\(y_t\) and \(c_t\) are real income and consumption in period \(t\) respectively)

1. Derive the consumption Euler condition.

2. What level of \(c_2\) will this person choose?

3. If \(y_2\) increases by 1, how much will \(c_2\) increase?

Question 2: The Solow Growth Model (35 points)

1. In the context of the Solow Growth Model, explain analytically and graphically the concept of the Golden Rule steady state.

2. Provide some arguments for whether the US is below, above or at the Golden Rule steady state.

3. Depending on your answer in (2), what type of policies could the government adopt to arrive at the Golden Rule steady state?
Question 3: (25 points)

Explain:

3.1 Classical Dichotomy (5 points)

3.2 The Expenditure Approach (5 points)

3.3 Ricardian Equivalence (5 points)

3.4 Velocity of Money (5 points)

3.5 Solow residual (5 points)