Q3 [30 marks] ADT Design

For each of the ADTs designed and implemented in question Q2 (UserAccount, Userid, Password):

a)   State whether your ADT is an entity or value-based ADT. Defend your design decision. Explain how this decision affected the design of your ADT.

b)   State whether your ADT is a mutable or immutable ADT. Defend your design decision. Explain how this decision affected the design of your ADT.

c)   For each of the essential operators (default constructor, destructor, copy constructor, assignment, equality), explain your design decision to (1) use the compiler's version of the operator, (2) write your own version of the operator, or (3) prohibit the operator.

d)   If your ADT includes member functions other than simple accessors and mutators for attributes, explain why these functions are member functions rather than nonmember functions.