

Project #2: Describe / Build a Database for Your Collection

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1. Analysis of Unit of Description and Record Structure

Unit of Description (Entity):

The unit of description in this database is a pillow. Our group has chosen 15 pillows to form a collection of items. Each of our three group members selected five pillows from in and around their homes. The pillows serve the purposes of decor, comfort, or both. Most of the pillows are currently being used in various areas of the home, including the bedroom, living room, patio, family room, and den. The members of our group purchased them from various retailers. Some of the pillows are new and have not yet been used. They are of varying size, shape, material and color. Some pillows include patterns or designs and others do not.

Although they all fall under the heading of "pillows," each object in the collection has features that can be used to identify them as distinct entities. We have identified a series of attributes that are common to each of the pillows. Assigning a number of attributes generates a record to represent each pillow in the collection. The records of our collection of 15 pillows form our database.

A user group that might benefit from this database consists of individuals who are interested in purchasing pillows on eBay. These individuals could be described as home decoration enthusiasts who have specific decor requirements but are on a tight budget. They would require

an information retrieval system in order to find the pillows they are interested in purchasing. Our database has been designed in order to support various probable queries of this user group, in addition to providing a method of distinguishing one pillow from another.

Attributes and Reasons for Inclusion:

1. **Pillow ID (pillow_id):** The “Pillow ID” provides each unit with a unique identifier. It is a number that is automatically and sequentially assigned by WebData Pro, beginning with 1 for the first object entered. The ID differentiates one object from another, which is important in cases where pillows have several similar features. This attribute can aid users in managing their pillows of interest.
2. **Shape:** The “Shape” attribute both differentiates the units of description and fulfills a user need. This distinguishing physical feature is simple to observe. Most of our pillows are square or rectangular, but there are a few that have different shapes. A user may be looking for a specific shape for their pillow and may choose to search by that particular shape.
3. **Color:** This attribute is an immediately observable physical feature that differentiates it from other objects in the collection. The color(s) of the pillows are very important for the user to know in order to search and properly coordinate with their decor.

4. **Fabric:** The pillow's fabric, which refers to its exterior covering, is an obvious physical feature that helps to differentiate it from other pillows. This attribute is also of importance to the user group because the user may be looking for a certain texture or may want only natural fibers, for example.
5. **Fill:** Fill refers to the material that is used to stuff the interior of the pillow. These materials are generally indicated on the tags. This attribute, which may not be immediately apparent but often easy to determine, is a feature that may help to differentiate a pillow from others in the collection. It is possible to have pillows with similar exteriors, but different fills. Fill also serves the information needs of the user group. A user who is allergic to down feathers would want to avoid pillows with that type of fill. There is also a difference in firmness between pillows with varying fills. Lastly, the user may be looking for natural fibers and want to exclude fills like polyester.
6. **Purpose:** This attribute describes the type of pillow by indicating its intended function. Purpose helps to distinguish between the pillows. Pillows designed for outdoor use may be made of more durable fabrics that are rain and sun resistant, and are normally sold in spring and summer along with garden decor. Pillows designed for sleeping are focused on comfort and neck support, and are easily identifiable due to the conformity in sizes that suit beds. Also, bed pillows are generally

plain and are meant to be covered with pillowcases. Throw pillows feature interesting colors, designs, or fabrics, and are intended mainly to decorate the home. This attribute helps the user who may be searching for a certain type of pillow, such as throw pillows, which serve decorative purposes.

7. **Closure:** This attribute describes the way the cover closes over the pillow. The pillow's closure, an obvious physical characteristic, is used to distinguish between the pillows in the database. A user could be looking for a certain type of closure such as buttons for a specific look. They may also be interested in the ease of removing the cover for washing.
8. **Removable Cover (removable_cover):** This attribute helps distinguish between the pillows and fills a user need. It refers to whether or not the pillow's cover is designed to be removed for washing. It is a physical characteristic that is easily determined. A user may be interested in pillows that have removable covers, a feature that provides for easy care.
9. **Length (length_in_inches):** The length of the pillow is an easily determined attribute that both fulfills a user need and distinguishes units of description. A user may be looking for pillows of a specific size to create a certain look or to fit with their furniture, for example.

10. **Width (width_in_inches):** Similar to length, the width of the pillow is an apparent physical trait that is important to the user while distinguishing each unit of description. Again, users are usually interested in the size of the pillow in order to envision it in their home.
11. **Diameter (diameter_in_inches):** Similar to length and width, diameter distinguishes one object from another with a physical characteristic that is easy to determine. In this case, the size refers to round or cylindrical pillows. It also fills a user need, should they be looking for a specific size of pillow.
12. **Brand or Retailer (brand_retailer):** Brand or Retailer, which refers to the manufacturer or distributor of the pillow, fills a user need. This attribute can be an important factor for the user when finding decor for their homes. The brand and/or retailer give the user indications of the style the brand is known for, the reputation of the company, the typical quality of their products, or the price point.
13. **Washing:** This attribute fulfills a user need. It refers to the pillow's care instructions, which are often indicated on the tag or on the packaging. Pillows need to be washed, and users will want to know what kind of washing is required, such as hand washing or dry cleaning. Users may be interested only in pillows that can be machine-washed, especially if they have pets or small children.

14. **Quality:** This attribute fulfills a user need and differentiates the units of description. It refers to the condition of the pillow, based on its age and usage. A user may only be interested in pillows of a certain condition, such as new, excellent, or antique. It also differentiates the units of description because it could be possible to have a used and new version of the same pillow.

15. **Design or Pattern (design_pattern):** The “Design or Pattern” attribute fulfills a user need and helps to distinguish one pillow from the others. It is an immediately apparent physical characteristic that refers to any exterior pattern or design on the pillow. This attribute gives the user basic information about the appearance of the pillow. A user may be looking only for plain pillows or pillows with a specific design such as a flower pattern.

2. Rules for Cataloging

1. **Pillow ID (pillow_id):** This field displays a number that is automatically generated by the WebData Pro system. Therefore, the designer cannot make changes or additions to this field.
2. **Shape:** Choose the general basic shape of the pillow. The data type is text and the field format is a list. The field length is fixed at a maximum of 30 characters. The drop down list provides five options: ***round, square, rectangle, cylinder, other***. Only one item can be selected from this list. If

there is any uncertainty as to the shape of the pillow, then select: ***other***.

This field is mandatory.

3. **Color:** Choose the main colors of the pillow. The field length is fixed at a maximum of 50 characters. The data type is text and the field format is a textbox. This field is mandatory. The instructions are listed below:

- Select the color(s) that make up the pillow from the following list of colors: ***red, blue, teal, yellow, pink, green, orange, coral, purple, brown, white, grey, black, beige***.
- The dominant color is followed by the next most prominent color(s) in descending order, up to and including three additional colors making a maximum total of four colors. For example, if the pillow's most dominant color is red followed by pink, orange, and purple, then enter: ***red, pink, orange, purple***.
- If there are more than four colors, then enter: ***multi***. For example, if the pillow is made up of the following colors: pink, orange, purple, yellow, and green, then enter: ***multi***.
- If there is any uncertainty as to color description, then enter: ***unknown***.

4. **Fabric:** Determine the fabrics that make up the exterior of the pillow. The field length is fixed at a maximum of 30 characters. The data type is text and the field format is a textbox. This field is mandatory. There are three steps when entering data in this field:

- Select the fabric(s) that make up the pillow from the following list of fabrics: **cotton, polyester, linen, nylon, faux fur**. (If the fabric is not listed here, then add as needed.)
 - The dominant fabric is followed by the next most prominent fabric(s) in descending order, up to and including four types. For example, if you have a pillow that has cotton as its dominant fabric, followed by polyester, linen and nylon, then enter: **cotton, polyester, linen, nylon**.
 - If there are more than four fabrics, then enter **other fabrics** after the four fabrics listed. For example, if a pillow has cotton as its dominant fabric, followed by polyester, linen, nylon, and faux fur, then enter: **cotton, polyester, linen, nylon, other fabrics**.
 - If there is any uncertainty as to the fabric type, then enter: **unknown**.
5. **Fill:** Look on the tag to determine the inner contents of the pillow. The field length is fixed at a maximum of 30 characters. The data type is text and the field format is a list. The drop down list provides five options: **down, polyester, cotton, other, and unknown**. Only one option can be selected from this list. If there is no tag, or if there is any question as to the contents, then select: **unknown**. This field is mandatory.
6. **Purpose:** Enter the term that best describes the primary function of the pillow. The field length is fixed at a maximum of 30 characters. The data type is text and the field format is a list. The drop down list provides four options: **throw, bed, patio, and other**. Only one option can be selected

- from this list. If there is any uncertainty, then select: ***other***. This field is mandatory.
7. **Closure:** Enter the term that describes the pillow cover's seal. The field length is fixed at a maximum of 30 characters. The data type is text and the field format is a list. The drop down list provides six options: ***zipper, buttons, tie, flap, other, and none***. Only one option can be selected from this list. If there is any uncertainty, select: ***other***. This field is mandatory.
 8. **Removable Cover (removable_cover):** Determine whether or not the pillow cover is removable. The field format is a checkbox. Check the box only if the cover is removable. If there is any uncertainty, do not check the box. The data form when entered is a check symbol. If the box is checked, the WebData Pro table layout displays a 1 in this field. This field is not mandatory.
 9. **Length (length_in_inches):** Use a tape measure to determine the longest edge of the pillow in inches. The field length is fixed at a maximum of ten characters. The data type is text and the field format is a textbox. Enter this data point where applicable, as this may not be relevant for particular records. Use the format “_ _.” as a guide for the data entry. If there is no way to obtain this dimension, then leave this field blank. This field is not mandatory.
 10. **Width (width_in_inches):** Use a tape measure to determine the shorter edge of the pillow in inches. The field length is fixed at a maximum of ten

characters. The data type is text, and the field format is a textbox. Enter this data point where applicable as this may not be relevant for particular records. Use the format “_ _.” as a guide for the data entry. If there is no way to obtain this dimension, then leave this field blank. This field is not mandatory.

11. **Diameter (diameter_in_inches):** Use a tape measure to determine the diameter of round and cylindrical pillows in inches. The field length is fixed at a maximum of ten characters. The data type is text and the field format is a textbox. Enter this data point where applicable, as this may not be relevant for particular records. Use the format “_ _.” as a guide for the data entry. If there is no way to obtain this dimension, then leave this field blank. This field is not mandatory.

12. **Brand or Retailer (brand_retailer):** Enter the brand of the pillow, or the retailer from whom the pillow was purchased. If it is unclear where it was purchased and you know the brand name, then enter the brand name. Use the most relevant description. The field length is fixed at a maximum of 30 characters. The data type is text and the field format is a textbox. If there is any uncertainty, then enter: **unknown**. This field is mandatory.

13. **Washing:** Refer to the tag to determine the pillow's washing instructions. The field length is fixed at a maximum of 30 characters. The data type is text and the field format is a list. The drop down list provides five options: **machine wash, spot clean, non-washable, dry clean, and**

unknown. Only one option can be selected from this list. If there are no tags to provide clarity as to the washing instructions, then select: **unknown.** This field is mandatory.

14. **Quality:** Determine the condition of the pillow by assessing its age and how often it has been used. The field length is fixed at a maximum of 30 characters. The data type is text and the field format is a list. The drop down list provides six options. Only one option can be selected from this list. This field is mandatory. Apply the following instructions:

- Pillow has never been used - select: **new.**
- Pillow looks new and has been used only a few times - select: **excellent.**
- Pillow is not damaged but has been used more than a few times - select: **good.**
- Pillow shows some signs of wear and has been used often (almost daily) - select: **used.**
- Pillow is damaged and has been used very often (daily) - select: **worn.**
- Pillow is very old in design and/or wear - select: **antique.**

If there is any uncertainty as to the condition of the pillow, select the closest scenario.

15. **Design or Pattern (design_pattern):** Identify the dominant object or pattern of the pillow. The field length is fixed at a maximum of 50

characters. The data type is text and the field format is a textbox. Enter concise terms like flowers, shapes, paisley etc. If there is no object or pattern, enter: **none**. This field is mandatory.

shape	color	fabric	fill	purpose	closure	removable_cover	length_in_inches	width_in_inches	diameter_in_inches	brand_retailer	washing	quality	design_pattern
round	multi	cotton	unknown	throw	none				17.5	Pier 1 Imports	unknown	excellent	peacock
square	multi	cotton, polyester	down	throw	zipper	1	20	20		Macy's	machine wash	good	flowers
square	orange	polyester	down	throw	zipper	1	18	18		Pier 1 Imports	unknown	excellent	paisley
square	blue, white	cotton	polyester	throw	none		16	16		Target	spot clean	good	diamond shapes
rectangle	orange, yellow, red	polyester	unknown	throw	zipper	1	23	13		Pier 1 Imports	spot clean	used	paisley
square	white, brown	faux fur	polyester	throw	none		16	16		L'Air du Temps	spot clean	good	large heart
square	pink, yellow	polyester	polyester	throw	none		14	14		Target	machine wash	good	Patrick (Spongebob)
square	coral	polyester	polyester	throw	flap	1	16	16		handmade cover	machine wash	excellent	none
rectangle	white	cotton	down	bed	none		22	18		IKEA	machine wash	new	none
round	orange, red	cotton	polyester	patio	none				14	Interio	machine wash	worn	none
square	purple, pink, beige	polyester, linen, cotton	down	throw	zipper	1	16	16		Rodeo Home	machine wash	used	flowers
square	white	unknown	down	throw	zipper	1	16	16		Rodeo Home	machine wash	used	none
rectangle	white	cotton, polyester, nylon	down	throw	zipper	1	24	16		IKEA	machine wash	used	none
rectangle	multi	cotton, polyester	down	throw	buttons	1	24	20		IKEA	machine wash	used	flowers and vines
square	blue, teal, purple	polyester	polyester	throw	zipper	1	16	16		DENY Designs	machine wash	new	tie dye

Figure 1. All records in "Pillows" database, WebData Pro search version.

pillow_id	shape	color	fabric	fill	purpose	closure	removable_cover	length_in_inches	width_in_inches	diameter_in_inches	brand_retailer	washing	quality	design_pattern
1	round	multi	cotton	unknown	throw	none				17.5	Pier 1 Imports	unknown	excellent	peacock
2	square	multi	cotton, polyester	down	throw	zipper	1	20	20		Macy's	machine wash	good	flowers
3	square	orange	polyester	down	throw	zipper	1	18	18		Pier 1 Imports	unknown	excellent	paisley
4	square	blue, white	cotton	polyester	throw	none		16	16		Target	spot clean	good	diamond shapes
5	rectangle	orange, yellow, red	polyester	unknown	throw	zipper	1	23	13		Pier 1 Imports	spot clean	used	paisley
6	square	white, brown	faux fur	polyester	throw	none		16	16		L'Air du Temps	spot clean	good	large heart
7	square	pink, yellow	polyester	polyester	throw	none		14	14		Target	machine wash	good	Patrick (Spongebob)
8	square	coral	polyester	polyester	throw	flap	1	16	16		handmade cover	machine wash	excellent	none
9	rectangle	white	cotton	down	bed	none		22	18		IKEA	machine wash	new	none
10	round	orange, red	cotton	polyester	patio	none				14	Interio	machine wash	worn	none
11	square	purple, pink, beige	polyester, linen, cotton	down	throw	zipper	1	16	16		Rodeo Home	machine wash	used	flowers
12	square	white	unknown	down	throw	zipper	1	16	16		Rodeo Home	machine wash	used	none
13	rectangle	white	cotton, polyester, nylon	down	throw	zipper	1	24	16		IKEA	machine wash	used	none
14	rectangle	multi	cotton, polyester	down	throw	buttons	1	24	20		IKEA	machine wash	used	flowers and vines
15	square	blue, teal, purple	polyester	polyester	throw	zipper	1	16	16		DENY Designs	machine wash	new	tie dye

Figure 2. All records in "Pillows" database, excel version.

TABLES

pillows

pillow_id	int(11)	textbox	pillow_id
shape	varchar(30)	list	shape
color	varchar(50)	textbox	color
fabric	varchar(50)	textbox	fabric
fill	varchar(30)	list	fill
purpose	varchar(30)	list	purpose
closure	varchar(30)	list	closure
removable_cover	tinyint(4)	checkbox	removable_cover
length_in_inches	varchar(10)	textbox	length_in_inches
width_in_inches	varchar(10)	textbox	width_in_inches
diameter_in_inches	varchar(10)	textbox	diameter_in_inches
brand_retailer	varchar(30)	textbox	brand_retailer
washing	varchar(30)	list	washing
quality	varchar(30)	list	quality
design_pattern	varchar(50)	textbox	design_pattern

Figure 3. "Pillows" data structure