1) Consider the example of Lifetime utility maximization.
   Solve it assuming $U(C) = \ln C$, $r = 1$, $\delta = 0$, $K(0) = 1$ and $T = 1$.

2) Consider the problem above in discrete time.
   a. Solve it with $T = 4$. (the function to maximize is $\sum_{t=0}^{4} U(C_t)$)
   b. Solve it with $T = \infty$.

3) Maximize $\int_0^T \ln(q) e^{-\delta t} dt$ subject to $s' = -q$ and $S(0) = s_0$, $S(T) \geq 0$

4) Section 20.2, exercises 1 and 2

5) Section 20.4, exercise 1.