All answers must be in a .pdf file.

No database needs to be created.

1. Consider the Book dimension with attributes ISBN, TITLE, AUTHOR, EDITION and YEAR.   When a new edition of a book is published some fields change.   For example:

ISBN	Title	Author	Edition	Year
978-1118530801	The data warehouse toolkit	Kimball	3	2013
0-471-20024-7	"	Kimball	2	2002
0-471-19961-7	"	Kimball	1	1996
978-0136086208	Fundamentals of database systems	Elmasri	6	2010
978-0133970777	"	Elmasri	7	2015

Show the contents (i.e. rows, fields, data) in the Book dimension for the above given that the ISBN attribute is treated as a type 3 attribute. Make up suitable PK values.

2. Consider the Declarations Star Schema from Assignment 2. There is a problem with the schema - at UW we allow a student to declare any number of majors and so a student can graduate with a major, with a double major, with a triple major, etc.   As discussed in Chapter 9, a bridge table can be used to accommodate the requirement that a student be allowed to declare multiple majors. Use the approach presented in Chapter 9 to modify the schema.
a) Show the modified schema
b) Show rows in the Declarations fact table, the bridge table and the Major table to accommodate 3 cases
    •   A student declaring a single major in IS (Information Systems)
    •   A student declaring a single major in HI (Health Informatics)
    •   A student declaring a double major in HI and BPHE (Bachelor of Physical and Health Education)
c) Design a query to list the first names of students who have declared a major in HI