Section 6 Design

ARTIFICIAL, COMPOSITE AND SECONDARY UID

People are not born with "numbers," but a lot of systems assign student numbers, customer IDs, etc. A shoe has a color, a size, a style, but may not have a descriptive "number". So, to be able to uniquely and efficiently identify one instance of the entity SHOE, a/an _____ UID can be created.
Artificial

A unique identifier can only be made up of one attribute. True or False?
False

A UID can be made up from the following:
Attributes
Relationships

An entity can only have one UID. True or False?
False

NORMALIZATION AND FIRST NORMAL FORM

An entity can have repeated values and still be in 1st Normal Form. True or False?
False

When all attributes are single-valued, the database model is said to conform to:
1st Normal Form

The following entity is on 1st normal form: True or False?
ENTITY: VEHICLE
ATTRIBUTES:
   REGISTRATION
   MAKE
   MODEL
   COLOR
   DRIVER
   PASSENGER 1
   PASSENGER 2
   PASSENGER 3
False

When data is stored in more than one place in a database, the database violates the rules of
_____.
Normalization

SECOND NORMAL FORM

An entity can be on 2nd Normal Form even if it has repeated values. True or False?
False

What is the rule of Second Normal Form?
All non-UID attributes must be dependent upon the entire UID

Examine the following entity and decide which attribute breaks the 2nd Normal Form rule:
ENTITY: CLASS
ATTRIBUTES:
   CLASS ID
   DURATION
   SUBJECT
   TEACHER NAME AND ADDRESS
TEACHER NAME AND ADDRESS

THIRD NORMAL FORM

No databases in the world is ever truly on 3rd Normal Form. Everyone always stops after 2nd
Normal Form. True or False?
False

Examine the following Entity and decide which sets of attributes breaks the 3rd Normal Form
rule:
ENTITY: TRAIN (SYNONYM: ROLLING STOCK)
ATTRIBUTES:
   TRAIN ID
   MAKE
   MODEL
   DRIVER NAME
   DEPARTURE STATION
   NUMBER OF CARRIAGES
   NUMBER OF SEATS
   DATE OF MANUFACTURE
DEPARTURE STATION, DRIVER NAME
NUMBER OF CARRIAGES, NUMBER OF SEATS

As a database designer it is your job to store data in only one place and the best place. True or False?

True