EE 521: Homework 6

1. Solve problem 4.1 from de Silva.
2. Solve problem 4.17 from de Silva.
3. Solve problem 4.30 from de Silva.
4. Solve problem 4.44 from de Silva.
5. Given
$$X(z) = \frac{1}{1 - z^{-1}} \tag{1}$$
   (a) Compute the inverse z-transform of $X(z)$.
   (b) Compute and plot $X(\omega)$. Since $X(\omega)$ is ∞ at $\omega = 0$, replace that value with an impulse.
   (c) What can you say about the frequency content of a signal that has an abrupt change?