Theory of Computation

Exercise 6:
(Pumping Lemma)

Prove by Pumping Lemma that the following languages are not regular.

1. L1 = $\left\{ 0^i 1^j : j \text{ is a multiple of } i \right\}$

2. $L2 = \{ 0^i 1^j : i < j \}$

*3. Prove that the following language is not Regular

$$L = \{ a^i b^j c^k : k < 2i+j \}$$