6. [6 marks] Design a counter that goes through the sequence:

   1 4 3 5 2 7 and repeat

   using a D flip flop for *A*, a JK flip flop for *B*, and a T flip flop for *C*. Use bit *A* as the least significant bit (LSB) and *C* as the most significant bit (MSB).

using a D flip flop for *A*, a JK flip flop for *B*, and a T flip flop for *C*. Use bit *A* as the least significant bit (LSB) and *C* as the most significant bit (MSB).