

Database Implementation: Stairway to Heaven Comics

I've organized the assignment as follows:

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1. Conceptual Design

Description:

Stairway to Heaven Comics is a comic book store in Newington, NH. The store has been growing in popularity for the past few years, and therefore has growing customer and inventory data. They have frequent customer lists, pull list* data, and inventory data. All of the information is stored on word documents and excel sheets, when really it could be transferred to a database. The goal of the database would be to help the owner stay more organized, guarantee customer satisfaction, and help employees easily navigate the organizational system for the shop.

Stakeholders include:

- The owner - Brad Gile
- Any employees
- The customer

*A pull list is a term from the comic book store industry. It is defined in the business rules

Mission Statement:

The purpose of this database is to allow Brad Gile (the owner of Stairway to Heaven Comics) to more effectively manage customer and inventory data. Through better data management it will allow for an increase in sales and a decrease in waste. Waste is defined here as too many copies of certain comics that there is not sufficient demand for. These copies tend to sit on shelves for months.

The data used in this database will help Mr. Gile and his employees make the proper business decisions regarding weekly comic orders, trade paperback orders, and inventory. The data will also be used to ensure that all members of the pull list will get all the comics that request every week. Instead of counting by hand, Mr. Gile will be able easily query how many of each title he needs to purchase.

Objectives:

- Manage frequent and pull list customer information (name, email, phone number)
- Manage weekly comic product inventory (comic titles, quantity in stock, cost per comic)
- Manage trade paperback(TPB)*/graphic novel product inventory (titles, quantity in stock, cost per)
- Manage customer pull lists (comic titles, customer information, cost per title, paid/unpaid status)
- Generate reports such as:

- Report on frequent customer
- Report pull list customer information
- Report on customer pull lists and the amount that are paid/unpaid
- Report on inventory of product
 - Comics
 - TPB/Graphic novel

Manage in this context means: collect, update, save, and report upon

*Trade paperback is a term from the comic book store industry. It is defined in the business rules

Business Rules:

- A pull list is a list that customers use to request certain comics be set aside for them each week, that they then pick up
- When a customer creates a pull list, their name, email, and phone number is recorded
- A customer must have at least one title on a pull list to start one
- Customers can have as many titles on the pull list as they so choose
- Customers do not have to pay in advance for their pull lists
- Customers do not have to pay in full each week for their pull lists, but they have to pay the full price per comic
- Trade paperbacks are a bound collected edition of serialized comics that are then sold together as one unit
- Graphic novel and trade paperback(TPB) will be used interchangeably
- Graphic novels /TPBs are not on pull lists
- The frequent customer is defined by a list of customers who buy graphic novels/TPBs
 - Once they buy \$100 worth of graphic novels/TBPs they get a \$10 credit
- When a customer is added to the frequent customer list, their name, email, and phone number is recorded
- A customer can be added to the frequent customer list without buying a graphic novel/TPB
- When a customer purchases a graphic novel/TPB the title and cost is recorded, regardless if the customer is on the frequent customer list or not
- There is no limit for how many comics or graphic novels/TPBs someone buys

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Conceptual Form/Screen Layouts:

FREQUENT CUSTOMER SIGN UP SLIP:

First Name: _____ Last Name: _____

Phone Number: (____) ____-____ Email Address: _____

**FREQUENT CUSTOMER PURCHASING
RECORD:**

Customer First Name: _____ Customer Last Name: _____

Book Purchased: _____ Cost: _____

-

Pull List Sign Up Form

CUSTOMER INFORMATION

Please complete this portion and then return the form to the store representative. You will complete the rest together.

First Name: _____ Last Name: _____

Email: _____ Phone Number: (____) ____ - ____

Pull List Information:

Title	Publisher	Cost Per Issue

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6. At least 2 possible output reports depicting data you would like to extract from the database

Frequent Customer Information Alphabetized

Customer ID	LastName	FirstName	PhoneNumber	Email
101	Allwarden	Sarah	6034185502	sallwarden@gmail.com
102	Barnes	Jeffrey	5554443333	jbarnes@gmail.com
103	Caldwell	James	5554443332	jcaldwell@gmail.com
104	Dirk	Sally	5554443322	sdirk@gmail.com
105	Evans	Bill	5554443222	bevans@gmail.com

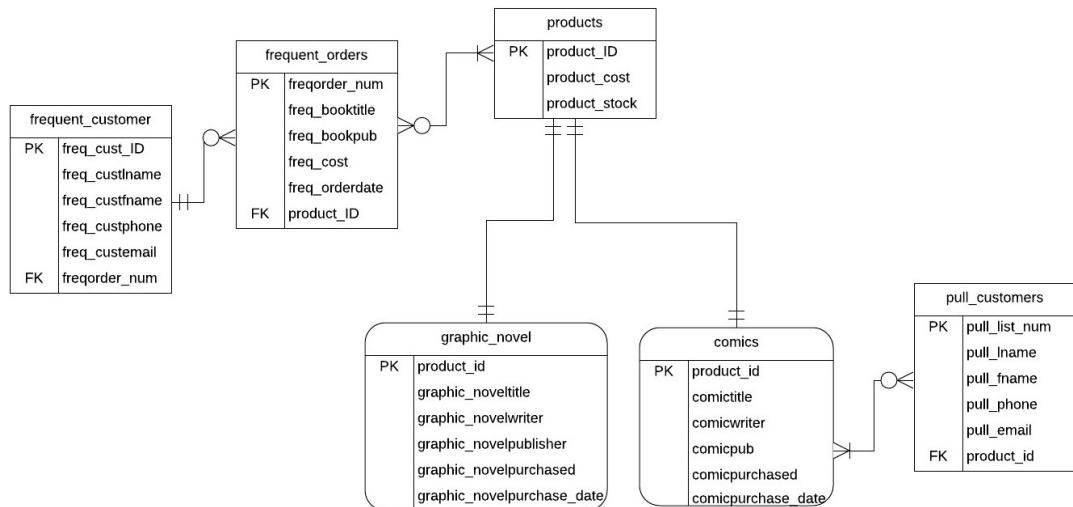
Frequent Customer Order Information

Order Number	Book Title	Book Cost (\$)	Customer ID
1001	Agents of the Realm	40	102
1002	Boundless	24.95	101
1003	Y the Last Man	19.99	105
1004	Kick-Ass 2: Prelude	19.99	105
1005	The Wicked and the Divine: The Faust Act	9.99	105

Pull List Customer Information Alphabetized

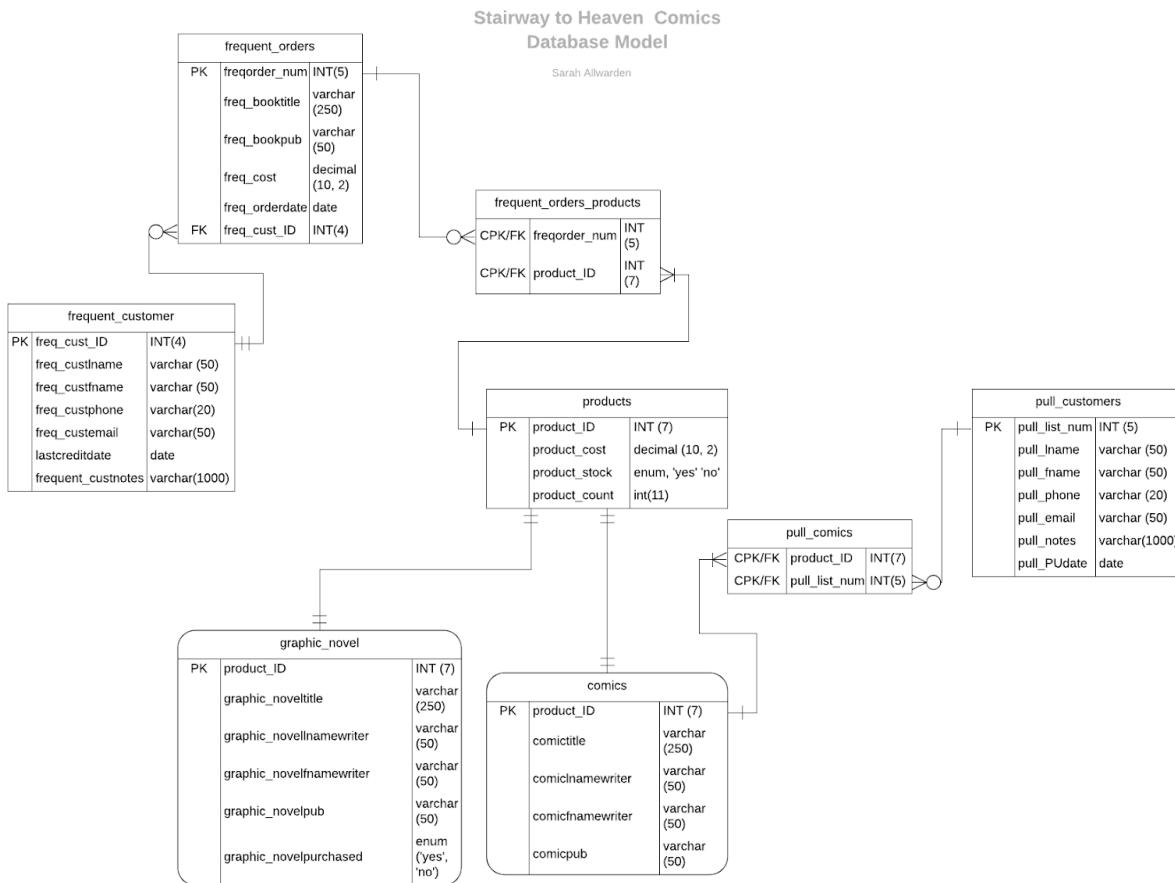
Pull List Number	Last Name	First Name	Email	Phone Number
00001	Bacon	Aaron	abacon@gmail.com	6034795026
00002	Carrico	Andrae	acarrico@gmail.com	6038348018
00003	Deorocki	Chester	derocki@gmail.com	6039536516
00004	Foley	Derek	dfoley@gmail.com	3215589657
00005	Salazar	Daniel	vinnydoombats@gmail.com	9787038651

Entity Relationship Diagram:



2. Logical Design

Updated Database Design Diagram:



I made the following changes:

- Added relevant fields to frequent_customer (lastcreditdate, frequent_custnotes)
- Added product_count to products
- Removed irrelevant fields from graphic_novel and comics (purchase dates from both, and comic_purchased from comics)
- Added relevant field to pull_customers (pull_notes, and pull_PUpdate)
- Adjusted the data type on any field that had to do with a phone number to varchar

Table Schemas:

1. frequent_customer (freq_cust_ID, freq_custlname, freq_custfname, freq_custphone, freq_custemail, lastcreditdate, frequent_custnotes)
2. frequent_orders (freqorder_num, freq_booktitle, freq_bookpub, freq_cost, freq_orderdate, freq_cust_ID)
3. frequent_orders_products (freq_order_num, product_ID)
4. products (product_ID, product_cost, product_stock, product_count)
5. graphic_novel (product_ID, graphic_novelttitle, graphic_novellnamewriter, graphic_novelfnamewriter, graphic_novelpub, graphic_novelpurchased)
6. comics (product_ID, comictitle, comiclnamewriter, comicfnamewriter, comicpub)
7. pull_comics (product_ID, pull_list_num)
8. pull_customers (pull_list_num, pull_lname, pull_fname, pull_email, pull_phone, pull_notes, pull_PUpdate)

Table Normalization:

frequent_customer

freq_cust_ID	freq_cust_lname	freq_cust_fname	freq_cust_phone	freq_cust_email	lastcreditdate	frequent_cust_notes
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1NF:

- Every cell has a single value
- freq_cust_ID is the PK
- All attributes are dependent on the PK

2NF:

- No partial dependencies, all attributes are full dependent on freq_cust_ID

3NF:

- No transitive dependencies, no attributes are dependent on anything other than freq_cust_ID

BCNF:

- No candidate keys beyond the PK freq_cust_ID

frequent_orders

freqorder_num	freq_booktitle	freq_bookpub	freq_cost	freq_orderdate
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1NF:

- Every cell has a single value
- freqorder_num is the PK
- All attributes are dependent on the PK

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2NF:

- No partial dependencies, all attributes are fully dependent on freq_ordernum

3NF:

- No transitive dependencies, no attributes dependent on anything other than freq_order_num

BCNF

- No candidate keys beyond the PK freqorder_num

frequent_orders_products

freqorder_num	product_ID
---------------	------------

1NF:

- Every cell has a single value
- freqorder_num and product_id are the CPK
- No attributes beyond those

2NF:

- No partial dependencies

3NF:

- No transitive dependencies

BCNF

- No candidate keys beyond the CPK

products

product_ID	product_cost	product_stock	product_count
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1NF:

- Every cell has a single value
- product_ID is the PK
- All attributes are dependent on the PK

2NF:

- No partial dependencies, all attributes are fully dependent on product_ID

3NF:

- No transitive dependencies, no attributes are dependent on anything other than product_ID

BCNF:

- No candidate keys beyond the PK product_ID

graphic_novel

product_id	graphic_novelttitle	graphic_nove lwriter	graphic_novelpubli sher	graphic_novelpur chased
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1NF:

- Every cell has a single value
 - **Separate the first name & last name of the graphic_novelwriter attribute**
- product_ID is the PK
- All attributes are dependent on the PK

2NF:

- No partial dependencies, all attributes are fully dependent on product_ID

3NF:

- No transitive dependencies, no attributes are dependent on anything other than product_ID

BCNF:

- No candidate keys beyond the PK product_ID

comics

product_id	comictitle	comicwriter	comicpub
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1NF:

- Every cell has a single value
 - **Separate the first name & last name of the comicwriter attribute**
- product_ID is the PK
- All attributes are dependent on the PK

2NF:

- No partial dependencies, all attributes are fully dependent on product_ID

3NF:

- No transitive dependencies, no attributes are dependent on anything other than product_ID

BCNF:

- No candidate keys beyond the PK product_ID

pull_comics

product_ID	pull_list_num
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1NF:

- Every cell has a single value
- product_ID and pull_list_num together are the CPK
- No other attributes beyond the CPK

2NF:

- No partial dependencies

3NF:

- No transitive dependencies

BCNF:

- No candidate keys beyond the CPK

pull_customers

pull_list_num	pull_lname	pull_fname	pull_phone	pull_email	pull_notes	pull_PUpdate
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1NF:

- Every cell has a single value
- pull_list_num is the PK
- All attributes are dependent on the PK

2NF:

- No partial dependencies, all attributes are full dependent on pull_list_num

3NF:

- No transitive dependencies, no attributes are dependent on anything other than pull_list_num

BCNF:

- No candidate keys beyond the PK pull_list_num

Field Specification:

General Elements	
Field Name: freq_cust_ID	Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/>
Parent Table: frequent_customer	Source Specification: Click here to enter text.
Label: Frequent Customer ID #	
Shared By: frequent_orders, frequent_orders_products	
Alias(es):	
Description: Unique identification number for all customers on the Frequent Customer List	
Physical Elements	
Data Type: INT	Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., / \$#%) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ® ™ £ π)
Length: 4	
Decimal Places: 0	
Input Mask: #####	
Display Format: 0001	
Logical Elements	
Key Type: <input type="checkbox"/> Non <input checked="" type="checkbox"/>	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input checked="" type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed
Primary	
<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	
Key Structure: <input checked="" type="checkbox"/> Simple <input type="checkbox"/> Composite	
Uniqueness: <input type="checkbox"/> Non-Unique <input checked="" type="checkbox"/> Unique	
Null Support : <input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls	
Values Entered By: <input type="checkbox"/> User <input checked="" type="checkbox"/> System	
Required Value: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Default Value:	

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	<input type="checkbox"/> Not Determined At This Time						
Range of Values: 0001-9999							
Comparisons Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
Operations Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

General Elements

Field Name: freq_custlname	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: frequent_customer	Source Specification: Click here to enter text.
Label: Frequent Customer Last Name	
Shared By: None	
Alias(es):	
Description: Last names of the customers on the frequent Customer List	

Physical Elements

Data Type: VARCHAR	Character Support:		
Length: 50	<input type="checkbox"/> Letters (A-Z)	<input type="checkbox"/> Keyboard (., /\$#%)	
Decimal Places: 0	<input type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (©®™£π)	
Input Mask: A			
Display Format: Allwarden			

Logical Elements

Key Type: <input type="checkbox"/> Non <input type="checkbox"/>	Edit Rule:
Primary	<input type="checkbox"/> Enter Now, Edits Allowed
<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	<input type="checkbox"/> Enter Now, Edits Not Allowed
Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite	<input type="checkbox"/> Enter Later, Edits Allowed
Uniqueness: <input type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Not Allowed
Null Support : <input type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls	<input type="checkbox"/> Not Determined At This Time

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Values Entered By:	<input checked="" type="checkbox"/> User	<input type="checkbox"/> System						
Required Value:	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes						
Default Value:								
Range of Values: Last name of customer up to 50 characters								
Comparisons Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
Operations Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		

General Elements	
Field Name:	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/>
freq_custfname	<input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: frequent_customer	Source Specification: Click here to enter text.
Label: Frequent Customer First Name	
Shared By: None	
Alias(es):	
Description: First names of the customers on the frequent Customer List	

Physical Elements	
Data Type:	Character Support:
VARCHAR	<input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%)
Length: 50	<input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (©®™£π)
Decimal Places: 0	
Input Mask: A	
Display Format: Sarah	

Logical Elements		
Key Type:	<input checked="" type="checkbox"/> Non <input type="checkbox"/>	Edit Rule:
Primary	<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	<input checked="" type="checkbox"/> Enter Now, Edits Allowed
Key Structure:	<input type="checkbox"/> Simple <input type="checkbox"/> Composite	<input type="checkbox"/> Enter Now, Edits Not Allowed
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Allowed
Null Support :	<input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls	<input type="checkbox"/> Enter Later, Edits Not Allowed
		<input type="checkbox"/> Not Determined At This Time

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Values Entered By:	<input checked="" type="checkbox"/> User	<input type="checkbox"/> System						
Required Value:	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes						
Default Value:								
Range of Values: First name of customer up to 50 characters								
Comparisons Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
Operations Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		

General Elements	
Field Name:	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/>
freq_custphone	<input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: frequent_customer	Source Specification: Click here to enter text.
Label: Phone number	
Shared By:	
Alias(es):	
Description: Phone number of frequent customer	

Physical Elements	
Data Type:	Character Support:
varchar	<input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%)
Length: 20	<input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (©®™£π)
Decimal Places: 0	
Input Mask:	
Display Format: 5555555555	

Logical Elements		
Key Type:	<input checked="" type="checkbox"/> Non <input type="checkbox"/>	Edit Rule:
Primary	<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	<input checked="" type="checkbox"/> Enter Now, Edits Allowed
Key Structure:	<input type="checkbox"/> Simple <input type="checkbox"/> Composite	<input type="checkbox"/> Enter Now, Edits Not Allowed
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Allowed
Null Support :	<input checked="" type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls	<input type="checkbox"/> Enter Later, Edits Not Allowed
		<input type="checkbox"/> Not Determined At This Time

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Values Entered By: <input checked="" type="checkbox"/> User <input type="checkbox"/> System	
Required Value: <input type="checkbox"/> No <input type="checkbox"/> Yes	
Default Value:	
Range of Values: 0000000000-9999999999	
Comparisons Allowed:	
<input type="checkbox"/> Same Field <input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=	
<input type="checkbox"/> Other Fields <input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=	
<input type="checkbox"/> Value Expression <input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=	
Operations Allowed:	
<input type="checkbox"/> Same Field <input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> — <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation	
<input type="checkbox"/> Other Fields <input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> — <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation	
<input type="checkbox"/> Value Expression <input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> — <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation	
General Elements	
Field Name: freq_custemail	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: frequent_customer	Source Specification: Click here to enter text.
Label: Frequent Customer Email	
Shared By:	
Alias(es):	
Description: Emails of frequent customers	
Physical Elements	
Data Type: VARCHAR	Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Keyboard (., /\$#%) <input type="checkbox"/> Special (©®™£π)
Length: 50	
Decimal Places: 0	
Input Mask: A-Z, #, 0-9	
Display Format: sarah@gmail.com	
Logical Elements	
Key Type: <input checked="" type="checkbox"/> Non <input type="checkbox"/>	Edit Rule: <input checked="" type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time
Primary <input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	
Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite	
Uniqueness: <input type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	
Null Support : <input type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls	
Values Entered By: <input checked="" type="checkbox"/> User <input type="checkbox"/> System	
Required Value: <input type="checkbox"/> No <input type="checkbox"/> Yes	
Default Value:	

Range of Values: Any email up to 50 characters							
Comparisons Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
Operations Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

General Elements

Field Name:	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/>	
lastcreditdate	<input type="checkbox"/> Generic	<input type="checkbox"/> Replica
Parent Table: frequent_customer	Source Specification: Click here to enter text.	
Label: Credit date		
Shared By:		
Alias(es):		
Description: Most recent date a customer received a \$10 credit		

Physical Elements

Data Type: date	Character Support:		
Length:	<input type="checkbox"/> Letters (A-Z)	<input type="checkbox"/> Keyboard (., /#\$%)	
Decimal Places:	<input type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (© ® ™ £ π)	
Input Mask: 0-9, (. , / \$#%)			
Display Format: 2020-04-23			

Logical Elements

Key Type: <input type="checkbox"/> Non <input type="checkbox"/>	Edit Rule:			
Primary	<input type="checkbox"/> Enter Now, Edits Allowed			
<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate	<input type="checkbox"/> Enter Now, Edits Not Allowed		
Key Structure: <input type="checkbox"/> Simple	<input type="checkbox"/> Composite	<input type="checkbox"/> Enter Later, Edits Allowed		
Uniqueness: <input type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Not Allowed		
Null Support : <input type="checkbox"/> Nulls Allowed	<input type="checkbox"/> No Nulls	<input type="checkbox"/> Not Determined At This Time		
Values Entered By: <input type="checkbox"/> User	<input type="checkbox"/> System			
Required Value: <input type="checkbox"/> No	<input type="checkbox"/> Yes			
Default Value:				
Range of Values: A date				
Comparisons Allowed:				
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=

<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
Operations Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

General Elements

Field Name: frequent_custnotes	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: frequent_customer	Source Specification: Click here to enter text.
Label: Notes	
Shared By:	
Alias(es):	
Description: Any notes the employees may have on a customer	

Physical Elements

Data Type: varchar	Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$%)
Length: 1000	
Decimal Places:	

	<input type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (© ® ™ £ π)
Input Mask: 0-9, (. , / \$#%) (A-Z)		
Display Format: Any notes presented in word format		

Logical Elements	
Key Type:	<input checked="" type="checkbox"/> Non <input type="checkbox"/>
Primary	<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate
Key Structure:	<input type="checkbox"/> Simple <input type="checkbox"/> Composite
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique
Null Support :	<input type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls
Values Entered By:	<input checked="" type="checkbox"/> User <input type="checkbox"/> System
Required Value:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Default Value:	
Range of Values: Any notes up to 1000 characters	
Comparisons Allowed:	
<input type="checkbox"/> Same Field	<input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:	
<input type="checkbox"/> Same Field	<input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation

General Elements	
Field Name: freqorder_num	Specification Type: <input checked="" type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: frequent_orders	Source Specification: Click here to enter text.
Label: Identification #	
Shared By: frequent_orders_products	
Alias(es):	
Description: Identification number for all frequent orders	

Physical Elements	
Data Type: INT	Character Support:
Length: 5	<input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., / \$#%)
Decimal Places: 0	<input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ® ™ £ π)

Input Mask: #####

Display Format: 10000

<i>Logical Elements</i>	
Primary	Key Type: <input type="checkbox"/> Non <input checked="" type="checkbox"/> <input type="checkbox"/> Foreign <input type="checkbox"/> Alternate
Key Structure:	<input checked="" type="checkbox"/> Simple <input type="checkbox"/> Composite
Uniqueness:	<input type="checkbox"/> Non-Unique <input checked="" type="checkbox"/> Unique
Null Support :	<input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls
Values Entered By:	<input type="checkbox"/> User <input checked="" type="checkbox"/> System
Required Value:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
Default Value:	
	Edit Rule:
	<input type="checkbox"/> Enter Now, Edits Allowed
	<input checked="" type="checkbox"/> Enter Now, Edits Not Allowed

	<input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time
--	--

Range of Values: 10000-99999

Comparisons Allowed:

<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=

Operations Allowed:

<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation

General Elements

Field Name: freq_booktitle	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: frequent_orders	Source Specification: Click here to enter text.
Label: Title of books	
Shared By:	
Alias(es):	
Description: The title of the books in the frequent orders	

Physical Elements

Data Type: VARCHAR	Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%) <input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (©®™£π)
Length: 250	
Decimal Places: 0	
Input Mask: A-Z, 0-9, ;, ?, !...	
Display Format: Captain Marvel	

Logical Elements

Key Type: <input type="checkbox"/> Non <input type="checkbox"/> Primary <input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time
Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite	
Uniqueness: <input type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	
Null Support : <input type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls	
Values Entered By: <input type="checkbox"/> User <input type="checkbox"/> System	
Required Value: <input type="checkbox"/> No <input type="checkbox"/> Yes	

Default Value:							
Range of Values:							
Comparisons Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
Operations Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	Concatenation	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	Concatenation	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	Concatenation	

General Elements	
Field Name:	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> freq_bookpub Generic <input type="checkbox"/> Replica
Parent Table: frequent_orders	Source Specification: Click here to enter text.
Label: Book publisher	
Shared By:	
Alias(es):	
Description: Name of publishers of books in frequent orders table	

Physical Elements	
Data Type: varchar	Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., / \$#%) <input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ® ™ £ π)
Length: 50	
Decimal Places: 0	
Input Mask: A-Z, 0-9, (.m/\$#%)	
Display Format: Ex. IDW	

Logical Elements	
Key Type: <input type="checkbox"/> Non <input type="checkbox"/> Primary <input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed
Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite	
Uniqueness: <input type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	
Null Support : <input type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls	
Values Entered By: <input type="checkbox"/> User <input type="checkbox"/> System	
Required Value: <input type="checkbox"/> No <input type="checkbox"/> Yes	
Default Value:	

	<input type="checkbox"/> Enter Later, Edits Allowed					
	<input type="checkbox"/> Enter Later, Edits Not Allowed					
	<input type="checkbox"/> Not Determined At This Time					
Range of Values: Any name of a publisher up to 50 characters						
Comparisons Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation

General Elements

Field Name:	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/>
freq_cost	Generic <input type="checkbox"/> Replica
Parent Table: frequent_orders	Source Specification: Click here to enter text.
Label: Cost	
Shared By:	
Alias(es):	
Description: Cost of books ordered	

Physical Elements

Data Type:	Character Support:		
decimal	<input type="checkbox"/> Letters	(A-Z)	<input type="checkbox"/> Keyboard (., / \$ # %)
Length: 10	<input type="checkbox"/> Numbers	(0-9)	<input type="checkbox"/> Special (© ® ™ £ π)
Decimal Places: 2			
Input Mask: 0-9, keyboard			
Display Format: 19.99			

Logical Elements

	Key Type:	<input checked="" type="checkbox"/> Non	<input type="checkbox"/>	Edit Rule:
Primary	<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate		<input type="checkbox"/> Enter Now, Edits Allowed <input checked="" type="checkbox"/> Enter Now, Edits Not Allowed
Key Structure:	<input type="checkbox"/> Simple	<input type="checkbox"/> Composite		<input type="checkbox"/> Enter Later, Edits Allowed
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique		<input type="checkbox"/> Enter Later, Edits Not Allowed
Null Support :	<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls		<input type="checkbox"/> Not Determined At This Time
Values Entered By:	<input checked="" type="checkbox"/> User	<input type="checkbox"/> System		

Sarah Allwarden
LIS 458

Required Value:	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes						
Default Value:								
Range of Values: Price of a book up to 2 decimal places								
Comparisons Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
Operations Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		

General Elements	
Field Name:	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/>
freq_orderdate	Generic <input type="checkbox"/> Replica
Parent Table: frequent_orders	Source Specification: Click here to enter text.
Label: Date	
Shared By:	
Alias(es):	
Description: Date book was ordered	
Physical Elements	
Data Type: date	Character Support:
Length:	<input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%)
Decimal Places:	

	<input type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (©®™£π)
Input Mask: 0-9, keyboard		
Display Format: 2020-03-04		

<i>Logical Elements</i>		<i>Edit Rule:</i>
Key Type:	<input checked="" type="checkbox"/> Non <input type="checkbox"/>	<input type="checkbox"/> Enter Now, Edits Allowed <input checked="" type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time
Primary	<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	
Key Structure:	<input type="checkbox"/> Simple <input type="checkbox"/> Composite	
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	
Null Support :	<input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls	
Values Entered By:	<input checked="" type="checkbox"/> User <input type="checkbox"/> System	
Required Value:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Default Value:		
Range of Values: Date book was purchased/ordered		
Comparisons Allowed:		
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:		
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation

<i>General Elements</i>	
Field Name:	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> freq_cust_ID Generic <input checked="" type="checkbox"/> Replica
Parent Table: frequent_orders	Source Specification: Click here to enter text.
Label: Order #	
Shared By: frequent_customer	
Alias(es):	
Description: Order # for books ordered	

<i>Physical Elements</i>	
Data Type: INT	Character Support:
Length: 4	<input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., / \$#%)
Decimal Places:	<input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (©®™£π)
Input Mask: 0-9	

Display Format: 0001

<i>Logical Elements</i>	
Primary	Key Type: <input type="checkbox"/> Non <input checked="" type="checkbox"/> Foreign <input type="checkbox"/> Alternate
	Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite
	Uniqueness: <input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique
	Null Support : <input checked="" type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls
	Values Entered By: <input type="checkbox"/> User <input checked="" type="checkbox"/> System
	Required Value: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
	Default Value:
	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input checked="" type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time

Range of Values: 0001-9999							
Comparisons Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤
Operations Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> ×	<input type="checkbox"/> ÷	Concatenation	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> ×	<input type="checkbox"/> ÷	Concatenation	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> ×	<input type="checkbox"/> ÷	Concatenation	

General Elements

Field Name: freqorder_num	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input checked="" type="checkbox"/> Replica
Parent Table: frequent_orders_products	Source Specification: Click here to enter text.
Label: Identification #	
Shared By: frequent_orders	
Alias(es):	
Description: Identification number for all frequent orders	

Physical Elements

Data Type: INT	Character Support:		
Length: 5	<input type="checkbox"/> Letters (A-Z)	<input type="checkbox"/> Keyboard (., / \$#%)	
Decimal Places: 0	<input checked="" type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (© ® ™ £ π)	
Input Mask: #####			
Display Format: 10000			

Logical Elements

Key Type: <input type="checkbox"/> Non <input type="checkbox"/> Primary <input checked="" type="checkbox"/> Foreign <input type="checkbox"/> Alternate	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input checked="" type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time
Key Structure: <input type="checkbox"/> Simple <input checked="" type="checkbox"/> Composite	
Uniqueness: <input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	
Null Support : <input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls	
Values Entered By: <input type="checkbox"/> User <input checked="" type="checkbox"/> System	
Required Value: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Default Value:	

Range of Values: 10000-99999						
Comparisons Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation

General Elements	
Field Name: product_ID	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: frequent_orders_products	Source Specification: Click here to enter text.
Label: Identification #	
Shared By: products, graphic_novel, comics	
Alias(es):	
Description: Identification number for all products	
Physical Elements	
Data Type: INT	Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%) <input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (©®™£π)
Length: 7	
Decimal Places: 0	
Input Mask: #####	
Display Format: 1000000	

Logical Elements	
Key Type: <input type="checkbox"/> Non <input type="checkbox"/> Primary <input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time
Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite	
Uniqueness: <input type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	
Null Support : <input type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls	
Values Entered By: <input type="checkbox"/> User <input type="checkbox"/> System	
Required Value: <input type="checkbox"/> No <input type="checkbox"/> Yes	
Default Value:	

Range of Values: 1000000-9999999						
Comparisons Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation

General Elements	
Field Name: product_ID	Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/>
Generic	<input type="checkbox"/> Replica
Parent Table: products	Source Specification: Click here to enter text.
Label: Identification #	
Shared By: frequent_orders_products, graphic_novel, comics, pull_comics	
Alias(es):	
Description: Identification number for all products	
Physical Elements	
Data Type: INT	Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., / \$#%) <input checked="" type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ® ™ £ π)
Length: 7	
Decimal Places: 0	
Input Mask: #####	
Display Format: 1000000	

Logical Elements	
Key Type: <input type="checkbox"/> Non <input checked="" type="checkbox"/>	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input checked="" type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time
Primary	
<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	
Key Structure: <input checked="" type="checkbox"/> Simple <input type="checkbox"/> Composite	
Uniqueness: <input type="checkbox"/> Non-Unique <input checked="" type="checkbox"/> Unique	
Null Support : <input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls	
Values Entered By: <input type="checkbox"/> User <input type="checkbox"/> System	
Required Value: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Default Value:	

Range of Values: 1000000-9999999						
Comparisons Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation

General Elements

Field Name:	Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/>	
product_cost	Generic	<input type="checkbox"/> Replica
Parent Table: products	Source Specification: Click here to enter text.	
Label: Cost		
Shared By:		
Alias(es):		
Description: Cost of products		

Physical Elements

Data Type:	Character Support:	
decimal	<input type="checkbox"/> Letters (A-Z)	<input type="checkbox"/> Keyboard (., / \$#%)
Length: 10		
Decimal Places: 2		

	<input type="checkbox"/> Numbers	(0-9)	<input type="checkbox"/> Special	(©®™£π)
Input Mask: ###.##				
Display Format: 000.00				

Logical Elements							
Key Type:	<input type="checkbox"/> Non <input checked="" type="checkbox"/>						
Primary	<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate						
Key Structure:	<input type="checkbox"/> Simple <input type="checkbox"/> Composite						
Uniqueness:	<input type="checkbox"/> Non-Unique <input checked="" type="checkbox"/> Unique						
Null Support :	<input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls						
Values Entered By:	<input type="checkbox"/> User <input type="checkbox"/> System						
Required Value:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes						
Default Value:							
Range of Values: 000.00-999.99							
Comparisons Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
Operations Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

General Elements	
Field Name: product_stock	Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: products	Source Specification: Click here to enter text.
Label: Product In/Out of Stock	
Shared By:	
Alias(es):	
Description: Indicates whether or not a product is in stock	

Physical Elements	
Data Type: enum	Character Support:
Length:	<input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., / \$#%)

Decimal Places:	<input type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (©®™£π)
Input Mask: A-Z		
Display Format: 'yes' or 'no'		

Logical Elements

Key Type:	<input checked="" type="checkbox"/> Non <input type="checkbox"/>	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed
Primary	<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	
Key Structure:	<input type="checkbox"/> Simple <input type="checkbox"/> Composite	
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	
Null Support :	<input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls	
Values Entered By:	<input checked="" type="checkbox"/> User <input type="checkbox"/> System	
Required Value:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Default Value:		

	<input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time
Range of Values: 'yes' or 'no'	
Comparisons Allowed:	
<input type="checkbox"/> Same Field	<input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:	
<input type="checkbox"/> Same Field	<input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation

General Elements	
Field Name: product_count	Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: products	Source Specification: Click here to enter text.
Label: Product Counts	
Shared By:	
Alias(es):	
Description: Indicates quantity in stock	
Physical Elements	
Data Type: int	Character Support:
Length: 11	<input checked="" type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%)
Decimal Places:	<input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (©®™£π)
Input Mask: (0-9)	
Display Format: ex. 10	

Logical Elements	
Key Type: <input type="checkbox"/> Non <input checked="" type="checkbox"/>	Edit Rule: <input checked="" type="checkbox"/> Enter Now, Edits Allowed
Primary	<input type="checkbox"/> Enter Now, Edits Not Allowed
<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	<input type="checkbox"/> Enter Later, Edits Allowed
Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite	<input type="checkbox"/> Enter Later, Edits Not Allowed
Uniqueness: <input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	

Sarah Allwarden
LIS 458

Null Support :	<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls	<input type="checkbox"/> Not Determined At This Time					
Values Entered By:	<input type="checkbox"/> User	<input type="checkbox"/> System						
Required Value:	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes						
Default Value:								
Range of Values: any number 0-999999999999								
Comparisons Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
Operations Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		

General Elements

Field Name:	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/>		
product_ID	Generic <input type="checkbox"/> Replica		
Parent Table: graphic_novel	Source Specification: Click here to enter text.		
Label: Identification #			
Shared By: frequent_orders_products, products, comics, pull_comics			
Alias(es):			
Description: Identification number for all products			

Physical Elements

Data Type: INT	Character Support:		
Length: 7	<input type="checkbox"/> Letters	(A-Z)	<input type="checkbox"/> Keyboard (., / \$#%)
Decimal Places: 0	<input type="checkbox"/> Numbers	(0-9)	<input type="checkbox"/> Special (© ® ™ £ π)
Input Mask: #####			
Display Format: 1000000			

Logical Elements

Key Type:	<input type="checkbox"/> Non <input checked="" type="checkbox"/>	Edit Rule:
Primary		<input type="checkbox"/> Enter Now, Edits Allowed
<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate	<input type="checkbox"/> Enter Now, Edits Not Allowed

Sarah Allwarden
LIS 458

Key Structure:	<input checked="" type="checkbox"/> Simple	<input type="checkbox"/> Composite	<input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time				
Uniqueness:	<input type="checkbox"/> Non-Unique	<input checked="" type="checkbox"/> Unique					
Null Support :	<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls					
Values Entered By:	<input checked="" type="checkbox"/> User	<input type="checkbox"/> System					
Required Value:	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes					
Default Value:							
Range of Values: 1000000-9999999							
Comparisons Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input checked="" type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input checked="" type="checkbox"/> <=
<input checked="" type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input checked="" type="checkbox"/> <=
Operations Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

General Elements

Field Name:	Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/>	
graphic_novelttitle	<input checked="" type="checkbox"/> Generic	<input type="checkbox"/> Replica
Parent Table: graphic_novel	Source Specification: Click here to enter text.	
Label: Title		
Shared By:		
Alias(es):		
Description: Title of graphic novels		

Physical Elements

Data Type:	Character Support:		
varchar	<input type="checkbox"/> Letters	(A-Z)	<input type="checkbox"/> Keyboard (., /\$#%)
Length: 250	<input checked="" type="checkbox"/> Numbers	(0-9)	<input type="checkbox"/> Special (© ® ™ £ π)
Decimal Places: 0			
Input Mask: 0-9, A-Z, (. , / \$#%)			
Display Format: Ex. MAUS			

Logical Elements

Key Type: <input type="checkbox"/> Non <input checked="" type="checkbox"/>	Edit Rule:
Primary	<input checked="" type="checkbox"/> Enter Now, Edits Allowed

<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate								
Key Structure:		<input type="checkbox"/> Simple	<input type="checkbox"/> Composite						
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique						
Null Support :		<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls						
Values Entered By:		<input checked="" type="checkbox"/> User	<input type="checkbox"/> System						
Required Value:		<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes						
Default Value:									
Range of Values: Any graphic novel title up to 250 characters long									
Comparisons Allowed:									
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=		
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=		
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=		
Operations Allowed:									
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			

General Elements

Field Name:	Specification Type:	
graphic_novelwriter	<input type="checkbox"/> Unique	<input checked="" type="checkbox"/>
Parent Table: graphic_novel	Generic <input type="checkbox"/> Replica	
Label: Writer Last Name	Source Specification: Click here to enter text.	
Shared By:		
Alias(es):		
Description: Last Name of the writer of a graphic novel		

Physical Elements

Data Type:	Character Support:			
varchar	<input checked="" type="checkbox"/> Letters	(A-Z)	<input type="checkbox"/> Keyboard	(., /\$#%)
Length: 50	<input type="checkbox"/> Numbers	(0-9)	<input type="checkbox"/> Special	(©®™£π)
Decimal Places:				
Input Mask: A-Z				
Display Format: Ex. Allwarden				

Logical Elements

Key Type:	<input type="checkbox"/> Non	<input type="checkbox"/>	Edit Rule:
Primary	<input checked="" type="checkbox"/> Enter Now, Edits Allowed		

<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate								
Key Structure:		<input type="checkbox"/> Simple	<input type="checkbox"/> Composite						
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique						
Null Support :		<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls						
Values Entered By:		<input checked="" type="checkbox"/> User	<input type="checkbox"/> System						
Required Value:		<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes						
Default Value:									
Range of Values: Any graphic novel writer's last name up to 50 characters									
Comparisons Allowed:									
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=		
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=		
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=		
Operations Allowed:									
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation			

General Elements

Field Name: graphic_novelfnwriter	Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/>
Parent Table: graphic_novel	Source Specification: Click here to enter text.
Label: Writer First Name	
Shared By:	
Alias(es):	
Description: First name of a writer of a graphic novel	

Physical Elements

Data Type: varchar	Character Support:
Length: 50	<input checked="" type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%)
Decimal Places:	<input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (©®™£π)
Input Mask: A-Z	
Display Format: Ex. Sarah	

Logical Elements

Key Type: <input type="checkbox"/> Non <input type="checkbox"/> Primary	Edit Rule: <input checked="" type="checkbox"/> Enter Now, Edits Allowed
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<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate	<input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time				
Key Structure:	<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support :	<input type="checkbox"/> Nulls Allowed		<input checked="" type="checkbox"/> No Nulls			
Values Entered By:	<input checked="" type="checkbox"/> User		<input type="checkbox"/> System			
Required Value:	<input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes			
Default Value:						
Range of Values: Any graphic novel title up to 250 characters long						
Comparisons Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation

General Elements

Field Name:	Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/>	
graphic_novelpublisher	<input type="checkbox"/> Generic	<input type="checkbox"/> Replica
Parent Table: graphic_novel	Source Specification: Click here to enter text.	
Label: Publisher		
Shared By:		
Alias(es):		
Description: Publisher of graphic novel		

Physical Elements

Data Type:	Character Support:		
varchar	<input type="checkbox"/> Letters <input type="checkbox"/> Numbers	(A-Z) (0-9)	<input type="checkbox"/> Keyboard <input type="checkbox"/> Special (., / \$ # %) (© ® ™ £ π)
Length: 50			
Decimal Places: 0			
Input Mask: 0-9, A-Z, (. , / \$ # %)			
Display Format: Ex. IDW			

Logical Elements

Key Type: <input type="checkbox"/> Non <input type="checkbox"/>	Edit Rule:
Primary	<input checked="" type="checkbox"/> Enter Now, Edits Allowed

<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate	<input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time				
Key Structure:	<input type="checkbox"/> Simple		<input type="checkbox"/> Composite			
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique		<input type="checkbox"/> Unique			
Null Support :	<input checked="" type="checkbox"/> Nulls Allowed		<input type="checkbox"/> No Nulls			
Values Entered By:	<input checked="" type="checkbox"/> User		<input type="checkbox"/> System			
Required Value:	<input type="checkbox"/> No		<input checked="" type="checkbox"/> Yes			
Default Value:						
Range of Values: Any graphic novel publisher up to 50 characters						
Comparisons Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation

General Elements

Field Name: graphic_novelpurchased	Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/>
Parent Table: graphic_novel	Generic <input type="checkbox"/> Replica
Label: Purchased	Source Specification: Click here to enter text.
Shared By:	
Alias(es):	
Description: Indicates whether or not a graphic novel has been purchased	

Physical Elements

Data Type: enum	Character Support:
Length:	
Decimal Places:	

	<input type="checkbox"/> Letters (A-Z)	<input type="checkbox"/> Keyboard (., /\$#%)
	<input type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (©®™£π)
Input Mask: A-Z		
Display Format: 'yes' or 'no'		

Logical Elements		Edit Rule:
Primary	Key Type: <input type="checkbox"/> Non <input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	<input type="checkbox"/> Enter Now, Edits Allowed
Key Structure:	<input type="checkbox"/> Simple <input type="checkbox"/> Composite	<input type="checkbox"/> Enter Now, Edits Not Allowed
Uniqueness:	<input type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Allowed
Null Support :	<input type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls	<input type="checkbox"/> Enter Later, Edits Not Allowed
Values Entered By:	<input type="checkbox"/> User <input type="checkbox"/> System	<input type="checkbox"/> Not Determined At This Time
Required Value:	<input type="checkbox"/> No <input type="checkbox"/> Yes	
Default Value:		

Range of Values: 'yes' or 'no'						
Comparisons Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation

General Elements	
Field Name: product_ID	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/>
Parent Table: comics	Source Specification: Click here to enter text.
Label: Identification #	
Shared By: frequent_orders_products, products, graphic_novels, pull_comics	
Alias(es):	
Description: Identification number for all products	

Physical Elements		Character Support:
Data Type: INT	<input type="checkbox"/> Letters (A-Z)	<input type="checkbox"/> Keyboard (., /\$#%)
Length: 7	<input type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (©®™£π)
Input Mask: #####		

Display Format: 1000000

<i>Logical Elements</i>	
Primary	Key Type: <input type="checkbox"/> Non <input checked="" type="checkbox"/>
	<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate
Key Structure:	<input type="checkbox"/> Simple <input type="checkbox"/> Composite
Uniqueness:	<input type="checkbox"/> Non-Unique <input checked="" type="checkbox"/> Unique
Null Support :	<input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls
Values Entered By:	<input checked="" type="checkbox"/> User <input type="checkbox"/> System
Required Value:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes
Default Value:	

Edit Rule:

- Enter Now, Edits Allowed
- Enter Now, Edits Not Allowed
- Enter Later, Edits Allowed
- Enter Later, Edits Not Allowed
- Not Determined At This Time

Range of Values: 1000000-9999999							
Comparisons Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
Operations Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

General Elements

Field Name: comictitle	Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: Comics	Source Specification: Click here to enter text.
Label: Title	
Shared By:	
Alias(es):	
Description: Title of comics	

Physical Elements

Data Type: varchar	Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%)
Length: 250	<input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ® ™ £ π)
Decimal Places:	
Input Mask: A-Z	
Display Format: Unbeatable Squirrel Girl	

Logical Elements

Key Type: <input checked="" type="checkbox"/> Non <input type="checkbox"/>	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed
Primary <input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	<input type="checkbox"/> Enter Now, Edits Not Allowed
Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite	<input type="checkbox"/> Enter Later, Edits Allowed
Uniqueness: <input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Not Allowed
Null Support : <input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls	<input type="checkbox"/> Not Determined At This Time
Values Entered By: <input checked="" type="checkbox"/> User <input type="checkbox"/> System	

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Required Value:	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes						
Default Value:								
Range of Values: Any comic title up to 250 characters								
Comparisons Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
Operations Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		

General Elements

Field Name:	Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/>	
comiclnwriter	Generic	<input type="checkbox"/> Replica
Parent Table: Comics	Source Specification: Click here to enter text.	
Label: Last Name		
Shared By:		
Alias(es):		
Description: Last name of a comic writer		

Physical Elements

Data Type:	Character Support:		
varchar	<input checked="" type="checkbox"/> Letters (A-Z)	<input type="checkbox"/> Keyboard (., /\$#%)	
Length: 50	<input type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (©®™£π)	
Decimal Places:			
Input Mask: A-Z			
Display Format: Allwarden			

Logical Elements

Key Type:	<input checked="" type="checkbox"/> Non Primary	<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate	Edit Rule:
Key Structure:	<input type="checkbox"/> Simple	<input type="checkbox"/> Composite	<input checked="" type="checkbox"/> Enter Now, Edits Allowed	
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique	<input type="checkbox"/> Enter Now, Edits Not Allowed	
Null Support :	<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls	<input type="checkbox"/> Enter Later, Edits Allowed	
Values Entered By:	<input checked="" type="checkbox"/> User	<input type="checkbox"/> System	<input type="checkbox"/> Enter Later, Edits Not Allowed	
			<input type="checkbox"/> Not Determined At This Time	

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Required Value:	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes						
Default Value:								
Range of Values: Any comic writer up to 50 characters								
Comparisons Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
Operations Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		

General Elements	
Field Name: comicfnwriter	Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: Comics	Source Specification: Click here to enter text.
Label: First name	
Shared By:	
Alias(es):	
Description: First name of comic writer	

Physical Elements	
Data Type: varchar	Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%) <input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (©®™£π)
Length: 50	
Decimal Places:	
Input Mask: A-Z	
Display Format: Sarah	

Logical Elements	
Key Type: <input checked="" type="checkbox"/> Non <input type="checkbox"/> Primary <input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	Edit Rule: <input checked="" type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time
Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite	
Uniqueness: <input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	
Null Support : <input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls	

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Values Entered By: <input checked="" type="checkbox"/> User <input type="checkbox"/> System							
Required Value: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes							
Default Value:							
Range of Values: Any comic title up to 250 characters							
Comparisons Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
Operations Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
General Elements							
Field Name: comicpub		Specification Type: <input type="checkbox"/> Unique <input checked="" type="checkbox"/>					
		Generic <input type="checkbox"/> Replica					
Parent Table: comics		Source Specification: Click here to enter text.					
Label: Publisher							
Shared By:							
Alias(es):							
Description: Publisher of comic books							
Physical Elements							
Data Type: varchar		Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%)					
Length: 50		<input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (© ® ™ £ π)					
Decimal Places: 0							
Input Mask: 0-9, A-Z, (., /\$%)							
Display Format: Ex. IDW							
Logical Elements							
Key Type: <input type="checkbox"/> Non <input checked="" type="checkbox"/> Primary		Edit Rule: <input checked="" type="checkbox"/> Enter Now, Edits Allowed					
<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate		<input type="checkbox"/> Enter Now, Edits Not Allowed					
Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite		<input type="checkbox"/> Enter Later, Edits Allowed					
Uniqueness: <input type="checkbox"/> Non-Unique <input checked="" type="checkbox"/> Unique		<input type="checkbox"/> Enter Later, Edits Not Allowed					
Null Support : <input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls		<input type="checkbox"/> Not Determined At This Time					
Values Entered By: <input checked="" type="checkbox"/> User <input type="checkbox"/> System							
Required Value: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes							
Default Value:							

Range of Values: Any comic publisher up to 50 characters						
Comparisons Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation

General Elements	
Field Name: product_id	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: pull_comics	Source Specification: Click here to enter text.
Label: Identification #	
Shared By: comics, graphic_novels, products	
Alias(es):	
Description: Identification number for all products	

Physical Elements	
Data Type: INT	Character Support:
Length: 7	<input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%)
Decimal Places: 0	<input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (©®™£π)
Input Mask: (0-9)	
Display Format: 1000000	

Logical Elements	
Key Type: <input type="checkbox"/> Non <input checked="" type="checkbox"/> Primary	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed

<input checked="" type="checkbox"/> Foreign	<input type="checkbox"/> Alternate							
Key Structure:		<input type="checkbox"/> Simple	<input checked="" type="checkbox"/> Composite					
Uniqueness:		<input checked="" type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique					
Null Support :		<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls					
Values Entered By:		<input checked="" type="checkbox"/> User	<input type="checkbox"/> System					
Required Value:		<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes					
Default Value:								
Range of Values: 1000000-9999999								
Comparisons Allowed:								
<input checked="" type="checkbox"/> Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
<input checked="" type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=	
Operations Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		

General Elements

Field Name:			Specification Type:	<input type="checkbox"/> Unique	<input type="checkbox"/>
pull_list_num	Generic		<input checked="" type="checkbox"/> Replica		
Parent Table: pull_comics	Source Specification: Click here to enter text.				
Label: Identification #					
Shared By: pull_customers					
Alias(es):					
Description: Identification number for all pull lists					

Physical Elements

Data Type: INT	Character Support:				
Length: 5	<input type="checkbox"/> Letters	(A-Z)	<input type="checkbox"/> Keyboard	(., / \$#%)	
Decimal Places: 0	<input checked="" type="checkbox"/> Numbers	(0-9)	<input type="checkbox"/> Special	(© ® ™ £ π)	
Input Mask: #####					
Display Format: 10000					

Logical Elements

Key Type:	<input type="checkbox"/> Non	<input type="checkbox"/> Primary	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time					
	<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate						
Key Structure:	<input type="checkbox"/> Simple	<input type="checkbox"/> Composite						
Uniqueness:	<input type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique						
Null Support :	<input type="checkbox"/> Nulls Allowed	<input type="checkbox"/> No Nulls						
Values Entered By:	<input type="checkbox"/> User	<input type="checkbox"/> System						
Required Value:	<input type="checkbox"/> No	<input type="checkbox"/> Yes						
Default Value:								
Range of Values: 10000-99999								
Comparisons Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> ≤	
Operations Allowed:								
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation		

General Elements	
Field Name: pull_list_num	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: pull_customers	Source Specification: Click here to enter text.
Label: Identification #	
Shared By: pull_comics	
Alias(es):	
Description: Identification number for all pull lists	
Physical Elements	
Data Type: INT	Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /#\$%)
Length: 5	
Decimal Places: 0	

	<input type="checkbox"/> Numbers	(0-9)	<input type="checkbox"/> Special	(©®™£π)
Input Mask: #####				
Display Format: 10000				

<i>Logical Elements</i>			
Key Type:	<input type="checkbox"/> Non	<input checked="" type="checkbox"/>	Edit Rule:
Primary	<input type="checkbox"/> Enter Now, Edits Allowed		
	<input checked="" type="checkbox"/> Enter Now, Edits Not Allowed		
Key Structure:	<input type="checkbox"/> Simple	<input type="checkbox"/> Composite	<input type="checkbox"/> Enter Later, Edits Allowed
Uniqueness:	<input type="checkbox"/> Non-Unique	<input checked="" type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Not Allowed
Null Support :	<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls	<input type="checkbox"/> Not Determined At This Time
Values Entered By:	<input type="checkbox"/> User	<input checked="" type="checkbox"/> System	
Required Value:	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	
Default Value:			
Range of Values: 10000-99999			
Comparisons Allowed:			
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >
<input checked="" type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input checked="" type="checkbox"/> =	<input type="checkbox"/> >
			<input type="checkbox"/> >=
			<input type="checkbox"/> ≠
			<input type="checkbox"/> <
			<input type="checkbox"/> <=
Operations Allowed:			
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -
		<input type="checkbox"/> x	<input type="checkbox"/> ÷
		<input type="checkbox"/> x	<input type="checkbox"/> ÷
		<input type="checkbox"/> x	<input type="checkbox"/> ÷
			<input type="checkbox"/> Concatenation
			<input type="checkbox"/> Concatenation
			<input type="checkbox"/> Concatenation

<i>General Elements</i>	
Field Name: pull_lname	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> <input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: pull_customers	Source Specification: Click here to enter text.
Label: Last name	
Shared By:	
Alias(es):	
Description: Last name of pull list customers	

<i>Physical Elements</i>	
Data Type: varchar	Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%)

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Length: 50	<input type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (© ® ™ £ π)
Decimal Places:		
Input Mask: A-Z		
Display Format: Allwarden		

Logical Elements		
Primary	Key Type: <input checked="" type="checkbox"/> Non <input type="checkbox"/>	Edit Rule: <input checked="" type="checkbox"/> Enter Now, Edits Allowed
	<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	
Key Structure:	<input type="checkbox"/> Simple <input type="checkbox"/> Composite	
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	
Null Support :	<input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls	
Values Entered By:	<input checked="" type="checkbox"/> User <input type="checkbox"/> System	
Required Value:	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Default Value:		

	<input type="checkbox"/> Enter Now, Edits Not Allowed <input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time					
Range of Values: Any pull list customer's last name up to 50 characters						
Comparisons Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation

General Elements	
Field Name: pull_fname	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: pull_customers	Source Specification: Click here to enter text.
Label: Last name	
Shared By:	
Alias(es):	
Description: First name of pull list customers	

Physical Elements	
Data Type: varchar	Character Support: <input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$#%) <input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (©®™£π)
Length: 50	
Decimal Places:	
Input Mask: A-Z	
Display Format: Sarah	

Logical Elements	
Key Type: <input type="checkbox"/> Non <input type="checkbox"/> Primary <input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	Edit Rule: <input type="checkbox"/> Enter Now, Edits Allowed <input type="checkbox"/> Enter Now, Edits Not Allowed
Key Structure: <input type="checkbox"/> Simple <input type="checkbox"/> Composite	

Uniqueness:	<input checked="" type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Allowed <input type="checkbox"/> Enter Later, Edits Not Allowed <input type="checkbox"/> Not Determined At This Time			
Null Support :	<input type="checkbox"/> Nulls Allowed	<input checked="" type="checkbox"/> No Nulls				
Values Entered By:	<input checked="" type="checkbox"/> User	<input type="checkbox"/> System				
Required Value:	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes				
Default Value:						
Range of Values: Any pull list customer's first name up to 50 characters						
Comparisons Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:						
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation

General Elements	
Field Name:	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/>
pull_phone	<input checked="" type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: pull_customers	Source Specification: Click here to enter text.
Label: Phone number	
Shared By:	
Alias(es):	
Description: Phone number of pull list customer	

Physical Elements			
Data Type:	Character Support:		
varchar	<input type="checkbox"/> Letters (A-Z)	<input type="checkbox"/> Keyboard (., /#\$%)	
Length: 20	<input type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (©®™£π)	
Decimal Places:			
Input Mask: (A-Z), (0-9), (., /#\$%)			
Display Format: 5555555555			

Logical Elements			
Key Type:	<input checked="" type="checkbox"/> Non <input type="checkbox"/>	Edit Rule:	
Primary	<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate	<input checked="" type="checkbox"/> Enter Now, Edits Allowed	
Key Structure:	<input type="checkbox"/> Simple <input type="checkbox"/> Composite	<input type="checkbox"/> Enter Now, Edits Not Allowed	
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Allowed	
Null Support :	<input type="checkbox"/> Nulls Allowed <input checked="" type="checkbox"/> No Nulls	<input type="checkbox"/> Enter Later, Edits Not Allowed	

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Values Entered By: <input checked="" type="checkbox"/> User	<input type="checkbox"/> System	<input type="checkbox"/> Not Determined At This Time					
Required Value: <input type="checkbox"/> No	<input type="checkbox"/> Yes						
Default Value:							
Range of Values: Any phone number							
Comparisons Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
Operations Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> —	<input type="checkbox"/> x	<input type="checkbox"/> ÷	<input type="checkbox"/> Concatenation	

General Elements

Field Name: pull_email	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/>		
	Generic	<input type="checkbox"/> Replica	
Parent Table: pull_customers	Source Specification: Click here to enter text.		
Label: Pull Customer Email			
Shared By:			
Alias(es):			
Description: Emails of pull lsit customers			

Physical Elements

Data Type: varchar	<input type="checkbox"/> Letters (A-Z)	<input type="checkbox"/> Keyboard (., /#\$%)
Length: 50	<input type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (©®™£π)
Decimal Places: 0		
Input Mask: A-Z, #, 0-9		
Display Format: sarah@gmail.com		

Logical Elements

Key Type: <input checked="" type="checkbox"/> Non	<input type="checkbox"/>	Edit Rule:
Primary		<input type="checkbox"/> Enter Now, Edits Allowed
<input type="checkbox"/> Foreign	<input type="checkbox"/> Alternate	<input type="checkbox"/> Enter Now, Edits Not Allowed
Key Structure: <input type="checkbox"/> Simple	<input type="checkbox"/> Composite	<input type="checkbox"/> Enter Later, Edits Allowed
Uniqueness: <input checked="" type="checkbox"/> Non-Unique	<input type="checkbox"/> Unique	<input type="checkbox"/> Enter Later, Edits Not Allowed
Null Support : <input type="checkbox"/> Nulls Allowed	<input type="checkbox"/> No Nulls	<input type="checkbox"/> Not Determined At This Time
Values Entered By: <input checked="" type="checkbox"/> User	<input type="checkbox"/> System	
Required Value: <input type="checkbox"/> No	<input type="checkbox"/> Yes	

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Default Value:							
Range of Values: Any email up to 50 characters							
Comparisons Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> =	<input type="checkbox"/> >	<input type="checkbox"/> >=	<input type="checkbox"/> ≠	<input type="checkbox"/> <	<input type="checkbox"/> <=
Operations Allowed:							
<input type="checkbox"/> Same Field	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	Concatenation	
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	Concatenation	
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All	<input type="checkbox"/> +	<input type="checkbox"/> -	<input type="checkbox"/> x	<input type="checkbox"/> ÷	Concatenation	

General Elements	
Field Name:	Specification Type: <input type="checkbox"/> Unique <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Field Name: pull_notes	
Parent Table: pull_customers	Source Specification: Click here to enter text.
Label: Notes for Pull List customers	
Shared By:	
Alias(es):	
Description: Any note for pull list customers	

Physical Elements	
Data Type:	Character Support:
varchar	<input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., /\$%)
Length: 1000	
Decimal Places: 0	

	<input type="checkbox"/> Numbers (0-9)	<input type="checkbox"/> Special (©®™£π)
Input Mask: A-Z, #, 0-9		
Display Format: Any note in a paragraph form		

Logical Elements	
Key Type:	<input checked="" type="checkbox"/> Non <input type="checkbox"/>
Primary	<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate
Key Structure:	<input type="checkbox"/> Simple <input type="checkbox"/> Composite
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique
Null Support :	<input type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls
Values Entered By:	<input checked="" type="checkbox"/> User <input type="checkbox"/> System
Required Value:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Default Value:	
Range of Values: Any email up to 50 characters	
Comparisons Allowed:	
<input type="checkbox"/> Same Field	<input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=
Operations Allowed:	
<input type="checkbox"/> Same Field	<input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation
<input type="checkbox"/> Other Fields	<input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation
<input type="checkbox"/> Value Expression	<input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> - <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation

General Elements	
Field Name:	<input type="checkbox"/> Unique <input type="checkbox"/> pull_PUpdate <input type="checkbox"/> Generic <input type="checkbox"/> Replica
Parent Table: pull_customers	Source Specification: Click here to enter text.
Label: Last pick up date of pull list	
Shared By:	
Alias(es):	
Description: The last time a pull list has been picked up by a customer	

Physical Elements	
Data Type: date	Character Support:
Length:	<input type="checkbox"/> Letters (A-Z) <input type="checkbox"/> Keyboard (., / \$#%)
Decimal Places: 0	<input type="checkbox"/> Numbers (0-9) <input type="checkbox"/> Special (©®™£π)
Input Mask: #, 0-9	

Display Format: '2020-04-24'

<i>Logical Elements</i>	
Primary	Key Type: <input checked="" type="checkbox"/> Non <input type="checkbox"/>
	<input type="checkbox"/> Foreign <input type="checkbox"/> Alternate
Key Structure:	<input type="checkbox"/> Simple <input type="checkbox"/> Composite
Uniqueness:	<input checked="" type="checkbox"/> Non-Unique <input type="checkbox"/> Unique
Null Support :	<input checked="" type="checkbox"/> Nulls Allowed <input type="checkbox"/> No Nulls
Values Entered By:	<input checked="" type="checkbox"/> User <input type="checkbox"/> System
Required Value:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Default Value:	

	<input type="checkbox"/> Not Determined At This Time
Range of Values: Date of most recent pick up	
Comparisons Allowed:	
<input type="checkbox"/> Same Field <input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=	
<input type="checkbox"/> Other Fields <input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=	
<input type="checkbox"/> Value Expression <input type="checkbox"/> All <input type="checkbox"/> = <input type="checkbox"/> > <input type="checkbox"/> >= <input type="checkbox"/> ≠ <input type="checkbox"/> < <input type="checkbox"/> <=	
Operations Allowed:	
<input type="checkbox"/> Same Field <input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> — <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation	
<input type="checkbox"/> Other Fields <input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> — <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation	
<input type="checkbox"/> Value Expression <input type="checkbox"/> All <input type="checkbox"/> + <input type="checkbox"/> — <input type="checkbox"/> x <input type="checkbox"/> ÷ <input type="checkbox"/> Concatenation	

3. Physical Implementation

SQL Statements:

Building tables:

Frequent_customer:

```
create table frequent_customer (
freq_cust_ID int(4) NOT NULL
auto_increment,
freq_custlname varchar(50),
freq_custfname varchar (50),
freq_custphone varchar(20),
freq_custemail varchar(50),
primary key (freq_cust_ID)
);
alter table frequent_customer
add column lastcreditdate date;
Alter table frequent_customer
Add column frequent_custnotes varchar
(1000);
```

Frequent_orders:

```
create table frequent_orders (
freqorder_num int(5) NOT NULL
auto_increment,
freq_booktitle varchar (250),
freq_bookpub varchar (50),
freq_cost decimal (10,2),
```

```
freq_orderdate date,
freq_cust_ID int(4),
primary key (freqorder_num),
foreign key (freq_cust_ID) references
frequent_customer (freq_cust_ID)
);
```

Products:

```
create table products (
product_ID int(7) NOT NULL
auto_increment,
product_cost decimal(10,2),
product_stock enum ('yes', 'no'),
Product_count int(11),
primary key (product_ID) );
```

Frequent_orders_products:

```
create table frequent_orders_products (
freqorder_num INT (5) NOT NULL,
product_ID int(7) NOT NULL,
```

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```
constraint PK_freq_orders_products
PRIMARY KEY (freqorder_num,
product_ID),
foreign key (freqorder_num) references
frequent_orders (freqorder_num),
foreign key (product_ID) references
products (product_ID)
);
```

Graphic_novel:

```
create table graphic_novel (
product_ID int(7) NOT NULL
graphic_novelttitle varchar (250),
graphic_novellnamewriter varchar(50),
graphic_novelfnamewriter varchar (50),
graphic_novelpub varchar(50),
graphic_novelpurchased enum ('yes', 'no')
primary key (product_ID)
);
```

Comics:

```
create table comics (
product_ID int(7) NOT NULL
comictitle varchar (250),
comiclnamewriter varchar(50),
comicfnamewriter varchar (50),
comicpub varchar(50),
primary key (product_ID)
```

Adding data:

Frequent_customer:

```
insert into frequent_customer
(freq_custlname, freq_custfname,
lastcreditdate)
values ("Bacon", "Aaron", "2017-12-31")
insert into frequent_customer
(freq_custlname, freq_custfname,
freq_custphone, freq_custemail,
lastcreditdate)
```

```
);
```

Pull_customers:

```
create table pull_customers (
pull_list_num int(5) NOT NULL
auto_increment,
pull_lname varchar (50),
pull_fname varchar(50),
pull_phone varchar (20),
pull_email varchar(50),
pull_notes varchar(1000),
pull_PUpdate date,
primary key (pull_list_num) );
```

Pull_comics:

```
create table pull_comics (
product_ID INT (7) NOT NULL,
pull_list_num int(5) NOT NULL,
constraint PK_pull_comics PRIMARY KEY
(product_ID, pull_list_num),
foreign key (product_ID) references comics
(product_ID),
foreign key (pull_list_num) references
pull_customers (pull_list_num)
);
```

```
values ("Thompson", "Cheyenne",
"603-555-5555", "cheyenne@fake.com",
"2019-12-28");
insert into frequent_customer
(freq_custlname, freq_custfname,
lastcreditdate)
values ("Chakmakian", "Aaron",
"2019-12-28");
```

```
insert into frequent_customer  
(freq_custlname, freq_custfname,  
lastcreditdate)  
values ("Bradford", "Aaron", "2017-12-26");  
insert into frequent_customer  
(freq_custlname, freq_custfname,  
lastcreditdate)  
values ("Davis", "Aaron", "2018-10-27");  
insert into frequent_customer  
(freq_custlname, freq_custfname,  
lastcreditdate)  
values ("Firpo", "Aaron", "2016-07-24");  
insert into frequent_customer  
(freq_custlname, freq_custfname,  
lastcreditdate)  
values ("Groetsema", "Aaron", "2018-12-8");  
insert into frequent_customer  
(freq_custlname, freq_custfname,  
lastcreditdate)  
values ("Miller", "Aaron", "2016-10-01");
```

Frequent_orders:

```
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)  
values ("Saga Hardcover 2", "Image",  
60.00, "2017-04-29", 2);  
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)  
values ("Howard the Duck HC", "DC  
Comics", 30.00, "2018-01-03", 2);  
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)  
values ("Rat Queens volume 1", "Image",  
9.99, "2019-05-29", 2);  
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)  
values ("Trish Trash: Roller Girl of Mars",  
"Super Genius", 14.99, "2018-04-16", 1);
```

```
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)  
values ("Y the Last Man Volume 1",  
"Image", 19.99, "2018-04-29", 6);  
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)  
values ("Boundless", "Drawn and  
Quarterly", 24.95, "2019-12-19", 5);  
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)  
values ("Poppy! And the Lost Lagoon",  
"Dark Horse", 14.99, "2019-05-05", 5);  
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)  
values ("Locke and Key: Vol 3", "IDW",  
19.99, "2016-07-16", 1);  
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)  
values ("Batgirl and Robin", "DC Comics",  
24.99, "2018-01-24", 1);  
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)  
values ("Batgirl and Robin", "DC Comics",  
24.99, "2015-01-24", 2);  
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)  
values ("She Changed Comics", "Image",  
14.99, "2017-12-24", 3);  
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)  
values ("The Umbrella Academy", "Dark  
Horse", 19.99, "2016-12-20", 4);  
insert into frequent_orders (freq_booktitle,  
freq_bookpub, freq_cost, freq_orderdate,  
freq_cust_ID)
```

```
values ("Wicked and Divine: The Faust Act",  
"Image", 9.99, "2017-8-20", 7);
```

Graphic_novel:

```
insert into graphic_novel (graphic_novelttitle,  
graphic_novellnamewriter,  
graphic_novelfnamewriter,  
graphic_novelpub,  
graphic_novelpurchased)  
values ("Boundless", "Tamaki", "Jillian",  
"Drawn & Quarterly", "yes");  
insert into graphic_novel (graphic_novelttitle,  
graphic_novellnamewriter,  
graphic_novelfnamewriter,  
graphic_novelpub,  
graphic_novelpurchased)  
values ("Trish Trash: Roller Girl of Mars",  
"Abel", "Jessica", "Super Genius", "yes");  
insert into graphic_novel (graphic_novelttitle,  
graphic_novellnamewriter,  
graphic_novelfnamewriter,  
graphic_novelpub, graphic_novelpurchased)  
values ("Y the Last Man Volume 1",  
"Vaughan", "Brian K", "Vertigo");  
insert into graphic_novel (graphic_novelttitle,  
graphic_novellnamewriter,  
graphic_novelfnamewriter,  
graphic_novelpub,  
graphic_novelpurchased)  
values ("Green Arrow: Quiver", "Smith",  
"Kevin", "DC Comics", "no");  
insert into graphic_novel (graphic_novelttitle,  
graphic_novellnamewriter,  
graphic_novelfnamewriter,  
graphic_novelpub,  
graphic_novelpurchased)  
values ("Batgirl: The Greatest Story Ever  
Told", "Fox", "Gardener", "DC Comics",  
"yes");  
insert into graphic_novel (graphic_novelttitle,  
graphic_novellnamewriter,  
graphic_novelfnamewriter,
```

```
graphic_novelpub,  
graphic_novelpurchased)  
values ("Jessica Jones: Alias Volume 1",  
"Bendis", "Brian Michael", "Marvel Comics",  
"yes");  
insert into graphic_novel (graphic_novelttitle,  
graphic_novellnamewriter,  
graphic_novelfnamewriter,  
graphic_novelpub,  
graphic_novelpurchased)  
values ("Jessica Jones: Alias Volume 2",  
"Bendis", "Brian Michael", "Marvel Comics",  
"yes");  
insert into graphic_novel (graphic_novelttitle,  
graphic_novellnamewriter,  
graphic_novelfnamewriter,  
graphic_novelpub,  
graphic_novelpurchased)  
values ("Jessica Jones: Alias Volume 3",  
"Bendis", "Brian Michael", "Marvel Comics",  
"yes");  
insert into graphic_novel (graphic_novelttitle,  
graphic_novellnamewriter,  
graphic_novelfnamewriter,  
graphic_novelpub,  
graphic_novelpurchased)  
values ("Jessica Jones: Alias Volume 4",  
"Bendis", "Brian Michael", "Marvel Comics",  
"yes");  
insert into graphic_novel (graphic_novelttitle,  
graphic_novellnamewriter,  
graphic_novelfnamewriter,  
graphic_novelpub,  
graphic_novelpurchased)  
values ("Outcast: Volume 1", "Kirkman",  
"Robert", "Image", "yes");  
insert into graphic_novel (graphic_novelttitle,  
graphic_novellnamewriter,  
graphic_novelfnamewriter,  
graphic_novelpub,  
graphic_novelpurchased)  
values ("The Family Trade", "Jordan",  
"Justin", "Image", "no");
```

```
insert into graphic_novel (graphic_novelttitle,
graphic_novellnamewriter,
graphic_novelfnamewriter,
graphic_novelpub,
graphic_novelpurchased)
values ("Saga Hardcover 2", "Vaughan",
"Brian K", "Image", "yes");
insert into graphic_novel (graphic_novelttitle,
graphic_novellnamewriter,
graphic_novelfnamewriter,
graphic_novelpub,
graphic_novelpurchased)
values ("Howard the Duck HC", "Gerber",
"Steve", "DC Comics", "yes");
insert into graphic_novel (graphic_novelttitle,
graphic_novellnamewriter,
graphic_novelfnamewriter,
graphic_novelpub,
graphic_novelpurchased)
values ("Rat Queens Volume 1", "Wiebe",
"Kurtis J", "Image", "yes");
insert into graphic_novel (graphic_novelttitle,
graphic_novellnamewriter,
graphic_novelfnamewriter,
graphic_novelpub, graphic_novelpurchase)
values ("Poppy! And the Lost Lagoon",
"Kindt", "Matt", "Dark Horse", "yes");
insert into graphic_novel (graphic_novelttitle,
graphic_novellnamewriter,
graphic_novelfnamewriter,
graphic_novelpub,
graphic_novelpurchased)
values ("Locke and Key: Volume 3", "Hill",
"Joe", "IDW", "yes");
insert into graphic_novel (graphic_novelttitle,
graphic_novellnamewriter,
graphic_novelfnamewriter,
graphic_novelpub,
graphic_novelpurchased)
values ("Batgirl and Robin", "Beatty",
"Scott", "DC Comics", "yes");
insert into graphic_novel (graphic_novelttitle,
graphic_novellnamewriter,
```

```
graphic_novelfnamewriter,
graphic_novelpub,
graphic_novelpurchased)
values ("She Changed Comics", "Gomez",
"Betsy", "Image", "yes");
insert into graphic_novel (graphic_novelttitle,
graphic_novellnamewriter,
graphic_novelfnamewriter,
graphic_novelpub,
graphic_novelpurchased)
values ("The Umbrella Academy", "Way",
"Gerard", "Dark Horse", "yes");
insert into graphic_novel (graphic_novelttitle,
graphic_novellnamewriter,
graphic_novelfnamewriter,
graphic_novelpub,
graphic_novelpurchased)
values ("Wicked and Divine: The Faust Act",
"Fillen", "Kieron", "Image", "yes");
```

Comics:

```
insert into comics (comictitle,
comiclnamewriter, comicfnamewriter,
comicpub)
values ("Paper Girls #17", "Vaughan", "Brian
K", "Image");
insert into comics (comictitle,
comiclnamewriter, comicfnamewriter,
comicpurchase_date)
values ("Snot Girl #9", "O'Malley", "Brian
Lee", "Image");
insert into comics (comictitle,
comiclnamewriter, comicfnamewriter,
comicpub)
values ("Slam: The Next Jam #1", "Ribon",
"Pamela", "Boom! Box");
insert into comics (comictitle,
comiclnamewriter, comicfnamewriter,
comicpub)
values ("Sleepless #1", "Vaughan", "Sarah",
"Image");
```

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```
insert into comics (comictitle,
comiclnamewriter, comicfnamewriter,
comicpub)
values ("Supergirl Being Super #4",
"Tamaki", "Mariko", "DC Comics");
insert into comics (comictitle,
comiclnamewriter, comicfnamewriter,
comicpub)
values ("Star Wars: The Storms of Crait #1",
"Acker", "Ben", "Marvel Comics");
insert into comics (comictitle,
comiclnamewriter, comicfnamewriter,
comicpub)
values ("Bitch Planet: Triple Feature #1",
"DeConnick", "Kate", "Image");
insert into comics (comictitle,
comiclnamewriter, comicfnamewriter,
comicpub)
values ("Domino #1", "Simone", "Gail",
"Marvel Comics");
insert into comics (comictitle,
comiclnamewriter, comicfnamewriter)
values ("Sex Criminals #20", "Fraction",
"Matt", "Image");
```

Pull Customers:

```
insert into pull_customers (pull_lname,
pull_fname, pull_email, pull_phone)
values ('Silva', 'Aby', 'none@gmail.com',
'6039883957');
insert into pull_customers (pull_lname,
pull_fname, pull_email, pull_phone)
values ('Hart', 'Aden',
'rshart.12@gmail.com', '603686728');
insert into pull_customers (pull_lname,
pull_fname, pull_email, pull_phone)
values ('Allwarden', 'Sarah',
'sarahallwarden@gmail.com',
'6034185502');
insert into pull_customers (pull_lname,
pull_fname, pull_email, pull_phone)
```

```
values ('Salazar', 'Daniel',
'vinnydoombats@gmail.com',
'9787038651');
insert into pull_customers (pull_lname,
pull_fname, pull_email, pull_phone)
values ('Kelleher', 'Emily',
'none@gmail.com', '6039230921');
insert into pull_customers (pull_lname,
pull_fname, pull_email, pull_phone)
values ('Maher', 'Eric', 'none@gmail.com',
'9789949116');
```

Products:

```
insert into products (product_ID,
product_cost, product_stock)
values (1, 24.95, 'no');
insert into products (product_ID,
product_cost, product_stock)
values (2, 14.99, 'no');
insert into products (product_ID,
product_cost, product_stock)
values (3, 14.99, 'no');
insert into products (product_ID,
product_cost, product_stock)
values (4, 19.95, 'yes');
insert into products (product_ID,
product_cost, product_stock)
values (5, 19.95, 'no');
insert into products (product_ID,
product_cost, product_stock)
values (6, 19.99, 'no');
insert into products (product_ID,
product_cost, product_stock)
values (7, 19.99, 'no');
insert into products (product_ID,
product_cost, product_stock)
values (8, 19.99, 'no');
insert into products (product_ID,
product_cost, product_stock)
values (9, 19.99, 'no');
insert into products (product_ID,
product_cost, product_stock)
values (10, 9.99, 'no');
```

```
insert into products (product_ID,  
product_cost, product_stock)  
values (11, 9.99, 'yes');  
insert into products (product_ID,  
product_cost, product_stock)  
values (101, 2.99, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (102, 3.99, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (103, 3.99, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (104, 2.99, 'yes');  
insert into products (product_ID,  
product_cost, product_stock)  
values (105, 4.99, 'yes');  
insert into products (product_ID,  
product_cost, product_stock)  
values (106, 3.99, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (107, 3.99, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (108, 3.99, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (109, 2.99, 'yes');  
insert into products (product_ID,  
product_cost, product_stock)  
values (12, 60.00, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (13, 30.00, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (14, 9.99, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (15, 14.99, 'no');
```

```
insert into products (product_ID,  
product_cost, product_stock)  
values (16, 19.99, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (17, 24.99, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (18, 14.99, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (19, 19.99, 'no');  
insert into products (product_ID,  
product_cost, product_stock)  
values (20, 9.99, 'no');
```

Pull_comics:

```
insert into pull_comics (product_ID,  
pull_list_num)  
values (101, 3);  
insert into pull_comics (product_ID,  
pull_list_num)  
values (102, 3);  
insert into pull_comics (product_ID,  
pull_list_num)  
values (101, 4);  
insert into pull_comics (product_ID,  
pull_list_num)  
values (102, 4);  
insert into pull_comics (product_ID,  
pull_list_num)  
values (108, 5);  
insert into pull_comics (product_ID,  
pull_list_num)  
values (109, 4);  
insert into pull_comics (product_ID,  
pull_list_num)  
values (101, 1);  
insert into pull_comics (product_ID,  
pull_list_num)  
values (107, 5);
```

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```
insert into pull_comics (product_ID,  
pull_list_num)  
values (107, 2);  
insert into pull_comics (product_ID,  
pull_list_num)  
values (102, 1);  
insert into pull_comics (product_ID,  
pull_list_num)  
values (106, 6);
```

Frequent_orders_products:

```
insert into frequent_orders_products  
(freqorder_num, product_ID)  
values (1, 12);  
insert into frequent_orders_products  
(freqorder_num, product_ID)  
values (2, 13);  
insert into frequent_orders_products  
(freqorder_num, product_ID)  
values (3, 14);  
insert into frequent_orders_products  
(freqorder_num, product_ID)  
values (4, 2);  
insert into frequent_orders_products  
(freqorder_num, product_ID)  
values (5, 3);  
insert into frequent_orders_products  
(freqorder_num, product_ID)
```

```
values (6, 1);  
insert into frequent_orders_products  
(freqorder_num, product_ID)  
values (7, 15);  
insert into frequent_orders_products  
(freqorder_num, product_ID)  
values (8, 16);  
insert into frequent_orders_products  
(freqorder_num, product_ID)  
values (9, 17);  
insert into frequent_orders_products  
(freqorder_num, product_ID)  
values (10, 17);  
insert into frequent_orders_products  
(freqorder_num, product_ID)  
values (11, 18);  
insert into frequent_orders_products  
(freqorder_num, product_ID)  
values (12, 19);  
insert into frequent_orders_products  
(freqorder_num, product_ID)  
values (13, 20);
```

Queries:

Summary:

- *Queries 1 through 9 are in the PHP interface*
- *Queries 1 and 3 are across 4 tables*
- *Query 2 is across on table*
- *Queries 4-11 are across two tables*

1. This query displays a specific item on a specific pull list, based on the pull list number (the PK). In the PHP web interface the user inputs the pull list number and selects the comic title from a drop down menu that finds the associated PK. This query is shown after a comic is added to a pull list so the user knows it is successful. This query goes across four tables: pull_customers, comics, products, and pull_comics.

```

SELECT pull_customers.pull_list_num, pull_customers.pull_lname,
pull_customers.pull_fname, pull_customers.pull_email, pull_customers.pull_phone,
comics.comictitle, comics.comicpub,
products.product_cost
from (comics
inner join pull_comics
on comics.product_ID = 102 and pull_comics.product_ID = 102 and comics.product_ID =
pull_comics.product_ID
inner join pull_customers
on pull_customers.pull_list_num = 1 and pull_comics.pull_list_num = 1 and
pull_customers.pull_list_num = pull_comics.pull_list_num)
inner join products
on comics.product_ID = 102 and products.product_ID = 102 and comics.product_ID =
products.product_ID

```

pull_list_num	pull_lname	pull_fname	pull_email	pull_phone	comictitle	comicpub	product_co...
1	Silva	Aby	none@gmail.com	6039883957	Snot Girl #1	Image	3.99

2. This query shows us a specific pull list customer's information. It is based on the first and last name of the customer. This gives us the possibility of receiving more than 1 record's pull list. Therefore in the PHP interface I added another search option to search by pull_list_number to be more specific. This query only pulls across one table. This query is shown after a new pull list customer is added so that the user can then add the comic data to the query.

```

SELECT pull_list_num, pull_lname, pull_fname, pull_phone, pull_email
FROM pull_customers
WHERE pull_lname = 'Allwarden' and pull_fname = 'Sarah';

```

pull_list_num	pull_lname	pull_fname	pull_phone	pull_email
3	Allwarden	Sarah	6034185502	sarahallwarden@gmail.com
43	Allwarden	Sarah	6034185502	sarahallwarden@gmail.com
44	Allwarden	Sarah	6034185502	sarahallwarden@gmail.com
45	Allwarden	Sarah	6034185502	sarahallwarden@gmail.com

3. This query shows us all of a pull list customer's full pull list. It gives us all the comic titles, prices, comic publisher and the biographical data of the customer. This query is used when a user of the php interface searches for a specific pull list. It uses the primary key of pull_list_id, last name, and first name. This will be used to assist to help the comic store owner see when a customer last picked up their pull list, the total costs for the pull

list, and to plan which comics he needs to order for that specific customer. This query is across 4 tables: pull_customers, comics, products, and pull_comics.

```
SELECT pull_customers.pull_list_num, pull_customers.pull_email,
pull_customers.pull_phone, comics.comictitle, comics.comicpub,
products.product_cost
from (comics
inner join pull_comics
on comics.product_ID = pull_comics.product_ID
inner join pull_customers
on pull_customers.pull_list_num = pull_comics.pull_list_num)
inner join products
on comics.product_ID = products.product_ID
where pull_customers.pull_lname = 'Allwarden' and pull_customers.pull_fname ='Sarah'
and pull_customers.pull_list_num = 3
```

pull_list_num	pull_email	pull_phone	comictitle	comicpub	product_co...
3	sarahallwarden@gmail.com	6034185502	Paper Girls #1	Image	2.99
3	sarahallwarden@gmail.com	6034185502	Snot Girl #1	Image	3.99

4. This query shows us a frequent customer's order history using their freq_cust_ID (the primary key). This query is used when a user of the php interface adds a new graphic novel or TPB to the frequent customer's order history. This way, an employee can see the last time they got a credit and their new total since then. This query is across two tables: frequent_customer and frequent_orders.

```
SELECT frequent_customer.freq_cust_ID, frequent_customer.freq_custlname,
frequent_customer.freq_custfname, frequent_customer.freq_custphone,
frequent_customer.freq_custemail,
frequent_orders.freq_booktitle, frequent_orders.freq_cost,
frequent_customer.lastcreditdate
from frequent_customer
inner join frequent_orders
where frequent_customer.freq_cust_ID = 2 and frequent_orders.freq_cust_ID = 2 and
frequent_customer.freq_cust_ID = frequent_orders.freq_cust_ID
```

freq_cust_ID	freq_custlname	freq_custfn...	freq_custpho...	freq_custemail	freq_booktitle	freq_cost	lastcreditda...
2	Salazar	Daniel	9787038651	vinnydoombats@gmail.com	Saga Hardcover 2	60.00	2019-04-10
2	Salazar	Daniel	9787038651	vinnydoombats@gmail.com	Howard the Duck HC	30.00	2019-04-10
2	Salazar	Daniel	9787038651	vinnydoombats@gmail.com	Rat Queens volume 1	9.99	2019-04-10
2	Salazar	Daniel	9787038651	vinnydoombats@gmail.com	Batgirl and Robin	24.99	2019-04-10

5. This query is used when a user of the php interface is searching for a specific customer. Once you have found the page, you can add more purchases, delete the record, or update the record which is perfect for managing the frequent customer records. There are two versions of it, one that searches by last name and first name, the other uses last name, first name, and the freq_cust_ID (PK) for scenarios when there are customers with the same name. This query is across two tables: frequent_customer and frequent_orders:

```
SELECT *
FROM frequent_orders
INNER JOIN frequent_customer
ON frequent_customer.freq_cust_ID = frequent_orders.freq_cust_ID
WHERE frequent_customer.freq_custlname = 'Allwarden' and
frequent_customer.freq_custfname = 'Sarah' and frequent_customer.freq_cust_ID = 1;
```

	freqorder_num	freq_booktitle	freq_bookpub	freq_cost	freq_orderdate	freq_cust_ID	freq_cust_ID	freq_custname	freq_custfn...	freq_custpho...
▶	4	Trish Trash: Roller Girl of Mars	Super Genius	14.99	2018-04-16	1	1	Allwarden	Sarah	7184185502
8		Locke and Key: Vol 3	IDW	19.99	2016-07-16	1	1	Allwarden	Sarah	7184185502
9		Batgirl and Robin	DC Comics	24.99	2018-01-24	1	1	Allwarden	Sarah	7184185502

freq_custlname	freq_custfn...	freq_custpho...	freq_custemail	lastcreditda...	frequent_custnot...
Allwarden	Sarah	7184185502	sarahallwarden@gmail.com	NULL	NULL
Allwarden	Sarah	7184185502	sarahallwarden@gmail.com	NULL	NULL
Allwarden	Sarah	7184185502	sarahallwarden@gmail.com	NULL	NULL

6. This query is used when a new comic is added to the inventory. It displays it to the user on the php interface to see that the information is added correctly. When a user is on this page they can update information which is particularly important to updating stock and quantities. It uses the newly added product_ID (PK) to find that specific record. This query is across 2 tables: comics, and products.

```
SELECT comics.product_ID, comics.comictitle, comics.comiclnamewriter,
comics.comicfnamewriter, comics.comicpub, products.product_cost,
products.product_stock, products.product_count
FROM comics
INNER JOIN products
ON products.product_ID = comics.product_ID
WHERE products.product_ID = 102;
```

product_ID	comictitle	comiclnamewri...	comicfnamewri...	comicpub	product_co...	product_sto...	product_cou...
102	Snot Girl #1	O'Malley	Brian Lee	Image	3.99	no	0

7. This query is used when a new graphic novel/TPB is added to the inventory. It displays it to the user on the php interface to see that the information is added correctly. When a user is on this page they can update information which is particularly important to

updating stock and quantities. It uses the newly added product_ID (PK) to find that specific record. This query is across 2 tables: graphic_novel and products.

```
SELECT graphic_novel.product_ID, graphic_novel.graphic_novelttitle,
graphic_novel.graphic_novellnamewriter,
graphic_novel.graphic_novelnamewriter, graphic_novel.graphic_novelpub,
products.product_stock, products.product_count, products.product_cost
FROM graphic_novel
INNER JOIN products
ON graphic_novel.product_ID = products.product_ID
WHERE graphic_novel.product_ID = 1 and products.product_ID = 1;
```

product_ID	graphic_novelttitle	graphic_novellnamewriter	graphic_novelnamewriter	graphic_novelpub	product_stock	product_count	product_cost
1	Boundless	Tamaki	Tamaki	Drawn & Quarterly	yes	2	24.95

8. This query is used to show all of the comics in the inventory, ordered by the publisher. It displays it to the user on the php interface so that they can search for a specific book, or easily see what's in and out of stock for ordering purposes. It is across 2 tables: comics and products.

```
SELECT comics.product_ID, comics.comictitle, comics.comiclnamewriter,
comics.comicfnamewriter, comics.comicpub, products.product_cost,
products.product_stock, products.product_count
FROM comics
INNER JOIN products
ON products.product_ID = comics.product_ID
ORDER BY comics.comicpub;
```

product_ID	comictitle	comiclnamewriter	comicfnamewriter	comicpub	product_cost	product_stock	product_count
103	Slam: The Next Jam #1	Ribon	Pamela	Boom! Box	3.99	no	0
105	Supergirl Being Super #1	Tamaki	Mariko	DC Comics	4.99	yes	10
2626	Snot Girl #2	OMalley	Brian Lee	Image	2.99	yes	10
1928281	Snot Girl #3	OMalley	Brian Lee	Image	2.99	yes	10
101	Paper Girls #1	Vaughan	Brian K	Image	2.99	no	0
102	Snot Girl #1	O'Malley	Brian Lee	Image	3.99	no	0
104	Sleepless #1	Vaughan	Sarah	Image	2.99	yes	3
107	Bitch Planet: Triple Feature #1	DeConnick	Kate	Image	3.99	no	0
727281	Snot Girl #4	OMalley	Brian Lee	Image	2.99	yes	10
106	Star Wars: The Storms of Crait #1	Acker	Ben	Marvel Comics	3.99	no	0
108	Domino #1	Simone	Gail	Marvel Comics	3.99	no	0

9. This query is used to show all of the graphic novels/TPB in the inventory, ordered by the publisher. It displays it to the user on the php interface so that they can search for a specific book, or easily see what's in and out of stock for ordering purposes. It is across 2 tables: graphic_novel and products.

```

SELECT graphic_novel.product_ID, graphic_novel.graphic_novelttitle,
graphic_novel.graphic_novellnamewriter, graphic_novel.graphic_novelfnamewriter,
graphic_novel.graphic_novelpub, products.product_stock, products.product_count,
products.product_cost
FROM graphic_novel
INNER JOIN products
ON graphic_novel.product_ID = products.product_ID
ORDER BY graphic_novel.graphic_novelpub;

```

15	Poppy! And the Lost Lagoon	Kindt	Matt	Dark Horse	no	0	14.99
19	The Umbrella Academy	Way	Gerard	Dark Horse	no	0	19.99
4	Green Arrow: Quiver	Smith	Kevin	DC Comics	yes	3	19.95
5	Batgirl: The Greatest Story Ever Told	Fox	Gardener	DC Comics	no	0	19.95
1	Boundless	Tamaki	Tamaki	Drawn & Quarterly	yes	2	24.95
16	Locke and Key: Volume 3	Hill	Joe	IDW	no	0	19.99
10	Outcast: Volume 1	Kirkman	Robert	Image	no	0	9.99
11	The Family Trade	Jordan	Justin	Image	yes	4	9.99
12	Saga Hardcover 2	Vaughan	Brian K	Image	no	0	60.00
14	Rat Queens Volume 1	Wiebe	Kurtis J	Image	no	0	9.99
18	She Changed Comics	Gomez	Betsy	Image	no	0	14.99
20	Wicked and Divine: The Faust Act	Gillen	Kieron	Image	no	0	9.99
6	Jessica Jones: Alias Volume 1	Bendis	Brian Michael	Marvel Comics	no	0	19.99
7	Jessica Jones: Alias Volume 2	Bendis	Brian Michael	Marvel Comics	no	0	19.99
8	Jessica Jones: Alias Volume 3	Bendis	Brian Michael	Marvel Comics	no	0	19.99
9	Jessica Jones: Alias Volume 4	Bendis	Brian Michael	Marvel Comics	no	0	19.99
2	Trish Trash: Roller Girl of Mars	Abel	Jessica	Super Genius	no	0	14.99
3	Y the Last Man Volume 1	Vaughan	Brian K	Vertigo	no	0	14.99

10. This query is used to show all of the comics that are not in stock. It is helpful to know which ones are out of stock, and potentially which ones should be removed from the database all together. It is across 2 tables: comics and products. This one is not in the php interface.

```

SELECT comics.product_ID, comics.comictitle, comics.comiclnamewriter,
comics.comicfnamewriter, comics.comicpub, products.product_cost
FROM comics
INNER JOIN products
ON products.product_ID = comics.product_ID
WHERE products.product_stock = 'no'

```

product_ID	comictitle	comiclnamewri...	comicfnamewri...	comicpub	product_co...
101	Paper Girls #1	Vaughan	Brian K	Image	2.99
102	Snot Girl #1	O'Malley	Brian Lee	Image	3.99
103	Slam: The Next Jam #1	Ribon	Pamela	Boom! Box	3.99
106	Star Wars: The Storms of Crait #1	Acker	Ben	Marvel Comics	3.99
107	Bitch Planet: Triple Feature #1	DeConnick	Kate	Image	3.99
108	Domino #1	Simone	Gail	Marvel Comics	3.99

11. This query is used to show all of the graphic novels and TPBs that are not in stock. It is helpful to know which ones are out of stock, and potentially which ones should be

removed from the database all together. It is across 2 tables: graphic_novel and products. This one is not in the php interface.

```
SELECT graphic_novel.product_ID, graphic_novel.graphic_novelttitle,
graphic_novel.graphic_novellnamewriter, graphic_novel.graphic_novelfnamewriter,
graphic_novel.graphic_novelpub, products.product_stock, products.product_count,
products.product_cost
FROM graphic_novel
INNER JOIN products
ON graphic_novel.product_ID = products.product_ID
WHERE products.product_stock = 'no';
```

product_ID	graphic_novelttitle	graphic_novellnamewri...	graphic_novelfname...	graphic_novelp...	product_sto...	product_cou...	product_co...
18	She Changed Comics	Gomez	Betsy	Image	no	0	14.99
3	Y the Last Man Volume 1	Vaughan	Brian K	Vertigo	no	0	14.99
12	Saga Hardcover 2	Vaughan	Brian K	Image	no	0	60.00
6	Jessica Jones: Alias Volume 1	Bendis	Brian Michael	Marvel Comics	no	0	19.99
7	Jessica Jones: Alias Volume 2	Bendis	Brian Michael	Marvel Comics	no	0	19.99
8	Jessica Jones: Alias Volume 3	Bendis	Brian Michael	Marvel Comics	no	0	19.99
9	Jessica Jones: Alias Volume 4	Bendis	Brian Michael	Marvel Comics	no	0	19.99
5	Batgirl: The Greatest Story Ever Told	Fox	Gardener	DC Comics	no	0	19.95
19	The Umbrella Academy	Way	Gerard	Dark Horse	no	0	19.99
2	Trish Trash: Roller Girl of Mars	Abel	Jessica	Super Genius	no	0	14.99
16	Locke and Key: Volume 3	Hill	Joe	IDW	no	0	19.99
20	Wicked and Divine: The Faust Act	Gillen	Kieron	Image	no	0	9.99
14	Rat Queens Volume 1	Wiebe	Kurtis J	Image	no	0	9.99
15	Poppy! And the Lost Lagoon	Kindt	Matt	Dark Horse	no	0	14.99
10	Outcast: Volume 1	Kirkman	Robert	Image	no	0	9.99

Views:

1. This view looks at how many times a comic is on different pull lists, organized by comic publishers. This is an extremely helpful view for ordering the correct amount of a specific comic to satisfy the needs of the pull list customers.

Here is the language to create this view:

```
CREATE VIEW All_Pull_Comics as
SELECT pull_customers.pull_lname, pull_customers.pull_fname,
pull_customers.pull_phone, comics.comictitle, comics.comicpub
FROM (comics
INNER JOIN pull_comics
ON comics.product_ID = pull_comics.product_ID)
INNER JOIN pull_customers
ON pull_customers.pull_list_num = pull_comics.pull_list_num
ORDER BY comics.comicpub
```

pull_lname	pull_fname	pull_phone	comictitle	comicpub
Allwarden	Sarah	6034185502	Slam: The Next Jam #1	Boom! Box
Salazar	Daniel	9787038651	Supergirl Being Super #1	DC Comics
Allwarden	Sarah	6034185502	Snot Girl #1	Image
Salazar	Daniel	9787038651	Snot Girl #1	Image
Silva	Aby	6039883957	Snot Girl #1	Image
Kelleher	Emily	6039230921	Bitch Planet: Triple Feature #1	Image
Allwarden	Sarah	6034185502	Paper Girls #1	Image
Salazar	Daniel	9787038651	Paper Girls #1	Image
Silva	Aby	6039883957	Paper Girls #1	Image
Allwarden	Sarah	6034185502	Bitch Planet: Triple Feature #1	Image
Hart	Aden	603686728	Bitch Planet: Triple Feature #1	Image
Allwarden	Sarah	6034185502	Bitch Planet: Triple Feature #1	Image
Kelleher	Emily	6039230921	Domino #1	Marvel C...
Allwarden	Sarah	6034185502	Star Wars: The Storms of Cr...	Marvel C...
Maher	Eric	9789949116	Star Wars: The Storms of Cr...	Marvel C...

2. This view looks at the last date a pull list was picked up. Often, folks forget to pick up their pull lists. Sometimes the owner has to check in with these folks to make sure that they want to continue the pull list so they do not continue to order products for them that they will not purchase.

```
CREATE VIEW Pull_List_Pick_Up_Dates AS
SELECT pull_customers.pull_lname, pull_customers.pull_fname,
pull_customers.pull_email, pull_customers.pull_phone, pull_customers.pull_PUpdate,
comics.comictitle, comics.comicpub,
products.product_cost
FROM (comics
INNER JOIN pull_comics
ON comics.product_ID = pull_comics.product_ID
INNER JOIN pull_customers
ON pull_customers.pull_list_num = pull_comics.pull_list_num)
INNER JOIN products
ON comics.product_ID = products.product_ID
ORDER BY pull_customers.pull_PUpdate;
```

pull_lname	pull_fname	pull_email	pull_phone	pull_PUpdate	comictitle	comicpub	product_co...
Allwarden	Sarah	sarahallwarden@gmail.com	6034185502	2019-10-01	Slam: The Next Jam #1	Boom! Box	3.99
Allwarden	Sarah	sarahallwarden@gmail.com	6034185502	2019-10-01	Bitch Planet: Triple Feature #1	Image	3.99
Allwarden	Sarah	sarahallwarden@gmail.com	6034185502	2019-10-30	Paper Girls #1	Image	2.99
Allwarden	Sarah	sarahallwarden@gmail.com	6034185502	2019-10-30	Snot Girl #1	Image	3.99
Allwarden	Sarah	sarahallwarden@gmail.com	6034185502	2020-01-10	Star Wars: The Storms of Crait #1	Marvel Comics	3.99
Allwarden	Sarah	sarahallwarden@gmail.com	6034185502	2020-01-10	Bitch Planet: Triple Feature #1	Image	3.99
Kelleher	Emily	none@gmail.com	6039230921	2020-01-24	Bitch Planet: Triple Feature #1	Image	3.99
Kelleher	Emily	none@gmail.com	6039230921	2020-01-24	Domino #1	Marvel Comics	3.99
Maher	Eric	none@gmail.com	9789949116	2020-02-02	Star Wars: The Storms of Crait #1	Marvel Comics	3.99
Hart	Aden	rshart.12@gmail.com	603686728	2020-02-15	Bitch Planet: Triple Feature #1	Image	3.99
Silva	Aby	none@gmail.com	6039883957	2020-03-04	Paper Girls #1	Image	2.99
Silva	Aby	none@gmail.com	6039883957	2020-03-04	Snot Girl #1	Image	3.99
Salazar	Daniel	vinnydoombats@gmail.com	9787038651	2020-03-14	Paper Girls #1	Image	2.99
Salazar	Daniel	vinnydoombats@gmail.com	9787038651	2020-03-14	Snot Girl #1	Image	3.99
Salazar	Daniel	vinnydoombats@gmail.com	9787038651	2020-03-14	Supergirl Being Super #1	DC Comics	4.99

HTML, PHP, AND CSS:

CSS:

I formatted my database to be a bit more user friendly using the CSS below:

```
body {  
  
background-color: #FFF7EE; /*orange*/  
color: #921285; /*purple*/  
font-family: "Helvetica Neue";  
}
```

```
/* below is nav bar code*/
```

```
.li {  
float: left;  
  
}  
  
.nav {  
list-style-type: none;  
margin: 10px;  
padding: 0;  
width: 100%;  
text-align: center;  
background-color: #FFE6CC;  
overflow: hidden;  
border-radius: 5px;  
box-shadow: 5px 5px 5px #968491;  
box-sizing: border-box;  
overflow: hidden;  
  
}  
  
.li .navlink {  
float: left;  
font-size: 16px;  
color: #921285;
```

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```
text-align: center;  
padding: 14px 16px;  
text-decoration: none;  
}  
  
.li:hover {  
background-color: #DEC8CC;  
color: white;  
}
```

```
.dropdown {  
float: left;  
overflow: hidden;  
}
```

```
/* Dropdown button */  
.dropdown .dropbtn {  
font-size: 16px;  
border: none;  
outline: none;  
color: #921285;  
padding: 14px 16px;  
background-color: #FFE6CC;  
text-align: center;  
font-family: inherit; /* Important for vertical align on mobile phones */  
margin: 0; /* Important for vertical align on mobile phones */  
}
```

```
/* Add a red background color to navbar links on hover */  
.li:hover, .dropdown:hover .dropbtn {  
background-color: #FF8606;  
}
```

```
/* Dropdown content (hidden by default) */  
.dropdown-content {  
display: none;  
position: absolute;  
background-color: #FFE6CC;  
min-width: 160px;  
box-shadow: 0px 8px 16px 0px rgba(0,0,0,0.2);  
z-index: 1;  
}
```

```
/* Links inside the dropdown */
.dropdown-content a {
  float: none;
  color: #921285;
  padding: 12px 16px;
  text-decoration: none;
  display: block;
  text-align: left;
}

/* Add a grey background color to dropdown links on hover */
.dropdown-content a:hover {
  background-color: #FF8606;
}

/* Show the dropdown menu on hover */
.dropdown:hover .dropdown-content {
  display: block;
}

/* end nav bar code */

.formshtml {
  float: none;
  margin-left: 10px;
  padding: 10px;
  width: 100%;
  margin-top: 2%;
  background-color: #FFE6CC;
  border-radius: 5px;
  box-shadow: 5px 5px 5px #968491;
  box-sizing: border-box;
}

.forms {
  float: right;
  width: 20%;
  background-color:#FFE6CC;
  border-radius: 5px;
  box-shadow: 5px 5px 5px #968491;
  box-sizing: border-box;
```

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padding: 5px;

}

```
.display{  
    float: left;  
    width: 65%;  
    background-color: #FFE6CC;  
    border-radius: 5px;  
    box-shadow: 5px 5px 5px #968491;  
    box-sizing: border-box;  
    margin-right: 1%;  
    padding: 5px;
```

}

.displayproducts

```
{  
    float: left;  
    width: 65%;  
    background-color: #FFE6CC;  
    border-radius: 5px;  
    box-shadow: 5px 5px 5px #968491;  
    box-sizing: border-box;  
    margin-right: 1%;  
    padding: 5px;
```

}

.formsproducts

```
{  
    float: right;  
    width: 20%;  
    background-color:#FFE6CC;  
    border-radius: 5px;  
    box-shadow: 5px 5px 5px #968491;
```

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```
box-sizing: border-box;  
padding: 1%;  
padding: 5px;
```

```
}
```

```
table {  
    align: center;  
}
```

It makes my database look like this instead of plain text and colors.



HTML

1. This is my home page, where I generated the the navigation menu.

```
<!DOCTYPE html>  
<html>  
  <head>  
    <link rel='stylesheet' type='text/css' href='stairway.css'>  
  </head>  
  <body>  
    <center><h2> Stairway to Heaven Comics </h2></center>  
  
    <nav>  
      <ul class = 'nav'>  
        <li class = 'li'><a href = home.html class ="navlink">Home</a></li>  
        <div class='dropdown'>  
          <li class = 'li'><a class ="navlink">  
            <button class="dropbtn">Frequent Customers </a>  
            <i class='fa fa-caret-down'></i>  
          </button>  
        </li>  
        <div class= 'dropdown-content'>
```

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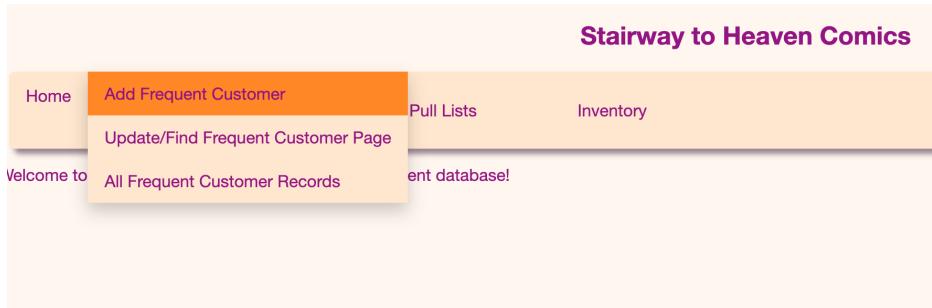
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```
<a href='frequentcustomerform.html'>Add Frequent Customer</a>
<a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
<a href='freqcustdisplay.php'>All Frequent Customer Records</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ="navlink">
    <button class="dropbtn">Pull Lists </a>
    <i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
    <a href = 'pullcustomerform.html'>Add Pull Customer</a>
    <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
    <a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ="navlink">
    <button class="dropbtn">Inventory </a>
    <i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory Data</a>
</div>
</div>
</nav>

<html>

<p> Welcome to the Stairway to Heaven Comics management database! </p>

</body>
```



2. This is the new frequent customer code and form

```
<!DOCTYPE html>
<html>
<head>
<link rel='stylesheet' type='text/css' href='stairway.css'>
</head>
<body>
<center><h2> Stairway to Heaven Comics </h2></center>
<center><h3> Frequent Customer Data</h3></center>
<nav>
<ul class = 'nav'>
<li class = 'li'><a href = home.html class ="navlink">Home</a></li>
<div class='dropdown'>
<li class = 'li'><a class ="navlink">
<button class="dropbtn">Frequent Customers </a>
<i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
<a href='frequentcustomerform.html'>Add Frequent Customer</a>
<a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
<a href='freqcustdisplay.php'>All Frequent Customer Records</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ="navlink">
<button class="dropbtn">Pull Lists </a>
<i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
<a href = 'pullcustomerform.html'>Add Pull Customer</a>
<a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
<a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
```

```
</div>
<div class='dropdown'>
  <li class = 'li'><a class ="navlink">
    <button class="dropbtn">Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
  </li>
  <div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
  </div>
</div>
</nav>

<!-- This part adds information to the frequent_customer table -->
<div class = 'formshtml'>
<form action = "newrecordfreqcust.php" method = "post">
  <label for="freqlname"> Last Name: </label>
  <input type ="text" id = "freqlname" name ="freqlname" minlength = "1" maxlength = "50">
  <label for = "freqfname"> First Name: </label>
  <input type = "text" id = "freqfname" name ="freqfname" minlength = "1" maxlength=
"50"><br><br>
  <label for ="freqphone"> Phone Number: </label>
  <input type="text" id = "freqphone" name ="freqphone" maxlength="20"><br><br>
  <label for="freqemail"> Email: </label>
  <input type="text" id="freqemail" name="freqemail"><br><br><br><br><br>

  <input type ="submit" value="Submit">
</form>
</div>
</body>
</html>
```

The screenshot shows a web page titled "Stairway to Heaven Comics" with a sub-section titled "Frequent Customer Data". At the top, there is a navigation bar with links for "Home", "Frequent Customers", "Pull Lists", and "Inventory". Below the navigation bar, there is a form for entering customer information. The form fields include "Last Name:" with an input field, "First Name:" with an input field, "Phone Number:" with an input field, and "Email:" with an input field. At the bottom of the form is a "Submit" button.

3. This is the frequent customer search form

```
<!DOCTYPE html>
<html>
<head>
  <link rel='stylesheet' type='text/css' href='stairway.css'>
</head>
<body>
  <center><h2> Stairway to Heaven Comics</h2></center>
  <center><h3>Frequent Customer Purchase History Search</h3></center>
  <nav>
    <ul class = 'nav'>
      <li class = 'li'><a href = home.html class ="navlink">Home</a></li>
      <div class='dropdown'>
        <li class = 'li'><a class ="navlink">
          <button class="dropbtn">Frequent Customers </a>
          <i class='fa fa-caret-down'></i>
        </button>
      </li>
      <div class= 'dropdown-content'>
        <a href='frequentcustomerform.html'>Add Frequent Customer</a>
        <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
        <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
      </div>
    </div>
    <div class='dropdown'>
      <li class = 'li'><a class ="navlink">
        <button class="dropbtn">Pull Lists </a>
        <i class='fa fa-caret-down'></i>
      </button>
    </div>
```

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```
</li>
<div class= 'dropdown-content'>
    <a href = 'pullcustomerform.html'>Add Pull Customer</a>
    <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
    <a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
    <li class = 'li'><a class ="navlink">
        <button class="dropbtn">Inventory </a>
        <i class='fa fa-caret-down'></i>
    </button>
    </li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory Data</a>
</div>
</div>
</nav>
<!-- This query will show the history of what each customer has purchased
because once a customer reaches $100 in purchases, they get $10 off--&gt;

&lt;div class = 'formshtml'&gt;
&lt;form action="frequentcustomerpurchasehistory.php" method="post"&gt;
    &lt;label for="freqlname"&gt; Last Name: &lt;/label&gt;
    &lt;input type ="text" id = "freqlname" name ="freqlname" minlength = "1" maxlength = "50"&gt;
    &lt;label for = "freqfname"&gt; First Name: &lt;/label&gt;
    &lt;input type = "text" id = "freqfname" name ="freqfname" minlength = "1" maxlength="50"&gt;&lt;br&gt;&lt;br&gt;
    &lt;input type="submit"/&gt;
&lt;/form&gt;
&lt;/div&gt;

&lt;/body&gt;
&lt;/html&gt;</pre>
```

Stairway to Heaven Comics

Frequent Customer Purchase History Search

Home Frequent Customers Pull Lists Inventory

Last Name: First Name:

4. This is the new pull list customer intake form code

```
<!DOCTYPE html>
<html>
<head>
<link rel='stylesheet' type='text/css' href='stairway.css'>
</head>
<body>

<center><h2> Stairway to Heaven Comics </h2></center>
<center><h3> New Pull List Customer Intake</h3></center>
<nav>
<ul class = 'nav'>
<li class = 'li'><a href = home.html class ="navlink">Home</a></li>
<div class='dropdown'>
<li class = 'li'><a class ="navlink">
<button class="dropbtn">Frequent Customers </a>
<i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
<a href='frequentcustomerform.html'>Add Frequent Customer</a>
<a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
<a href='freqcustdisplay.php'>All Frequent Customer Records</a>
```

```
</div>
</div>
<div class='dropdown'>
  <li class = 'li'><a class ="navlink">
    <button class="dropbtn">Pull Lists </a>
    <i class='fa fa-caret-down'></i>
  </button>
</li>
<div class= 'dropdown-content'>
  <a href = 'pullcustomerform.html'>Add Pull Customer</a>
  <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
  <a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
  <li class = 'li'><a class ="navlink">
    <button class="dropbtn">Inventory </a>
    <i class='fa fa-caret-down'></i>
  </button>
</li>
<div class= 'dropdown-content'>
  <a href='inventoryform.html'>Add Product</a>
  <a href = 'productsearch.html'> Search/Update Product </a>
  <a href='comicdata.php'> All Comics Inventory Data</a>
  <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory Data</a>
</div>
</div>
</nav>
<div class = 'formshtml'>
  <!-- adds to the pull_customer table -->
  <form action = "addpulllist.php" method = "post">
    <label for="pulllname"> Last Name: </label>
    <input type ="text" id = "pulllname" name ="pulllname" minlength = "1" maxlength = "50">
    <label for = "pullfname"> First Name: </label>
    <input type = "text" id = "pullfname" name ="pullfname" minlength = "1" maxlength=
    "50"><br><br>
    <label for ="pullphone"> Phone Number: </label>
    <input type="text" id ="pullphone" name ="pullphone" maxlength="20"><br><br>
    <label for="pullemail"> Email: </label>
    <input type="text" id="pullemail" name="pullemail"><br><br><br><br>
    <input type = "submit" value="Submit">
  </form>
</div>
```

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```
</body>
</html>
```

The screenshot shows a web page titled "Stairway to Heaven Comics" with a sub-section title "New Pull List Customer Intake". At the top, there is a navigation bar with four items: "Home", "Frequent Customers", "Pull Lists", and "Inventory". Below the navigation bar, there is a search form containing fields for "Last Name", "First Name", "Phone Number", and "Email", each with an associated input field. A "Submit" button is located at the bottom left of the form area.

Last Name: First Name:
Phone Number:
Email:

Submit

5. This is the pull list customer search form

```
<html>
  <head>
    <link rel='stylesheet' type='text/css' href='stairway.css'>
  </head>
  <body>
    <center><h2> Stairway to Heaven Comics</h2></center>
    <center><h3>Search Pull Lists</h3></center>
    <nav>
      <ul class = 'nav'>
        <li class = 'li'><a href = home.html class ="navlink">Home</a></li>
        <div class='dropdown'>
          <li class = 'li'><a class ="navlink">
            <button class="dropbtn">Frequent Customers </a>
            <i class='fa fa-caret-down'></i>
          </button>
        </li>
        <div class= 'dropdown-content'>
          <a href='frequentcustomerform.html'>Add Frequent Customer</a>
          <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
          <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
        </div>
      </div>
    </div>
```

```
<div class='dropdown'>
<li class = 'li'><a class ="navlink">
    <button class="dropbtn">Pull Lists </a>
    <i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
    <a href = 'pullcustomerform.html'>Add Pull Customer</a>
    <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
    <a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ="navlink">
    <button class="dropbtn">Inventory </a>
    <i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory Data</a>
</div>
</div>
</nav>
<!-- This query will help locate a specific customer's pull list--&gt;
&lt;div class = 'formshtml'&gt;
&lt;form action="plistfull.php" method="post"&gt;
    &lt;label for="pull_Iname"&gt; Last Name: &lt;/label&gt;
    &lt;input type = "text" id = "pull_Iname" name ="pull_Iname" minlength = "1" maxlength = "50"&gt;
    &lt;label for = "pull_fname"&gt; First Name: &lt;/label&gt;
    &lt;input type = "text" id = "pull_fname" name ="pull_fname" minlength = "1" maxlength=
    "50"&gt;&lt;br&gt;&lt;br&gt;
    &lt;input type="submit" value = "Submit"/&gt;
&lt;/form&gt;
&lt;/div&gt;

&lt;/body&gt;
&lt;/html&gt;</pre>
```

Stairway to Heaven Comics

Search Pull Lists

[Home](#) [Frequent Customers](#) [Pull Lists](#) [Inventory](#)

Last Name: First Name:

6. This is the new inventory item form

```
<!DOCTYPE html>
<html>
<head>
<link rel='stylesheet' type='text/css' href='stairway.css'>
</head>
<body>
<center><h2> Stairway to Heaven Comics </h2></center>
<center><h3> Inventory Intake: New Product</h3></center>
<nav>
<ul class = 'nav'>
<li class = 'li'><a href = home.html class ="navlink">Home</a></li>
<div class='dropdown'>
<li class = 'li'><a class ="navlink">
<button class="dropbtn">Frequent Customers </a>
<i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
<a href='frequentcustomerform.html'>Add Frequent Customer</a>
<a href='frequentcustomerhistoryform.php'>Update/Find Frequent Customer Page</a>
```

```
<a href='freqcustdisplay.php'>All Frequent Customer Records</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ="navlink">
    <button class="dropbtn">Pull Lists </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href = 'pullcustomerform.html'>Add Pull Customer</a>
    <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
    <a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ="navlink">
    <button class="dropbtn">Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory Data</a>
</div>
</div>
</div>
</nav>
<!-- this form is for taking inventory of a new product -->

<!--is it a comic or graphic novel/tpb-->
<div class = 'formshtml'>
<form action = "newproductrecord.php" method = "post">
<input type="radio" id="comic" name="producttype" value="comic">
<label for="comic">Comic</label>
<input type="radio" id="graphic" name="producttype" value="graphic">
<label for="graphic">Graphic Novel/Trade Paper Back</label><br><br>

<!-- add info to the graphic novel or comics table -->
<label for="title"> Title: </label>
<input type ="text" id = "title" name ="title" minlength = "1" maxlength = "250"><br><br>
```

```
<label for = "authfname"> First Name Author: </label>
<input type = "text" id = "authfname" name ="authfname" minlength = "1" maxlength= "50">
<label for = "authlname"> Last Name Author: </label>
<input type = "text" id = "authlname" name ="authlname" minlength = "1" maxlength=
"50"><br><br>
<label for ="pub"> Publisher: </label>
<input type="text" id ="pub" name ="pub" maxlength="50"><br><br><br>

<!-- add to products table -->
<label for='product_ID'> Product ID: </label>
<input type='number' id='product_ID' name='product_ID' min = '0'> <br>

<p> In stock:
<input type='radio' id='yes' name='stock' value='yes' checked="checked">
<label for='comic'>Yes</label> <p><br>

<label for='quantity'> Quantity: </label>
<input type='number' id='quantity' name='quantity' min = '0'> <br><br>

<label for ='price'> Price: </label>
<input type ='number' id = 'price' name ='price' min = '0' step = '.01'><br><br>
<input type ="submit" value="Submit">
</form>
</div>
</body>
</html>
```

Stairway to Heaven Comics

Inventory Intake: New Product

Home Frequent Customers Pull Lists Inventory

Comic Graphic Novel/Trade Paper Back

Title:

First Name Author: Last Name Author:

Publisher:

Product ID:

In stock: Yes

Quantity:

Price:

7. This is the inventory product search form

```
<html>
<head>
<link rel='stylesheet' type='text/css' href='stairway.css'>
</head>
<body>
<center><h2> Stairway to Heaven Comics</h2>
<h3>Search Products</h3><br/><br/></center>
<nav>
<ul class = 'nav'>
<li class = 'li'><a href = home.html class ="NavLink">Home</a></li>
<div class='dropdown'>
<li class = 'li'><a class ="NavLink">
<button class="dropbtn">Frequent Customers </a>
<i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
<a href='frequentcustomerform.html'>Add Frequent Customer</a>
```

```
<a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
<a href='freqcustdisplay.php'>All Frequent Customer Records</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ="navlink">
    <button class="dropbtn">Pull Lists </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href = 'pullcustomerform.html'>Add Pull Customer</a>
    <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
    <a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ="navlink">
    <button class="dropbtn">Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory Data</a>
</div>
</div>
</nav>
<!-- This query will help locate a specific product -->

<div class = 'formshtml'>
<p>Select how you would like to search: </p>
<form action="productsearch.php" method="post">
<input type="radio" id="title" name="searchmethod" value="title">
<label for="title">Title</label>
<input type="radio" id="name" name="searchmethod" value="name">
<label for="name">Author Name</label>
<input type="radio" id="pub" name="searchmethod" value="pub">
<label for="pub">Publisher</label>
<br><br>
```

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```
<p>Select the type of material you are searching: </p>
<input type="radio" id="comic" name="producttype" value="comic">
<label for="comic">Comic</label>
<input type="radio" id="graphic" name="producttype" value="graphic">
<label for="graphic">Graphic Novel/Trade Paper Back</label><br><br>

<p> Enter relevant information: </p>
<label for="title"> Title : </label>
<input type = "text" id = "title" name ="title" minlength = "1" maxlength = "250"><br><br>
<label for = "authfname"> First Name Author: </label>
<input type = "text" id = "authfname" name ="authfname" minlength = "1" maxlength=
"50"><br><br>
<label for = "authlname"> Last Name Author: </label>
<input type = "text" id = "authlname" name ="authlname" minlength = "1" maxlength=
"50"><br><br>
<label for ="pub"> Publisher: </label>
<input type="text" id ="pub" name ="pub" maxlength="50"><br><br><br>

<input type ="submit" value="Submit">
</form>
</div>
</body>
</html>
```

The screenshot shows a web application interface. At the top, there is a header bar with the title "Stairway to Heaven Comics" and a "Search Products" button. Below the header is a navigation menu with links for "Home", "Frequent Customers", "Pull Lists", and "Inventory". The main content area contains several sections: "Select how you would like to search:" with radio buttons for "Title", "Author Name", and "Publisher"; "Select the type of material you are searching:" with radio buttons for "Comic" and "Graphic Novel/Trade Paper Back"; "Enter relevant information:" followed by input fields for "Title", "First Name Author", "Last Name Author", and "Publisher"; and a "Submit" button at the bottom.

Stairway to Heaven Comics

Search Products

Home Frequent Customers Pull Lists Inventory

Select how you would like to search:

Title Author Name Publisher

Select the type of material you are searching:

Comic Graphic Novel/Trade Paper Back

Enter relevant information:

Title :

First Name Author:

Last Name Author:

Publisher:

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PHP

Frequent Customer:

1. This PHP file creates a new frequent customer record

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

// this document creates a new frequent customer record
echo "<html>
    <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
    </head>
    <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>New Frequent Customer Record</h3></center></h3><br><br>";
echo "      <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
            <div class='dropdown'>
                <li class = 'li'><a class ='navlink'>
                    <button class='dropbtn'>Frequent Customers </a>
                    <i class='fa fa-caret-down'></i>
                </button>
            </li>
            <div class= 'dropdown-content'>
                <a href='frequentcustomerform.html'>Add Frequent Customer</a>
                <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
                <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
            </div>
        </div>
        <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
                <button class='dropbtn'>Pull Lists </a>
                <i class='fa fa-caret-down'></i>
            </button>
        </li>
        <div class= 'dropdown-content'>
            <a href = 'pullcustomerform.html'>Add Pull Customer</a>
```

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```
<a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
<a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";
```

```
$sql_cust="INSERT INTO frequent_customer (freq_custlname, freq_custfname,
freq_custphone, freq_custemail)
VALUES
('$_POST[freqlname]','$_POST[freqfname]','$_POST[freqphone]','$_POST[freqemail]')";
```

```
//echo $sql;
```

```
mysqli_query($con,$sql_cust)
or die('Error: ' . mysqli_error());
```

```
$newrecord_fc = "SELECT freq_cust_ID, freq_custlname,
freq_custfname, freq_custphone, freq_custemail
from frequent_customer where freq_custlname ='$_POST[freqlname]' and freq_custfname =
'$_POST[freqfname]'
and freq_custphone = '$_POST[freqphone]' and freq_custemail = '$_POST[freqemail]'";
$result = mysqli_query($con,$newrecord_fc);

echo "<div class = 'display'>";
echo "<table border='1'>
```

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```
<tr>
<th>Frequent Customer Number</th>
<th>Last Name</th>
<th>First Name</th>
<th>Phone Number</th>
<th>Email</th>
</tr>";

while($row = mysqli_fetch_array($result))

{

echo "<tr>";
echo "<td>" . $row['freq_cust_ID'] . "</td>";
echo "<td>" . $row['freq_custlname'] . "</td>";
echo "<td>" . $row['freq_custfname'] . "</td>";
echo "<td>" . $row['freq_custphone'] . "</td>";
echo "<td>" . $row['freq_custemail'] . "</td>";
echo "</tr>";

}

echo "</table>";
echo "</div>";

mysqli_close($con);

echo "<div class='forms'>";
echo "
<h3>Add purchases here</h3>
<form action = 'freqcustorder.php' method = 'post'>
<label for ='orderdate'> Date: </label>
<input type ='text' id = 'orderdate' name ='orderdate' placeholder='YYYY-MM-DD'/>

<label for ='freqcustID'> Frequent Customer Number: </label>
<input type ='number' id = freqcustID' name ='freqcustID'/'><br><br>

<label for = 'freqtitle1'> Title </label>
```

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```
<input type = 'text' id = 'freqtitle1' name ='freqtitle1' minlength = '1' maxlength= '250'>
<label for ='price1'> Price: </label>
<input type ='number' id = 'price1' name ='price1' min = '0' step = '.01'><br><br>
<input type ='submit' value='Submit'>
</form><br><br><br>";
```

```
echo "<h3>Update Records Here</h3>
<p> Please fill in all fields, even if they are remaining the same </p>
<form action = 'updaterecordfreqcust.php' method = 'post'>
<label for='freqcustID'>Enter Frequent Customer ID</label>
<input type='text' id='freqcustID' name='freqcustID'><br><br>
<label for='freqlname'> Last Name: </label>
<input type ='text' id = 'freqlname' name ='freqlname' minlength = '1' maxlength = '50'>
<label for = 'freqfname'> First Name: </label>
<input type = 'text' id = 'freqfname' name ='freqfname' minlength = '1' maxlength=
'50'><br><br>
<label for ='freqphone'> Phone Number: </label>
<input type='text' id ='freqphone' name ='freqphone' maxlength='20'><br><br>
<label for='freqemail'> Email: </label>
<input type='text' id='freqemail' name='freqemail'><br><br>
<input type ='submit' value='Submit'>
</form><br><br><br>";
```

```
echo
"<h3>Delete Records Here</h3>
<form action = 'deleterecordfreqcust.php' method = 'post'>
<label for='freqcustID'>Enter Frequent Customer ID</label>
<input type='text' id='freqcustID' name='freqcustID'>
<br><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
</form>";
```

```
echo "</div>";
echo "</body>
<html>";
```

?>

Stairway to Heaven Comics

New Frequent Customer Record

Home Frequent Customers Pull Lists Inventory

Frequent Customer Number	Last Name	First Name	Phone Number	Email
69	Longbottom	Neville	5559871111	nlongbottom@hogwarts.edu

Add purchases here

Date: YYYY-MM-DD

Frequent Customer Number:

Title:

Price:

Update Records Here

Please fill in all fields, even if they are remaining the same

Enter Frequent Customer ID:

Last Name: First Name:

2. This PHP file is used to add a new order to a frequent customer's profile/record

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

// this document displays after a new order has been added to a frequent customer's page
echo "<html>
    <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
    </head>
    <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>New Frequent Customer Record, Add Orders Here</h3></center><br><br>";
echo "    <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='NavLink'>Home</a></li>
            <div class='dropdown'>
                <li class = 'li'><a class ='NavLink'>
```

```
<button class='dropbtn'>Frequent Customers </a>
<i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
<a href='frequentcustomerform.html'>Add Frequent Customer</a>
<a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
<a href='freqcustdisplay.php'>All Frequent Customer Records</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
<button class='dropbtn'>Pull Lists </a>
<i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
<a href = 'pullcustomerform.html'>Add Pull Customer</a>
<a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
<a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
<button class='dropbtn'>Inventory </a>
<i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
<a href='inventoryform.html'>Add Product</a>
<a href = 'productsearch.html'> Search/Update Product </a>
<a href='comicdata.php'> All Comics Inventory Data</a>
<a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";
$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

$sql_order="INSERT INTO frequent_orders (freq_booktitle, freq_cost,freq_cust_ID)
VALUES
('$_POST[freqtitle1]', $_POST[price1], $_POST[freqcustID])";
```

```
mysqli_query($con,$sql_order)
or die('Error: ' . mysqli_error());
```



```
$freqcustnumber = $_POST[freqcustID];
$neworder = "SELECT frequent_customer.freq_cust_ID, frequent_customer.freq_custlname,
    frequent_customer.freq_custfname, frequent_customer.freq_custphone,
frequent_customer.freq_custemail,
    frequent_orders.freq_booktitle, frequent_orders.freq_cost, frequent_customer.lastcreditdate
from frequent_customer
inner join frequent_orders
where frequent_customer.freq_cust_ID = $freqcustnumber and frequent_orders.freq_cust_ID
= $freqcustnumber and
frequent_customer.freq_cust_ID = frequent_orders.freq_cust_ID";
```



```
$result = mysqli_query($con,$neworder);
```



```
echo "<div class = 'display'>";
echo "
<table border='1'>
<tr>
<th>Frequent Customer Number</th>
<th>Last Name</th>
<th>First Name</th>
<th>Phone Number</th>
<th>Email</th>
<th>Book Title</th>
<th>Cost</th>
<th>Last Credit Date</th>
</tr>";
```



```
while($row = mysqli_fetch_array($result))
```



```
{
echo "<tr>";
echo "<td>" . $row['freq_cust_ID'] . "</td>";
echo "<td>" . $row['freq_custlname'] . "</td>";
echo "<td>" . $row['freq_custfname'] . "</td>";
```

```
echo "<td>" . $row['freq_custphone'] . "</td>";
echo "<td>" . $row['freq_custemail'] . "</td>";
echo "<td>" , $row['freq_booktitle'] . "</td>";
echo "<td>" , $row['freq_cost'] . "</td>";
echo "<td>" , $row['lastcreditdate'] . "</td>";
echo "</tr>";
```

```
}
```

```
echo "</table>";
echo "</div>";
echo "<div class='forms'>";
echo "
<h3>Add purchases here</h3>
<form action = 'freqcustorder.php' method = 'post'>
<label for ='freqcustID'> Frequent Customer Number: </label>
<input type ='number' id = freqcustID' name ='freqcustID'><br><br>

<label for = 'freqtitle1'> Title </label>
<input type = 'text' id = 'freqtitle1' name = 'freqtitle1' minlength = '1' maxlength= '250'>
<label for ='price1'> Price: </label>
<input type ='number' id = 'price1' name = 'price1' min = '0' step = '.01'><br><br>
<input type ='submit' value='Submit'><br><br>
</form>";

echo "<h3>Update Records Here</h3>
<p> Please fill in all fields, even if they are remaining the same </p>
<form action = 'updaterecordfreqcust.php' method = 'post'>
<label for ='creditdate'> Credit Date: </label>
<input type ='text' id = 'creditdate' name = 'creditdate' placeholder='YYYY-MM-DD'><br>
<label for='freqcustID'>Enter Frequent Customer ID</label>
<input type='text' id='freqcustID' name='freqcustID'><br><br>
<label for='freqlname'> Last Name: </label>
<input type ='text' id = 'freqlname' name = 'freqlname' minlength = '1' maxlength = '50'>
<label for = 'freqfname'> First Name: </label>
<input type = 'text' id = 'freqfname' name = 'freqfname' minlength = '1' maxlength=
'50'><br><br>
<label for ='freqphone'> Phone Number: </label>
<input type='text' id = 'freqphone' name = 'freqphone' maxlength='20'><br><br>
```

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```
<label for='freqemail'> Email: </label>
<input type='text' id='freqemail' name='freqemail'><br><br>
<input type = 'submit' value='Submit'>
</form><br><br><br>";
```

```
echo
"<h3>Delete Records Here</h3>
<form action = 'deleterecordfreqcust.php' method = 'post'>
<label for='freqcustID'>Enter Frequent Customer ID</label>
<input type='text' id='freqcustID' name='freqcustID'>
<br><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type = 'submit' value='Submit'>
</form>";

echo "</div>";
echo "</body>
<html>";
?>
```

Stairway to Heaven Comics							
New Frequent Customer Record, Add Orders Here							
Home		Frequent Customers		Pull Lists		Inventory	
Frequent Customer Number	Last Name	First Name	Phone Number	Email	Book Title	Cost	Last Credit Date
70	Longbottom	Neville	5559871111	nlongbottom@hogwarts.edu	Saga Volume 1	9.99	

3. This PHP file is used to search for frequent customer records, using first name and last name

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';
$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");
```

```
// this document queries frequent customer records to find their order history using last name
and first name
echo "<html>
    <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
    </head>
    <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>Frequent Customer Purchase History</h3></center></h3><br><br>";
echo "    <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
            <div class='dropdown'>
                <li class = 'li'><a class ='navlink'>
                    <button class='dropbtn'>Frequent Customers </a>
                    <i class='fa fa-caret-down'></i>
                </button>
            </li>
            <div class= 'dropdown-content'>
                <a href='frequentcustomerform.html'>Add Frequent Customer</a>
                <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
                <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
            </div>
        </div>
        <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
                <button class='dropbtn'>Pull Lists </a>
                <i class='fa fa-caret-down'></i>
            </button>
        </li>
        <div class= 'dropdown-content'>
            <a href = 'pullcustomerform.html'>Add Pull Customer</a>
            <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
            <a href = 'plistdata.php'>All Pull List Customer Data</a>
        </div>
    </div>
    <div class='dropdown'>
        <li class = 'li'><a class ='navlink'>
            <button class='dropbtn'>Inventory </a>
            <i class='fa fa-caret-down'></i>
        </button>
    </li>
</div>"
```

```
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";

//establish count of how many results for the last name/first name comment
$sql = "select count(*) as count from frequent_customer where '$_POST[freqfname]' =
freq_custfname and '$_POST[freqlname]' = freq_custlname;";

$result = mysqli_query($con, $sql)
or die ("Error");

// if zero they do not have an account
$row = mysqli_fetch_assoc($result);
if ( $row['count']==0 )
{
    die ("This person is not a member of the Frequent Customer Program");
}
// if greater than 1 we need to be more specific
elseif ( $row['count'] > 1 )
{
    $dlastname = $_POST['freqlname'];
    $dfirstname = $_POST['freqfname'];
    $sql = "select frequent_customer.freq_cust_ID, frequent_customer.freq_custlname,
frequent_customer.freq_custfname,frequent_customer.freq_custemail,
frequent_customer.freq_custphone
from frequent_customer
where frequent_customer.freq_custlname = '$dlastname' and
frequent_customer.freq_custfname = '$dfirstname'";

$result = mysqli_query($con,$sql);

echo "<div class= 'display'>";
echo "<table border='1'; center;>
<tr>
<th>Frequent Customer Number</th>
<th>Last Name</th>
```

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```
<th>First Name</th>
<th>Email</th>
<th>Phone</th>
</tr>";

while($row = mysqli_fetch_array($result))
{
    echo "<tr>";
    echo "<td>" . $row['freq_cust_ID'] . "</td>";
    echo "<td>" . $row['freq_custlname'] . "</td>";
    echo "<td>" . $row['freq_custfname'] . "</td>";
    echo "<td>" . $row['freq_custemail'] . "</td>";
    echo "<td>" . $row['freq_custphone'] . "</td>";
    echo "</tr>";
}
echo "</table>";
echo "</div>";
echo "<div class ='forms'>";
echo "<p> Try searching again using the Frequent Customer Number </p>";
echo "<form action='frequentcustomerpurchasehistoryID.php' method='post'>
    <label for ='freqcustID'> Frequent Customer Number: </label>
    <input type ='number' id = freqcustID' name ='freqcustID'><br><br>
    <label for='freqlname'> Last Name: </label>
    <input type ='text' id = 'freqlname' name ='freqlname' minlength = '1' maxlength = '50'>
    <label for = 'freqfname'> First Name: </label>
    <input type = 'text' id = 'freqfname' name ='freqfname' minlength = '1' maxlength=
    '50'><br><br>
    <input type='submit' />";
    echo "</div>";

}

// if one we can display their order history
elseif ( $row['count'] == 1 )
{
    $dlastname = $_POST['freqlname'];
    $dfirstname = $_POST['freqfname'];
    $sql_orders = "select *
from frequent_orders
inner join frequent_customer
where '$dlastname' = freq_custlname and '$dfirstname' = freq_custfname and
frequent_customer.freq_cust_ID = frequent_orders.freq_cust_ID;"
```

```
$result = mysqli_query($con, $sql_orders)
or die ("Error");

// in case they haven't made any orders yet
$row = mysqli_num_rows($result);

if ( $row == 0 )
{
    $dlastname = $_POST['freqlname'];
    $dfirstname = $_POST['freqfname'];
    $sql = "select frequent_customer.freq_cust_ID, frequent_customer.freq_custlname,
frequent_customer.freq_custfname,
frequent_customer.freq_custemail, frequent_customer.freq_custphone
from frequent_customer
where frequent_customer.freq_custlname = '$dlastname' and
frequent_customer.freq_custfname = '$firstname';";

$result = mysqli_query($con,$sql);

echo "<div class = 'display'>";
echo "<table border='1'; center;>
<tr>
<th>Frequent Customer Number</th>
<th>Last Name</th>
<th>First Name</th>
<th>Phone</th>
<th>Email</th>
</tr>";

while($row = mysqli_fetch_array($result))
{
    echo "<tr>";
    echo "<td>" . $row['freq_cust_ID'] . "</td>";
    echo "<td>" . $row['freq_custlname'] . "</td>";
    echo "<td>" . $row['freq_custfname'] . "</td>";
    echo "<td>" . $row['freq_custphone'] . "</td>";
    echo "<td>" . $row['freq_custemail'] . "</td>";
    echo "</tr>";
}
echo "</table>";
```

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```
echo "</div>";  
echo "<div class='forms'>";  
echo "  
<h3>Add purchases here</h3>  
<form action = 'freqcustorder.php' method = 'post'>  
<label for ='orderdate'> Date: </label>  
<input type ='text' id = 'orderdate' name ='orderdate' placeholder='YYYY-MM-DD'>  
  
<label for ='freqcustID'> Frequent Customer Number: </label>  
<input type ='number' id = freqcustID' name ='freqcustID'><br><br>  
  
<label for = 'freqtitle1'> Title </label>  
<input type = 'text' id = 'freqtitle1' name ='freqtitle1' minlength = '1' maxlength= '250'>  
<label for ='price1'> Price: </label>  
<input type ='number' id = 'price1' name ='price1' min = '0' step = '.01'><br><br>  
<input type ='submit' value='Submit'><br><br>  
</form>";  
  
echo "<h3>Update Records Here</h3>  
<p> Please fill in all fields, even if they are remaining the same </p>  
<form action = 'updaterecordfreqcust.php' method = 'post'>  
<label for ='creditdate'> Credit Date: </label>  
<input type ='text' id = 'creditdate' name ='creditdate' placeholder='YYYY-MM-DD'><br>  
<label for='freqcustID'>Enter Frequent Customer ID</label>  
<input type='text' id='freqcustID' name='freqcustID'><br><br>  
<label for='freqlname'> Last Name: </label>  
<input type ='text' id = 'freqlname' name ='freqlname' minlength = '1' maxlength = '50'>  
<label for = 'freqfname'> First Name: </label>  
<input type = 'text' id = 'freqfname' name ='freqfname' minlength = '1' maxlength= '50'><br><br>  
<label for ='freqphone'> Phone Number: </label>  
<input type='text' id ='freqphone' name ='freqphone' maxlength='20'><br><br>  
<label for='freqemail'> Email: </label>  
<input type='text' id='freqemail' name='freqemail'><br><br>  
<input type ='submit' value='Submit'>  
</form><br><br><br>";  
  
echo
```

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```
"<h3>Delete Records Here</h3>
<form action = 'deleterecordfreqcust.php' method = 'post'>
<label for='freqcustID'>Enter Frequent Customer ID</label>
<input type='text' id='freqcustID' name='freqcustID'>
<br><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
</form>";
echo "</div>";
}

else {

$dlastname = $_POST['freqlname'];
$firstname = $_POST['freqfname'];
$sql = "select frequent_customer.freq_cust_ID, frequent_customer.freq_custlname,
frequent_customer.freq_custfname,frequent_orders.freq_booktitle,
frequent_orders.freq_cost, frequent_customer.lastcreditdate
from frequent_orders
inner join frequent_customer
where frequent_customer.freq_custlname = '$dlastname' and
frequent_customer.freq_custfname = '$firstname' and frequent_customer.freq_cust_ID =
frequent_orders.freq_cust_ID;";

$result = mysqli_query($con,$sql);

echo "<div class= 'display'>";
echo "<table border='1'; center;>
<tr>
<th>Frequent Customer Number</th>
<th>Last Name</th>
<th>First Name</th>
<th>Book Title</th>
<th>Cost</th>
<th>Last Credit Date</th>
</tr>";

while($row = mysqli_fetch_array($result))
{
echo "<tr>";
echo "<td>" , $row['freq_cust_ID'] . "</td>";
echo "<td>" , $row['freq_custlname'] . "</td>";
```

```
echo "<td>" , $row['freq_custfname'] . "</td>";
echo "<td>" , $row['freq_booktitle'] . "</td>";
echo "<td>" , $row['freq_cost'] . "</td>";
echo "<td>" , $row['lastcreditdate'] . "</td>";
echo "</tr>";
}
echo "</table>";
echo "</div>";
echo "<div class = 'forms'>";
echo "<br><br><br><br><br>
<h3>Add purchases here</h3>
<form action = 'freqcustorder.php' method = 'post'>

<label for ='freqcustID'> Frequent Customer Number: </label>
<input type ='number' id = freqcustID' name ='freqcustID'><br><br>

<label for = 'freqtitle1'> Title </label>
<input type = 'text' id = 'freqtitle1' name ='freqtitle1' minlength = '1' maxlength= '250'>
<label for ='price1'> Price: </label>
<input type ='number' id = 'price1' name ='price1' min = '0' step = '.01'><br><br>
<input type ='submit' value='Submit'><br><br>
</form>";

echo "<h3>Update Records Here</h3>
<p> Please fill in all fields, even if they are remaining the same </p>
<form action = 'updaterecordfreqcust.php' method = 'post'>
<label for ='creditdate'> Credit Date: </label>
<input type ='text' id = 'creditdate' name ='creditdate' placeholder='YYYY-MM-DD'><br>
<label for='freqcustID'>Enter Frequent Customer ID</label>
<input type='text' id='freqcustID' name='freqcustID'><br><br>
<label for='freqlname'> Last Name: </label>
<input type ='text' id = 'freqlname' name ='freqlname' minlength = '1' maxlength = '50'>
<label for = 'freqfname'> First Name: </label>
<input type = 'text' id = 'freqfname' name ='freqfname' minlength = '1' maxlength=
'50'><br><br>
<label for ='freqphone'> Phone Number: </label>
<input type='text' id = 'freqphone' name ='freqphone' maxlength='20'><br><br>
<label for='freqemail'> Email: </label>
<input type='text' id = 'freqemail' name='freqemail'><br><br>
<input type ='submit' value='Submit'>
```

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```
</form><br><br><br>">;
echo
"<h3>Delete Records Here</h3>
<form action = 'deleterecordfreqcust.php' method = 'post'>
<label for='freqcustID'>Enter Frequent Customer ID</label>
<input type='text' id='freqcustID' name='freqcustID'>
<br><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
</form>";
echo "</div>";
}

}

echo "</body>
<html>";
?>
```

The screenshot shows a web page with the title "Stairway to Heaven Comics" and a subtitle "Frequent Customer Purchase History". At the top, there is a navigation bar with links for "Home", "Frequent Customers", "Pull Lists", and "Inventory". Below the navigation bar, there is a table with two rows of data:

Frequent Customer Number	Last Name	First Name	Email	Phone
69	Longbottom	Neville	nlongbottom@hogwarts.edu	5559871111
70	Longbottom	Neville	nlongbottom@hogwarts.edu	5559871111

To the right of the table, there is a search form with the following fields:

- A text input field labeled "Try searching again using the Frequent Customer Number".
- A text input field labeled "Frequent Customer Number".
- A text input field labeled "Last Name".
- A text input field labeled "First Name".
- A "Submit" button.

4. This PHP file is used to refine your search in case there are multiple records with the same name, which is bound to happen.

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

echo "<html>
```

```
<head>
<link rel='stylesheet' type='text/css' href='stairway.css'>
</head>
<body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>New Frequent Purchase History</h3></center></h3><br><br>";
echo "      <nav>
      <ul class = 'nav'>
          <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
          <div class='dropdown'>
              <li class = 'li'><a class ='navlink'>
                  <button class='dropbtn'>Frequent Customers </a>
                  <i class='fa fa-caret-down'></i>
              </button>
          </li>
          <div class= 'dropdown-content'>
              <a href='frequentcustomerform.html'>Add Frequent Customer</a>
              <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
              <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
          </div>
      </div>
      <div class='dropdown'>
          <li class = 'li'><a class ='navlink'>
              <button class='dropbtn'>Pull Lists </a>
              <i class='fa fa-caret-down'></i>
          </button>
      </li>
      <div class= 'dropdown-content'>
          <a href = 'pullcustomerform.html'>Add Pull Customer</a>
          <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
          <a href = 'plistdata.php'>All Pull List Customer Data</a>
      </div>
  </div>
  <div class='dropdown'>
      <li class = 'li'><a class ='navlink'>
          <button class='dropbtn'>Inventory </a>
          <i class='fa fa-caret-down'></i>
      </button>
  </li>
  <div class= 'dropdown-content'>
      <a href='inventoryform.html'>Add Product</a>
      <a href = 'productsearch.html'> Search/Update Product </a>
      <a href='comicdata.php'> All Comics Inventory Data</a>
  </div>
</div>
```

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```
<a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory  
Data</a>  
</div>  
</div>  
</nav>";  
  
$con = mysqli_connect($host,$user,$password,$database)  
or die ("Couldn't connect to server");  
  
//establish count of how many results for the last name/first name comment  
$sql = "select count(*) as count from frequent_customer where '$_POST[freqfname]' =  
freq_custfname and '$_POST[freqlname]' = freq_custlname;";  
  
$result = mysqli_query($con, $sql)  
or die ("Error");  
  
// if zero they do not have an account  
$row = mysqli_fetch_assoc($result);  
if ( $row['count']==0 )  
{  
    die ("This person is not a member of the Frequent Customer Program");  
}  
  
$lastname = $_POST['freqlname'];  
$firstname = $_POST['freqfname'];  
$dID = $_POST['freqcustID'];  
$sql_orders = "select *  
from frequent_orders  
inner join frequent_customer  
where '$lastname' = freq_custlname and '$firstname' = freq_custfname and  
frequent_customer.freq_cust_ID = $dID and frequent_customer.freq_cust_ID =  
frequent_orders.freq_cust_ID;";  
  
$result = mysqli_query($con, $sql_orders)  
or die ("Error");  
  
// in case they haven't made any orders yet  
$row = mysqli_num_rows($result);  
  
if ( $row == 0 )  
{
```

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```
$dlastname = $_POST['freqlname'];
$dfirstname = $_POST['freqfname'];
$id = $_POST['freqcustID'];
$sql = "select frequent_customer.freq_cust_ID, frequent_customer.freq_custlname,
frequent_customer.freq_custfname, frequent_customer.freq_custemail,
frequent_customer.freq_custphone
from frequent_customer
where frequent_customer.freq_custlname = '$dlastname' and
frequent_customer.freq_custfname = '$firstname' and frequent_customer.freq_cust_ID =
$ID;";

$result = mysqli_query($con,$sql);

echo "<div class = 'display'";
echo "<table border='1'; center;>
<tr>
<th>Frequent Customer Number</th>
<th>Last Name</th>
<th>First Name</th>
<th>Phone</th>
<th>Email</th>
</tr>";

while($row = mysqli_fetch_array($result))
{
    echo "<tr>";
    echo "<td>" . $row['freq_cust_ID'] . "</td>";
    echo "<td>" . $row['freq_custlname'] . "</td>";
    echo "<td>" . $row['freq_custfname'] . "</td>";
    echo "<td>" . $row['freq_custphone'] . "</td>";
    echo "<td>" . $row['freq_custemail'] . "</td>";
    echo "</tr>";
}
echo "</table>";
echo "</div>";
echo "<div class = 'forms'>";
echo "
<h3>Add purchases here</h3>
<form action = 'freqcustorder.php' method = 'post'>
<label for ='orderdate'> Date: </label>
<input type ='text' id = 'orderdate' name ='orderdate' placeholder='YYYY-MM-DD'/>
```

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```
<label for ='freqcustID'> Frequent Customer Number: </label>
<input type ='number' id = freqcustID' name ='freqcustID'><br><br>
```

```
<label for = 'freqtitle1'> Title </label>
<input type = 'text' id = 'freqtitle1' name ='freqtitle1' minlength = '1' maxlength= '250'>
<label for ='price1'> Price: </label>
<input type ='number' id = 'price1' name ='price1' min = '0' step = '.01'><br><br>
<input type ='submit' value='Submit'><br><br>
</form>";
```

```
echo "<h3>Update Records Here</h3>
<p> Please fill in all fields, even if they are remaining the same </p>
<form action = 'updaterecordfreqcust.php' method = 'post'>
<label for ='creditdate'> Credit Date: </label>
<input type ='text' id = 'creditdate' name ='creditdate' placeholder='YYYY-MM-DD'><br>
<label for='freqcustID'>Enter Frequent Customer ID</label>
<input type='text' id='freqcustID' name='freqcustID'><br><br>
<label for='freqlname'> Last Name: </label>
<input type ='text' id = 'freqlname' name ='freqlname' minlength = '1' maxlength = '50'>
<label for = 'freqfname'> First Name: </label>
<input type = 'text' id = 'freqfname' name ='freqfname' minlength = '1' maxlength=
'50'><br><br>
<label for ='freqphone'> Phone Number: </label>
<input type='text' id = 'freqphone' name ='freqphone' maxlength='20'><br><br>
<label for='freqemail'> Email: </label>
<input type='text' id='freqemail' name='freqemail'><br><br>
<input type ='submit' value='Submit'>
</form><br><br><br>";
```

```
echo
"<h3>Delete Records Here</h3>
<form action = 'deleterecordfreqcust.php' method = 'post'>
<label for='freqcustID'>Enter Frequent Customer ID</label>
<input type='text' id='freqcustID' name='freqcustID'>
<br><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
</form>";
```

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```
echo "</div>";  
}  
  
else {  
  
    $dlastname = $_POST['freqlname'];  
    $firstname = $_POST['freqfname'];  
    $dID = $_POST['freqcustID'];  
    $sql = "select frequent_customer.freq_cust_ID, frequent_customer.freq_custlname,  
frequent_customer.freq_custfname,frequent_orders.freq_booktitle, frequent_orders.freq_cost,  
frequent_customer.lastcreditdate  
from frequent_orders  
inner join frequent_customer  
where frequent_customer.freq_custlname = '$dlastname' and  
frequent_customer.freq_custfname = '$firstname' and frequent_customer.freq_cust_ID = $dID  
and frequent_customer.freq_cust_ID = frequent_orders.freq_cust_ID;";  
  
    $result = mysqli_query($con,$sql);  
  
    echo "<div class = 'display'>";  
    echo "<table border='1'; center;>  
    <tr>  
        <th>Frequent Customer Number</th>  
        <th>Last Name</th>  
        <th>First Name</th>  
        <th>Book Title</th>  
        <th>Cost</th>  
        <th>Last Credit Date</th>  
    </tr>";  
  
    while($row = mysqli_fetch_array($result))  
    {  
        echo "<tr>";  
        echo "<td>" . $row['freq_cust_ID'] . "</td>";  
        echo "<td>" . $row['freq_custlname'] . "</td>";  
        echo "<td>" . $row['freq_custfname'] . "</td>";  
        echo "<td>" . $row['freq_booktitle'] . "</td>";  
        echo "<td>" . $row['freq_cost'] . "</td>";  
        echo "<td>" . $row['lastcreditdate'] . "</td>";  
        echo "</tr>";  
    }  
    echo "</table>";
```

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```
echo "</div>";  
echo "<div class = 'forms'>";  
echo "<h3>Add purchases here</h3>  
<form action = 'freqcustorder.php' method = 'post'>  
  
<label for ='freqcustID'> Frequent Customer Number: </label>  
<input type ='number' id = freqcustID' name ='freqcustID' /><br><br>  
  
<label for = 'freqtitle1'> Title </label>  
<input type = 'text' id = 'freqtitle1' name ='freqtitle1' minlength = '1' maxlength= '250'>  
<label for ='price1'> Price: </label>  
<input type ='number' id = 'price1' name ='price1' min = '0' step = '.01'><br><br>  
<input type ='submit' value='Submit'><br><br>  
</form>";  
  
echo "<h3>Update Records Here</h3>  
<p> Please fill in all fields, even if they are remaining the same </p>  
<form action = 'updaterecordfreqcust.php' method = 'post'>  
<label for ='creditdate'> Credit Date: </label>  
<input type ='text' id = 'creditdate' name ='creditdate' placeholder='YYYY-MM-DD' /><br>  
<label for='freqcustID'>Enter Frequent Customer ID</label>  
<input type='text' id='freqcustID' name='freqcustID' /><br><br>  
<label for='freqlname'> Last Name: </label>  
<input type ='text' id = 'freqlname' name ='freqlname' minlength = '1' maxlength = '50'>  
<label for = 'freqfname'> First Name: </label>  
<input type = 'text' id = 'freqfname' name ='freqfname' minlength = '1' maxlength= '50'><br><br>  
<label for ='freqphone'> Phone Number: </label>  
<input type='text' id ='freqphone' name ='freqphone' maxlength='20' /><br><br>  
<label for='freqemail'> Email: </label>  
<input type='text' id='freqemail' name='freqemail' /><br><br>  
<input type ='submit' value='Submit'>  
</form><br><br><br>";  
  
echo  
"<h3>Delete Records Here</h3>  
<form action = 'deleterecordfreqcust.php' method = 'post'>  
<label for='freqcustID'>Enter Frequent Customer ID</label>  
<input type='text' id='freqcustID' name='freqcustID' />  
<br><br>
```

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```
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
</form>";
echo "</div>";

}

echo "</body>
<html>";
?>
```

Stairway to Heaven Comics

Frequent Customer Purchase History

Home Frequent Customers Pull Lists Inventory

Frequent Customer Number	Last Name	First Name	Book Title	Cost	Last Credit Date
70	Longbottom	Neville	Saga Volume 1	9.99	

Add purchases here

Frequent Customer Number:

Title: Price:

Update Records Here

Please fill in all fields, even if they are remaining the same

Credit Date: YYYY-MM-DD

Enter Frequent Customer ID:

Last Name: First Name:

Phone Number:

5. This PHP document shows us all the frequent customer records

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database="lis458olsp20_allwarde_1";

$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

// this document shows all of the frequent customer records
echo "<html>
    <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
    </head>
    <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>All Frequent Customer Data</h3></center></h3><br><br>";
echo "    <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
            <div class='dropdown'>
                <li class = 'li'><a class ='navlink'>
                    <button class='dropbtn'>Frequent Customers </a>
                    <i class='fa fa-caret-down'></i>
                </button>
            </li>
            <div class= 'dropdown-content'>
                <a href='frequentcustomerform.html'>Add Frequent Customer</a>
                <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
                <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
            </div>
        </div>
        <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
                <button class='dropbtn'>Pull Lists </a>
                <i class='fa fa-caret-down'></i>
            </button>
        </li>
        <div class= 'dropdown-content'>
            <a href = 'pullcustomerform.html'>Add Pull Customer</a>
            <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
            <a href = 'plistdata.php'>All Pull List Customer Data</a>
        </div>
    </div>
</body>"
```

```
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";
```

```
$result = mysqli_query($con,"SELECT * FROM frequent_customer");
```

```
echo "<div class='display'>";
echo "<table border='1'>
<tr>
<th>Frequent Customer Number</th>
<th>Last Name</th>
<th>First Name</th>
<th>Phone Number</th>
<th>Email</th>
<th>Last Credit Date</th>
</tr>";
```

```
while($row = mysqli_fetch_array($result))
{
    echo "<tr>";
    echo "<td>" . $row['freq_cust_ID'] . "</td>";
    echo "<td>" . $row['freq_custlname'] . "</td>";
    echo "<td>" . $row['freq_custfname'] . "</td>";
    echo "<td>" . $row['freq_custphone'] . "</td>";
    echo "<td>" . $row['freq_custemail'] . "</td>";
    echo "<td>" . $row['lastcreditdate'] . "</td>";
    echo "</tr>";
}
echo "</table>";
```

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```
echo "</div>";
```

```
mysqli_close($con);
```

```
echo "<div class = 'forms'>";  
echo "<h3> Go to a specific Record here </h3>";  
echo "<form action='frequentcustomerpurchasehistoryID.php' method='post'>  
    <label for ='freqcustID'> Frequent Customer Number: </label>  
    <input type ='number' id = freqcustID' name ='freqcustID'><br><br>  
    <label for='freqlname'> Last Name: </label>  
    <input type ='text' id = 'freqlname' name ='freqlname' minlength = '1' maxlength = '50'>  
    <label for = 'freqfname'> First Name: </label>  
    <input type = 'text' id = 'freqfname' name ='freqfname' minlength = '1' maxlength=  
'50'><br><br>  
    <input type='submit'>  
</form><br><br>";
```

```
echo "<h3>Update Records Here</h3>
```

```
    <p> Please fill in all fields, even if they are remaining the same </p>  
    <form action = 'updaterecordfreqcust.php' method = 'post'>  
        <label for ='creditdate'> Credit Date: </label>  
        <input type ='text' id = 'creditdate' name ='creditdate' placeholder='YYYY-MM-DD'><br>  
        <label for='freqcustID'>Enter Frequent Customer ID</label>  
        <input type='text' id='freqcustID' name='freqcustID'><br><br>  
        <label for='freqlname'> Last Name: </label>  
        <input type ='text' id = 'freqlname' name ='freqlname' minlength = '1' maxlength = '50'>  
        <label for = 'freqfname'> First Name: </label>  
        <input type = 'text' id = 'freqfname' name ='freqfname' minlength = '1' maxlength=  
'50'><br><br>  
        <label for ='freqphone'> Phone Number: </label>  
        <input type='text' id = 'freqphone' name ='freqphone' maxlength='20'><br><br>  
        <label for='freqemail'> Email: </label>  
        <input type='text' id='freqemail' name='freqemail'><br><br>  
        <input type ='submit' value='Submit'>  
</form><br><br><br>";
```

```
echo "<h3>Delete Records Here</h3>
```

```
    <form action = 'deleterecordfreqcust.php' method = 'post'>  
        <label for='freqcustID'>Enter Frequent Customer ID</label>  
        <input type='text' id='freqcustID' name='freqcustID'>  
        <br><br>  
        <p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
```

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```
<input type ='submit' value='Submit'>
</form>";
echo "</div>";
```

```
echo "</body>
<html>";
```

?>

Stairway to Heaven Comics

All Frequent Customer Data

[Home](#) [Frequent Customers](#) [Pull Lists](#) [Inventory](#)

Frequent Customer Number	Last Name	First Name	Phone Number	Email	Last Credit Date
1	Allwarden	Sarah	7184185502	sarahallwarden@gmail.com	
2	Salazar	Daniel	9787038651	vinnydoombats@gmail.com	2020-04-26
3	Miller	Katie	5082698332	katiebmiller09@gmail.com	
4	Allwarden	Joseph	6037729622	jmacsa@comcast.net	
5	Thorndike	Isabel	4206666969	nutellasquirrel3@gmail.com	
6	Veilleux	Sidney	7742329296	s_veilleux32@yahoo.com	
7	Schneider	Teddy	8607120494	teddyeschneider@gmail.com	
8	Bacon	Aaron			2017-12-31
9	Chakmakian	Aaron			2019-12-28
10	Bradford	Aaron			2017-12-26
11	Davis	Aaron			2018-10-27
12	Firpo	Aaron			2016-07-24
13	Groetsema	Aaron			2018-12-08
14	Miller	Aaron	5559877777	noemailaaron@gmail.com	2016-10-01
15	Thompson	Cheyenne	603-555-5555	cheyenne@fake.com	2019-12-28
18	Rogers	Ronniqa	6179053842	r0nnica@gmail.com	
21	St Laurent	Christine	60320154914	c_allwarden@hotmail.com	
22	Allwarden	Christine	6037729622	jmacsa@comcast.net	
23	Braker	Erin	6039181951	erbraker@yahoo.com	
24	Lovegood	Luna	123456789	loveg00d@hogwarts.edu	
25	Potter	Harry	777777777	harryrocks@hogwarts.edu	
45	Shaw	Brandon	4135406953	bcsshaw93@gmail.com	
47	Miller	Katia	6092698332	katiabmiller09@gmail.com	

Go to a specific Record here

Frequent Customer Number:

Last Name: First Name:

Submit

Update Records Here

Please fill in all fields, even if they are remaining the same

Credit Date: YYYY-MM-DD

Enter Frequent Customer ID

Last Name: First Name:

Phone Number:

Email:

6. This PHP is used to update a frequent customer record

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

// this document is used to update records on the frequent customer program
```

```
echo "<html>
```

```
<head>
<link rel='stylesheet' type='text/css' href='stairway.css'>
</head>
<body>;
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>Update Frequent Customer Record</h3></center></h3><br><br>";
echo "    <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
            <div class='dropdown'>
                <li class = 'li'><a class ='navlink'>
                    <button class='dropbtn'>Frequent Customers </a>
                    <i class='fa fa-caret-down'></i>
                </button>
            </li>
            <div class= 'dropdown-content'>
                <a href='frequentcustomerform.html'>Add Frequent Customer</a>
                <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer
Page</a>
                <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
            </div>
        </div>
        <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
                <button class='dropbtn'>Pull Lists </a>
                <i class='fa fa-caret-down'></i>
            </button>
        </li>
        <div class= 'dropdown-content'>
            <a href = 'pullcustomerform.html'>Add Pull Customer</a>
            <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
            <a href = 'plistdata.php'>All Pull List Customer Data</a>
        </div>
    </div>
    <div class='dropdown'>
        <li class = 'li'><a class ='navlink'>
            <button class='dropbtn'>Inventory </a>
            <i class='fa fa-caret-down'></i>
        </button>
    </li>
    <div class= 'dropdown-content'>
        <a href='inventoryform.html'>Add Product</a>
        <a href = 'productsearch.html'> Search/Update Product </a>
```

Sarah Allwarden

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```
<a href='comicdata.php'> All Comics Inventory Data</a>
<a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";

$dID = $_POST['freqcustID'];
$dlastname = $_POST['freqlname'];
$dfirstname = $_POST['freqfname'];
$demail = $_POST['freqemail'];
$dphone = $_POST['freqphone'];
$credit = $_POST['creditdate'];

$sql1 = "UPDATE frequent_customer SET freq_custlname = '$dlastname' WHERE
freq_cust_ID= $dID";

if ($con->query($sql1) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}

$sql2 = "UPDATE frequent_customer SET freq_custfname = '$dfirstname' WHERE
freq_cust_ID= $dID";

if ($con->query($sql2) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}

$sql3 = "UPDATE frequent_customer SET freq_custemail = '$demail' WHERE freq_cust_ID=
$dID";

if ($con->query($sql3) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}
```

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```
$sql4 = "UPDATE frequent_customer SET freq_custphone = '$dphone' WHERE freq_cust_ID= $dID";  
  
if ($con->query($sql4) === TRUE) {  
    echo "Record updated successfully";  
} else {  
    echo "Error updating record: " . $con->error;  
}  
  
$sql5 = "UPDATE frequent_customer SET lastcreditdate = '$credit' WHERE freq_cust_ID= $dID";  
  
if ($con->query($sql5) === TRUE) {  
    echo "Record updated successfully";  
} else {  
    echo "Error updating record: " . $con->error;  
}  
  
$con->close();  
  
echo "</body>  
    <html>";  
  
?>
```

The screenshot shows a two-panel interface. The left panel is titled 'Update Records Here' and contains fields for 'Credit Date' (2020-04-26), 'Enter Frequent Customer ID' (70), 'Last Name' (Longbottom), 'First Name' (Neville), 'Phone Number' (5559871111), and 'Email' (nlongbottom@hogwarts). A 'Submit' button is at the bottom. The right panel is titled 'Stairway to Heaven Comics' and shows the message 'Update Frequent Customer Record'. It includes navigation links for 'Home', 'Frequent Customers', 'Pull Lists', and 'Inventory'. At the bottom of the right panel, there is a repeating success message: 'Record updated successfullyRecord updated successfullyRecord updated successfullyRecord updated successfullyRecord updated successfully'.

7. This PHP is used to delete records from the frequent customers

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

// this document deletes a frequent record
$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

echo "<html>
    <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
    </head>
    <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>Delete Frequent CustomerRecord</h3></center></h3><br><br>";
echo "    <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
            <div class='dropdown'>
                <li class = 'li'><a class ='navlink'>
                    <button class='dropbtn'>Frequent Customers </a>
                    <i class='fa fa-caret-down'></i>
                </button>
            </li>
            <div class= 'dropdown-content'>
                <a href='frequentcustomerform.html'>Add Frequent Customer</a>
                <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer
Page</a>
                <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
            </div>
        </div>
        <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
                <button class='dropbtn'>Pull Lists </a>
                <i class='fa fa-caret-down'></i>
            </button>
        </li>
        <div class= 'dropdown-content'>
            <a href = 'pullcustomerform.html'>Add Pull Customer</a>
            <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
        </div>
    </ul>
</nav>"
```

```
<a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";

$dID = $_POST['freqcustID'];

$sql2 = "DELETE FROM frequent_orders WHERE freq_cust_ID = $dID";

if ($con->query($sql2) === TRUE)
{
    echo "Records deleted successfully from Frequent Orders";
}
else {
    echo "Error deleting record: " . $con->error;
}

$sql = "DELETE FROM frequent_customer WHERE freq_cust_ID = $dID";

if ($con->query($sql) === TRUE)
{
    echo "Record deleted successfully from Frequent Customers <br><br>";
}
else {
    echo "Error deleting record: " . $con->error;
}
```

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```
$con->close();
```

```
echo "</body>
<html>";
?>
```

The image consists of two side-by-side screenshots of a web application. The left screenshot shows a form titled "Delete Records Here". It has a text input field containing "69". Below it is a note: "Make sure you want to PERMANENTLY delete before pressing submit!". At the bottom is a "Submit" button. The right screenshot shows a success message: "Records deleted successfully from Frequent OrdersRecord deleted successfully from Frequent Customers" under the heading "Stairway to Heaven Comics". Below this are navigation links: Home, Frequent Customers, Pull Lists, and Inventory.

Pull List Files

1. This PHP file adds a new pull list customer

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

// this form shows us all of the pull list biographical data

echo "<html>
<head>
<link rel='stylesheet' type='text/css' href='stairway.css'>
</head>
<body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>Pull List Customers </h3></center></h3><br><br>";
echo "      <nav>
<ul class = 'nav'>
<li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
<button class='dropbtn'>Frequent Customers </a>
<i class='fa fa-caret-down'></i>
```

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```
</button>
</li>
<div class= 'dropdown-content'>
  <a href='frequentcustomerform.html'>Add Frequent Customer</a>
  <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
  <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
  <button class='dropbtn'>Pull Lists </a>
  <i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
  <a href = 'pullcustomerform.html'>Add Pull Customer</a>
  <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
  <a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
  <button class='dropbtn'>Inventory </a>
  <i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
  <a href='inventoryform.html'>Add Product</a>
  <a href = 'productsearch.html'> Search/Update Product </a>
  <a href='comicdata.php'> All Comics Inventory Data</a>
  <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";

$sql_cust="INSERT INTO pull_customers (pull_lname, pull_fname, pull_phone, pull_email)
VALUES
('$_POST[pulllname]','$_POST[pullfname]','$_POST[pullphone]','$_POST[pullemail]')";

//echo $sql;
```

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```
mysqli_query($con,$sql_cust)
or die('Error: ' . mysqli_error());
```

```
$newrecord_fc = "SELECT pull_list_num, pull_lname, pull_fname, pull_phone, pull_email,
pull_PUpdate
from pull_customers where pull_lname ='$_POST[pulllname]' and pull_fname =
'$_POST[pullfname]'
and pull_phone = '$_POST[pullphone]' and pull_email = '$_POST[pullemail]'";
$result = mysqli_query($con,$newrecord_fc);

echo "<div class = 'display'>";
echo "<table border='1'>
<tr>
<th>Pull List Number</th>
<th>Last Name</th>
<th>First Name</th>
<th>Phone Number</th>
<th>Email</th>
<th>Last Pick Up Date</th>
</tr>";

while($row = mysqli_fetch_array($result))

{

echo "<tr>";
echo "<td>" . $row['pull_list_num'] . "</td>";
echo "<td>" . $row['pull_lname'] . "</td>";
echo "<td>" . $row['pull_fname'] . "</td>";
echo "<td>" . $row['pull_phone'] . "</td>";
echo "<td>" . $row['pull_email'] . "</td>";
echo "<td>" . $row['pull_PUpdate'] . "</td>";
echo "</tr>";


}
echo "</table>";
echo "</div>";
```

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```
echo "<div class = 'forms'>";
echo "<h3> Add titles to pull list here!</h3>";

// drop down menu
$result = $con->query("select product_ID, comictitle from comics");

echo "<form action = 'pullcomics.php' method = 'post'>";
echo "Comic Titles <select name='comictitles'>";

while ($row = $result->fetch_assoc()) {

    unset($product_ID, $comictitle);
    $product_ID = $row['product_ID'];
    $comictitle= $row['comictitle'];
    echo '<option value='.$product_ID.'>'.$comictitle.'</option>';

}

echo "</select>";
echo " <label for ='pullID'> Pull List Number: </label>
<input type ='number' id = 'pullID' name ='pullID'>
<input type ='submit' value='Submit'>
</form>";

echo "<h3> Delete items from pull list here!</h3>";

// drop down menu
$result = $con->query("select product_ID, comictitle from comics");

echo "<form action = 'deletecomicfrompull.php' method = 'post'>";
echo "Comic Titles <select name='comictitles'>";

while ($row = $result->fetch_assoc()) {

    unset($product_ID, $comictitle);
    $product_ID = $row['product_ID'];
    $comictitle= $row['comictitle'];
    echo '<option value='.$product_ID.'>'.$comictitle.'</option>';

}

echo "</select>";
echo " <label for ='pullID'> Pull List Number: </label>
```

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```
<input type ='number' id = 'pullID' name ='pullID'/>
<input type ='submit' value='Submit'
</form>";

echo "</div>";

echo "</body>
<html>";
?>
```

The screenshot shows a web application interface for managing comic book pull lists. At the top, a header bar displays the title "Stairway to Heaven Comics" and a link "Pull List Customers". Below the header is a navigation menu with links for "Home", "Frequent Customers", "Pull Lists", and "Inventory". The main content area features a table with six columns: "Pull List Number", "Last Name", "First Name", "Phone Number", "Email", and "Last Pick Up Date". A single row is visible, containing the values 57, Longbottom, Neville, 5559871111, nlongbottom@hogwarts.edu, and an empty date field. To the right of the table are two separate form boxes. The top form is titled "Add titles to pull list here!" and contains fields for "Comic Titles" (a dropdown menu showing "Paper Girls #1") and "Pull List Number" (an input field). The bottom form is titled "Delete items from pull list here!" and also contains fields for "Comic Titles" (dropdown menu) and "Pull List Number" (input field). Both forms have a "Submit" button.

2. This PHP file adds pull list comics to the customers pull list

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

$con = mysqli_connect($host,$user,$password,$database)
 or die ("Couldn't connect to server");

//this shows a specific comic on a pull record after it has been added
echo "<html>
<head>
<link rel='stylesheet' type='text/css' href='stairway.css'>
</head>
<body>";
```

```
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>New Pull List Comic</h3></center></h3><br><br>";
echo "    <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
            <div class='dropdown'>
                <li class = 'li'><a class ='navlink'>
                    <button class='dropbtn'>Frequent Customers </a>
                    <i class='fa fa-caret-down'></i>
                </button>
            </li>
            </div>
            <div class= 'dropdown-content'>
                <a href='frequentcustomerform.html'>Add Frequent Customer</a>
                <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
                <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
            </div>
        </div>
        <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
                <button class='dropbtn'>Pull Lists </a>
                <i class='fa fa-caret-down'></i>
            </button>
        </li>
        <div class= 'dropdown-content'>
            <a href = 'pullcustomerform.html'>Add Pull Customer</a>
            <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
            <a href = 'plistdata.php'>All Pull List Customer Data</a>
        </div>
    </div>
    <div class='dropdown'>
        <li class = 'li'><a class ='navlink'>
            <button class='dropbtn'>Inventory </a>
            <i class='fa fa-caret-down'></i>
        </button>
    </li>
    <div class= 'dropdown-content'>
        <a href='inventoryform.html'>Add Product</a>
        <a href = 'productsearch.html'> Search/Update Product </a>
        <a href='comicdata.php'> All Comics Inventory Data</a>
        <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
    </div>
</div>
```

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```
</nav>";  
  
$PullNumber = $_POST['pullID'];  
  
if(isset($_POST['comictitles']) )  
{  
    $varID = $_POST['comictitles'];  
    $sql_comic="INSERT INTO pull_comics (product_ID, pull_list_num)  
        VALUES  
        ($varID, $PullNumber)";  
    //echo $sql_comic;  
    mysqli_query($con,$sql_comic)  
        or die('Error: ' . mysqli_error());  
    //echo 'Comic successfully added!';  
  
    $neworder = "SELECT pull_customers.pull_list_num, pull_customers.pull_lname,  
    pull_customers.pull_fname, pull_customers.pull_email, pull_customers.pull_phone,  
    comics.comictitle, comics.comicpub,  
    products.product_cost  
    from (comics  
    inner join pull_comics  
    on comics.product_ID = $varID and pull_comics.product_ID = $varID and  
    comics.product_ID = pull_comics.product_ID  
    inner join pull_customers  
    on pull_customers.pull_list_num = $PullNumber and pull_comics.pull_list_num =  
    $PullNumber and pull_customers.pull_list_num = pull_comics.pull_list_num)  
    inner join products  
    on comics.product_ID = $varID and products.product_ID = $varID and  
    comics.product_ID = products.product_ID";  
  
    $result = mysqli_query($con,$neworder);  
  
    echo "<div class='display'>";  
    echo "<table border='1'>  
        <tr>  
            <th>Pull List Number</th>  
            <th>Last Name</th>  
            <th>First Name</th>
```

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```
<th>Email</th>
<th>Phone Number</th>
<th>Comic Title</th>
<th>Publisher</th>
<th>Price</th>
</tr>";

while($row = mysqli_fetch_array($result))

{

echo "<tr>";
echo "<td>" . $row['pull_list_num'] . "</td>";
echo "<td>" . $row['pull_lname'] . "</td>";
echo "<td>" . $row['pull_fname'] . "</td>";
echo "<td>" . $row['pull_email'] . "</td>";
echo "<td>" . $row['pull_phone'] . "</td>";
echo "<td>" . $row['comictitle'] . "</td>";
echo "<td>" . $row['comicpub'] . "</td>";
echo "<td>" . $row['product_cost'] . "</td>";
echo "</tr>";
}

echo "</table>";
echo "</div>";

}

echo "<div class = 'forms'>";
echo "<h3> Add more titles to pull list here!</h3>";

// drop down menu
$result = $con->query("select product_ID, comictitle from comics");

echo "<form action = 'pullcomics.php' method = 'post'>";
echo "Comic Titles <select name='comictitles'>";

while ($row = $result->fetch_assoc()) {

unset($product_ID, $comictitle);
$product_ID = $row['product_ID'];
$comictitle= $row['comictitle'];
```

```
echo '<option value='.$product_ID.'>'.$comictitle.'</option>';

}

echo "</select>";
echo " <label for ='pullID'> Pull List Number: </label>
<input type ='number' id = 'pullID' name ='pullID'>
<input type ='submit' value='Submit'>
</form>";

echo "<h3> Delete items from pull list here!</h3>";

// drop down menu
$result = $con->query("select product_ID, comictitle from comics");

echo "<form action = 'deletecomicfrompull.php' method = 'post'>";
echo "Comic Titles <select name='comictitles'>";

while ($row = $result->fetch_assoc()) {

    unset($product_ID, $comictitle);
    $product_ID = $row['product_ID'];
    $comictitle= $row['comictitle'];
    echo '<option value='.$product_ID.'>'.$comictitle.'</option>';

}

echo "</select>";
echo " <label for ='pullID'> Pull List Number: </label>
<input type ='number' id = 'pullID' name ='pullID'>
<input type ='submit' value='Submit'>
</form>";

echo "</div>";
echo "</body>
<html>";

?>
```

The screenshot shows a web application for managing comic book pull lists. At the top, there's a navigation bar with links for Home, Frequent Customers, Pull Lists, and Inventory. Below the navigation is a table showing a single row of data:

Pull List Number	Last Name	First Name	Email	Phone Number	Comic Title	Publisher	Price
57	Longbottom	Neville	nlongbottom@hogwarts.edu	5559871111	Supergirl Being Super #1	DC Comics	4.99

To the right of the table, there are two forms:

- Add more titles to pull list here!**: A form with a dropdown menu labeled "Comic Titles" (set to "Paper Girls #1") and a text input field for "Pull List Number". A "Submit" button is at the bottom.
- Delete items from pull list here!**: A form with a dropdown menu labeled "Comic Titles" (set to "Paper Girls #1") and a text input field for "Pull List Number". A "Submit" button is at the bottom.

3. This php document searches for a pull list customer using last name and first name

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

//this document gives a pull list customer's full purchase history, after searching them. it
separates an option between if you query and get 1 result, 0 results, and more than 1

echo "<html>
    <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
    </head>
    <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>Individual Pull List </h3></center></h3><br><br>";
echo "    <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
```

```
<div class='dropdown'>
  <li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Frequent Customers </a>
    <i class='fa fa-caret-down'></i>
  </button>
</li>
<div class= 'dropdown-content'>
  <a href='frequentcustomerform.html'>Add Frequent Customer</a>
  <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
  <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
</div>
</div>
<div class='dropdown'>
  <li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Pull Lists </a>
    <i class='fa fa-caret-down'></i>
  </button>
</li>
<div class= 'dropdown-content'>
  <a href = 'pullcustomerform.html'>Add Pull Customer</a>
  <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
  <a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
  <li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
  </button>
</li>
<div class= 'dropdown-content'>
  <a href='inventoryform.html'>Add Product</a>
  <a href = 'productsearch.html'> Search/Update Product </a>
  <a href='comicdata.php'> All Comics Inventory Data</a>
  <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";
```

//establish count of how many results for the last name/first name comment

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```
$sql = "select count(*) as count from pull_customers where '$_POST[pull_fname]' = pull_fname
and '$_POST[pull_lname]' = pull_lname;";

$result = mysqli_query($con, $sql)
or die ("Error");

// if zero they do not have an account
$row = mysqli_fetch_assoc($result);
if ( $row['count']==0 )
{
    die ("This person does not have a pull list");
}
// if greater than 1 we need to be more specific

if ( $row['count'] > 1 )
{
    $dlastname = $_POST['pull_lname'];
    $dfirstname = $_POST['pull_fname'];
    $sql = "select pull_customers.pull_list_num, pull_customers.pull_fname,
pull_customers.pull_lname, pull_customers.pull_email, pull_customers.pull_phone
from pull_customers
where pull_customers.pull_lname = '$dlastname' and pull_customers.pull_fname =
'$dfirstname'";

$result = mysqli_query($con,$sql);

echo "<div class = 'display'>";
echo "<table border='1'; center;>
<tr>
<th>Pull List Number</th>
<th>Last Name</th>
<th>First Name</th>
<th>Email</th>
<th>Phone</th>
</tr>";

while($row = mysqli_fetch_array($result))
{
    echo "<tr>";
    echo "<td>" . $row['pull_list_num'] . "</td>";
    echo "<td>" . $row['pull_lname'] . "</td>";
```

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```
echo "<td>" , $row['pull_fname'] . "</td>";
echo "<td>" , $row['pull_email'] . "</td>";
echo "<td>" , $row['pull_phone'] . "</td>";
echo "</tr>";
}
echo "</table><br><br>";

echo "</div>";
echo "<div class = 'forms'>";
echo "<p> Try searching again using the Pull List Number</p>";
echo "<form action='plistfullID.php' method='post'>
<label for ='pull_list_num'> Pull List Number: </label>
<input type ='number' id = 'pull_list_num' name ='pull_list_num' /><br><br>
<label for='pull_lname'> Last Name: </label>
<input type ='text' id = 'pull_lname' name ='pull_lname' minlength = '1' maxlength = '50'>
<label for = 'pull_fname'> First Name: </label>
<input type = 'text' id = 'pull_fname' name ='pull_fname' minlength = '1' maxlength=
'50'><br><br>
<input type='submit' value = 'Submit' />
</form>";

echo "</div>";

}

// if one we can display their order history
elseif ( $row['count'] == 1 )
{
$dlastname = $_POST['pull_lname'];
$dfirstname = $_POST['pull_fname'];
echo '<h3>Pull list for '. $dlastname. ', '.$dfirstname.'</h3>';

$sql_orders = "SELECT pull_customers.pull_list_num, pull_customers.pull_email,
pull_customers.pull_phone, comics.comictitle, comics.comicpub,
products.product_cost
from (comics
inner join pull_comics
on comics.product_ID = pull_comics.product_ID
inner join pull_customers
on pull_customers.pull_list_num = pull_comics.pull_list_num)
inner join products
```

```
on comics.product_ID = products.product_ID  
where pull_customers.pull_lname = '$dlastname' and pull_customers.pull_fname  
='$firstname';
```

```
$result = mysqli_query($con, $sql_orders)  
or die ("Error");  
  
// in case they haven't made any orders yet  
$row = mysqli_num_rows($result);  
  
if ( $row == 0 )  
{  
    $dlastname = $_POST['pull_lname'];  
    $firstname = $_POST['pull_fname'];  
  
    $sql = "select pull_customers.pull_list_num, pull_customers.pull_email,  
pull_customers.pull_phone  
from pull_customers  
where pull_customers.pull_lname = '$dlastname' and pull_customers.pull_fname  
='$firstname';";  
  
    $result = mysqli_query($con,$sql);  
  
    echo "<div class ='display'>";  
    echo 'It looks like they have not added any items to their pull list yet!';  
    echo '<br><br>';  
    echo "<table border='1'; center;>  
        <tr>  
            <th>Pull List Number</th>  
            <th>Email</th>  
            <th>Phone</th>  
        </tr>";  
  
    while($row = mysqli_fetch_array($result))  
    {  
        echo "<tr>";  
        echo "<td>" , $row['pull_list_num'] . "</td>";  
        echo "<td>" , $row['pull_email'] . "</td>";  
        echo "<td>" , $row['pull_phone'] . "</td>";
```

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```
echo "</tr>";
}
echo "</table>";
echo "</div>";

echo "<div class = 'forms'>";
echo "<h3> Add more titles to pull list here!</h3>";

$result = $con->query("select product_ID, comictitle from comics");

echo "<form action = 'pullcomics.php' method = 'post'>";
echo "Comic Titles <select name='comictitles'>";

while ($row = $result->fetch_assoc()) {

    unset($product_ID, $comictitle);
    $product_ID = $row['product_ID'];
    $comictitle= $row['comictitle'];
    echo '<option value='.$product_ID.'>'.$comictitle.'</option>';

}

echo "</select>";
echo " <label for ='pullID'> Pull List Number: </label>
<input type ='number' id = 'pullID' name ='pullID'>
<input type ='submit' value='Submit'
</form>",

echo "<h3>Update Records Here</h3>
<p> Please fill in all fields, even if they are remaining the same </p>
<form action = 'updaterecordplist.php' method = 'post'>
<label for ='pupdate'> New Pick Up Date: </label>
<input type ='text' id = 'pupdate' name ='pupdate' placeholder='YYYY-MM-DD'><br>
<label for ='pull_list_num'> Pull List Number: </label>
<input type ='number' id = 'pull_list_num' name ='pull_list_num'><br><br>
<label for='pull_lname'> Last Name: </label>
<input type ='text' id = 'pull_lname' name ='pull_lname' minlength = '1' maxlength = '50'>
<label for = 'pull_fname'> First Name: </label>
<input type = 'text' id = 'pull_fname' name ='pull_fname' minlength = '1' maxlength=
'50'><br><br>
```

```
<label for ='pullphone'> Phone Number: </label>
<input type='text' id ='pullphone' name ='pullphone' maxlength='20'><br><br>
<label for='pullemail'> Email: </label>
<input type='text' id='pullemail' name='pullemail'><br><br>
<input type ='submit' value='Submit'>
</form><br><br><br>";

echo
"<h3>Delete Records Here</h3>
<form action = 'deleterecordplist.php' method = 'post'>
<label for ='pull_list_num'> Pull List Number: </label>
<input type ='number' id = 'pull_list_num' name ='pull_list_num' /><br><br>
<br><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
</form>";
echo "<div>";
}

else {

$dlastname = $_POST['pull_lname'];
$dfirstname = $_POST['pull_fname'];
$sql = "SELECT pull_customers.pull_list_num, pull_customers.pull_email,
pull_customers.pull_phone, comics.comictitle, comics.comicpub,
products.product_cost, pull_customers.pull_PUpdate
from (comics
inner join pull_comics
on comics.product_ID = pull_comics.product_ID
inner join pull_customers
on pull_customers.pull_list_num = pull_comics.pull_list_num)
inner join products
on comics.product_ID = products.product_ID
where pull_customers.pull_lname = '$dlastname' and pull_customers.pull_fname
=' $dfirstname'";

$result = mysqli_query($con,$sql);

echo "<div class = 'display'>";
echo "<table border='1'; center;>
```

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```
<tr>
<th>Pull List Number</th>
<th>Email</th>
<th>Phone</th>
<th>Title</th>
<th>Publisher</th>
<th>Cost</th>
<th>Pick Upd Date</th>
</tr>";

while($row = mysqli_fetch_array($result))
{
    echo "<tr>";
    echo "<td>" . $row['pull_list_num'] . "</td>";
    echo "<td>" . $row['pull_email'] . "</td>";
    echo "<td>" . $row['pull_phone'] . "</td>";
    echo "<td>" . $row['comictitle'] . "</td>";
    echo "<td>" . $row['comicpub'] . "</td>";
    echo "<td>" . $row['product_cost'] . "</td>";
    echo "<td>" . $row['pull_PUpdate'] . "</td>";
    echo "</tr>";
}
echo "</table>";
echo "</div>";

echo "<div class='forms'>";
echo "<h3> Add another title to pull list here!</h3>";

$result = $con->query("select product_ID, comictitle from comics");

echo "<form action = 'pullcomics.php' method = 'post'>";
echo "Comic Titles <select name='comictitles'>";

while ($row = $result->fetch_assoc()) {

    unset($product_ID, $comictitle);
    $product_ID = $row['product_ID'];
    $comictitle= $row['comictitle'];
    echo '<option value='.$product_ID.'>'.$comictitle.'</option>';

}

}
```

```
echo "</select>";  
echo " <label for ='pullID'> Pull List Number: </label>  
    <input type ='number' id = 'pullID' name ='pullID'/'>  
    <input type ='submit' value='Submit'>  
</form>";  
  
echo "<h3> Delete items from pull list here!</h3>";  
  
// drop down menu  
$result = $con->query("select product_ID, comictitle from comics");  
  
echo "<form action = 'deletecomicfrompull.php' method = 'post'>";  
echo "Comic Titles <select name='comictitles'>";  
  
while ($row = $result->fetch_assoc()) {  
  
    unset($product_ID, $comictitle);  
    $product_ID = $row['product_ID'];  
    $comictitle= $row['comictitle'];  
    echo '<option value='.$product_ID.'>'.$comictitle.'</option>';  
  
}  
  
echo "</select>";  
echo " <label for ='pullID'> Pull List Number: </label>  
    <input type ='number' id = 'pullID' name ='pullID'/'>  
    <input type ='submit' value='Submit'>  
</form>";  
  
  
echo "<h3>Update Records Here</h3>  
<p> Please fill in all fields, even if they are remaining the same </p>  
<form action = 'updaterecordlist.php' method = 'post'>  
<label for ='pupdate'> New Pick Up Date: </label>  
<input type ='text' id = 'pupdate' name ='pupdate' placeholder='YYYY-MM-DD'/'><br>  
<label for ='pull_list_num'> Pull List Number: </label>  
<input type ='number' id = 'pull_list_num' name ='pull_list_num'/'><br><br>  
<label for='pull_lname'> Last Name: </label>  
<input type ='text' id = 'pull_lname' name ='pull_lname' minlength = '1' maxlength = '50'>  
<label for = 'pull_fname'> First Name: </label>  
<input type = 'text' id = 'pull_fname' name ='pull_fname' minlength = '1' maxlength=  
'50'><br><br>  
<label for ='pullphone'> Phone Number: </label>
```

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```
<input type='text' id ='pullphone' name ='pullphone' maxlength='20'><br><br>
<label for='pullemail'> Email: </label>
<input type='text' id='pullemail' name='pullemail'><br><br>
<input type ='submit' value='Submit'>
</form><br><br><br>";
```

```
echo
"<h3>Delete Records Here</h3>
<form action = 'deleterecordplist.php' method = 'post'>
<label for ='pull_list_num'> Pull List Number: </label>
<input type ='number' id = 'pull_list_num' name ='pull_list_num' /><br><br>
<br><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
</form>";
echo "</div>";
}

}

echo "</body>
<html>";
```

?>

The screenshot shows a web application for managing comic book pull lists. At the top, there's a header bar with links for Home, Frequent Customers, Pull Lists, and Inventory. Below this, a title "Stairway to Heaven Comics" and a subtitle "Individual Pull List" are displayed. A sub-header "Pull list for Salazar, Daniel" identifies the specific user. On the left, a table lists three items in the pull list:

Pull List Number	Email	Phone	Title	Publisher	Cost	Pick Upd Date
4	vinnydoombats@gmail.com	9787038651	Paper Girls #1	Image	2.99	2020-03-14
4	vinnydoombats@gmail.com	9787038651	Snot Girl #1	Image	3.99	2020-03-14
4	vinnydoombats@gmail.com	9787038651	Supergirl Being Super #1	DC Comics	4.99	2020-03-14

To the right of the table, there are two forms. The first form, titled "Add another title to pull list here!", contains fields for "Comic Titles" (set to "Paper Girls #1") and "Pull List Number". The second form, titled "Delete items from pull list here!", also contains fields for "Comic Titles" (set to "Paper Girls #1") and "Pull List Number". Both forms have a "Submit" button.

4. This PHP document searches pull lists by first name and last name and pull_list_num in case there is more than one pull list customer with the same name, which is bound to happen

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

// this document is more specific search in case a query for a pull list record showed us more
than 1 result

echo "<html>
    <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
    </head>
    <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>Individual Pull List</h3></center></h3><br><br>";
echo "    <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
            <div class='dropdown'>
                <li class = 'li'><a class ='navlink'>
                    <button class='dropbtn'>Frequent Customers </a>
                    <i class='fa fa-caret-down'></i>
                </button>
            </li>
            <div class= 'dropdown-content'>
                <a href='frequentcustomerform.html'>Add Frequent Customer</a>
                <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
                <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
            </div>
        </div>
        <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
                <button class='dropbtn'>Pull Lists </a>
                <i class='fa fa-caret-down'></i>
            </button>
        </li>
```

```
<div class= 'dropdown-content'>
<a href = 'pullcustomerform.html'>Add Pull Customer</a>
<a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
<a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
    </div>
    </div>
</nav>";

//establish count of how many results for the last name/first name comment
$sql = "select count(*) as count from pull_customers where '$_POST[pull_fname]' = pull_fname
and '$_POST[pull_lname]' = pull_lname;";

$result = mysqli_query($con, $sql)
or die ("Error");

// if zero they do not have an account
$row = mysqli_fetch_assoc($result);
if ( $row['count']==0 )
{
    die ("This person does not have a pull list");
}

$dlastame = $_POST['pull_lname'];
$dfirstname = $_POST['pull_fname'];
$dNum = $_POST['pull_list_num'];

echo '<h3>Pull list for '. $dlastame. ', '.$firstname.'</h3>';
```

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```
$sql_orders = "SELECT pull_customers.pull_list_num, pull_customers.pull_email,
pull_customers.pull_phone, comics.comictitle, comics.comicpub,
products.product_cost
from (comics
inner join pull_comics
on comics.product_ID = pull_comics.product_ID
inner join pull_customers
on pull_customers.pull_list_num = pull_comics.pull_list_num)
inner join products
on comics.product_ID = products.product_ID
where pull_customers.pull_lname = '$dlastname' and pull_customers.pull_fname
='$firstname' and pull_customers.pull_list_num = $dNum";
```

```
$result = mysqli_query($con, $sql_orders)
or die ("Error");

// in case they haven't made any orders yet
$row = mysqli_num_rows($result);

if ( $row == 0 )
{
    $dlastname = $_POST['pull_lname'];
    $firstname = $_POST['pull_fname'];

    $sql = "select pull_customers.pull_list_num, pull_customers.pull_email,
pull_customers.pull_phone
from pull_customers
where pull_customers.pull_lname = '$dlastname' and pull_customers.pull_fname
='$firstname' and pull_customers.pull_list_num = $_POST[pull_list_num]";;

$result = mysqli_query($con,$sql);
echo "<div class = 'display'>";
echo 'It looks like they have not added any items to their pull list yet!';
echo '<br><br>';
echo "<table border='1'; center;>
<tr>
<th>Pull List Number</th>
<th>Email</th>
<th>Phone</th>
</tr>";
```

```
while($row = mysqli_fetch_array($result))
{
    echo "<tr>";
    echo "<td>" . $row['pull_list_num'] . "</td>";
    echo "<td>" . $row['pull_email'] . "</td>";
    echo "<td>" . $row['pull_phone'] . "</td>";
    echo "</tr>";
}
echo "</table>";
echo "</div>";

echo "<div class = 'forms'>";
echo "<h3> Add more titles to pull list here!</h3>";

$result = $con->query("select product_ID, comictitle from comics");

echo "<form action = 'pullcomics.php' method = 'post'>";
echo "Comic Titles <select name='comictitles'>";

while ($row = $result->fetch_assoc()) {

    unset($product_ID, $comictitle);
    $product_ID = $row['product_ID'];
    $comictitle= $row['comictitle'];
    echo '<option value='.$product_ID.'>'.$comictitle.'</option>';

}

echo "</select>";
echo " <label for ='pullID'> Pull List Number: </label>
<input type ='number' id = 'pullID' name ='pullID' />
<input type ='submit' value='Submit'>
</form>";

echo "<h3>Update Records Here</h3>
<p> Please fill in all fields, even if they are remaining the same </p>
<form action = 'updaterecordplist.php' method = 'post'>
<label for ='pupdate'> New Pick Up Date: </label>
<input type ='text' id = 'pupdate' name ='pupdate' placeholder='YYYY-MM-DD' /><br>
<label for ='pull_list_num'> Pull List Number: </label>
```

```
<input type ='number' id = 'pull_list_num' name ='pull_list_num' /><br><br>
<label for='pull_lname'> Last Name: </label>
<input type ='text' id = 'pull_lname' name ='pull_lname' minlength = '1' maxlength = '50'>
<label for = 'pull_fname'> First Name: </label>
<input type = 'text' id = 'pull_fname' name ='pull_fname' minlength = '1' maxlength=
'50'><br><br>
<label for ='pullphone'> Phone Number: </label>
<input type='text' id ='pullphone' name ='pullphone' maxlength='20'><br><br>
<label for='pullemail'> Email: </label>
<input type='text' id='pullemail' name='pullemail'><br><br>
<input type ='submit' value='Submit'>
</form><br><br><br>";
```

```
echo
"<h3>Delete Records Here</h3>
<form action = 'deleterecordplist.php' method = 'post'>
<label for ='pull_list_num'> Pull List Number: </label>
<input type ='number' id = 'pull_list_num' name ='pull_list_num' /><br><br>
<br><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
</form>";
echo "</div>";
}

else {

$dlastname = $_POST['pull_lname'];
$dfirstname = $_POST['pull_fname'];
$dNum = $_POST['pull_list_num'];
$sql = "SELECT pull_customers.pull_list_num, pull_customers.pull_email,
pull_customers.pull_phone, comics.comictitle, comics.comicpub,
products.product_cost, pull_customers.pull_PUpdate
from (comics
inner join pull_comics
on comics.product_ID = pull_comics.product_ID
inner join pull_customers
on pull_customers.pull_list_num = pull_comics.pull_list_num)
inner join products
on comics.product_ID = products.product_ID
```

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```
where pull_customers.pull_lname = '$dlastname' and pull_customers.pull_fname  
='$firstname' and pull_customers.pull_list_num = $dNum;";
```

```
$result = mysqli_query($con,$sql);  
  
echo "<div class = 'display'>";  
echo "<table border='1'; center;>  
<tr>  
<th>Pull List Number</th>  
<th>Email</th>  
<th>Phone</th>  
<th>Title</th>  
<th>Publisher</th>  
<th>Cost</th>  
<th>Pick Up Date</th>  
</tr>";  
  
while($row = mysqli_fetch_array($result))  
{  
    echo "<tr>";  
    echo "<td>" . $row['pull_list_num'] . "</td>";  
    echo "<td>" . $row['pull_email'] . "</td>";  
    echo "<td>" . $row['pull_phone'] . "</td>";  
    echo "<td>" . $row['comictitle'] . "</td>";  
    echo "<td>" . $row['comicpub'] . "</td>";  
    echo "<td>" . $row['product_cost'] . "</td>";  
    echo "<td>" . $row['pull_PUpdate'] . "</td>";  
    echo "</tr>";  
}  
echo "</table>";  
echo "</div>";  
echo "<div class = 'forms'>";  
echo "<h3> Add another title to pull list here!</h3>";  
  
$result = $con->query("select product_ID, comictitle from comics");  
  
echo "<form action = 'pullcomics.php' method = 'post'>";  
echo "Comic Titles <select name='comictitles'>";  
  
while ($row = $result->fetch_assoc()) {  
  
    unset($product_ID, $comictitle);
```

```
$product_ID = $row['product_ID'];
$comictitle= $row['comictitle'];
echo '<option value='.$product_ID.'>'.$comictitle.'</option>';

}

echo "</select>";
echo " <label for ='pullID'> Pull List Number: </label>
<input type ='number' id ='pullID' name ='pullID' />
<input type ='submit' value='Submit'>
</form>";

echo "<h3> Delete items from pull list here!</h3>";

// drop down menu
$result = $con->query("select product_ID, comictitle from comics");

echo "<form action = 'deletecomicfrompull.php' method = 'post'>";
echo "Comic Titles <select name='comictitles'>";

while ($row = $result->fetch_assoc()) {

    unset($product_ID, $comictitle);
    $product_ID = $row['product_ID'];
    $comictitle= $row['comictitle'];
    echo '<option value='.$product_ID.'>'.$comictitle.'</option>';

}

echo "</select>";
echo " <label for ='pullID'> Pull List Number: </label>
<input type ='number' id ='pullID' name ='pullID' />
<input type ='submit' value='Submit'>
</form>";



echo "<h3>Update Records Here</h3>
<p> Please fill in all fields, even if they are remaining the same </p>
<form action = 'updaterecordplist.php' method = 'post'>
<label for ='pupdate'> New Pick Up Date: </label>
<input type ='text' id ='pupdate' name ='pupdate' placeholder='YYYY-MM-DD' /><br>
<label for ='pull_list_num'> Pull List Number: </label>
<input type ='number' id ='pull_list_num' name ='pull_list_num' /><br><br>
```

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```
<label for='pull_lname'> Last Name: </label>
<input type = 'text' id = 'pull_lname' name ='pull_lname' minlength = '1' maxlength = '50'>
<label for = 'pull_fname'> First Name: </label>
<input type = 'text' id = 'pull_fname' name ='pull_fname' minlength = '1' maxlength=
'50'><br><br>
<label for ='pullphone'> Phone Number: </label>
<input type='text' id ='pullphone' name ='pullphone' maxlength='20'><br><br>
<label for='pullemail'> Email: </label>
<input type='text' id='pullemail' name='pullemail'><br><br>
<input type ='submit' value='Submit'>
</form><br><br>"";
echo
"<h3>Delete Records Here</h3>
<form action = 'deleterecordplist.php' method = 'post'>
<label for ='pull_list_num'> Pull List Number: </label>
<input type ='number' id = 'pull_list_num' name ='pull_list_num' /><br><br>
<br><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
</form>";
echo "</div>";
}

echo "</body>
<html>";
```

?>

The screenshot shows a web application interface for managing comic book pull lists.

Top Left: A table titled "Individual Pull List" showing two entries:

Pull List Number	Last Name	First Name	Email	Phone
3	Sarah	sarahallwarden@gmail.com	6034185502	
56	Sarah	sarahallwarden@gmail.com	6034185502	

Top Right: A search form with fields for "Pull List Number", "Last Name", "First Name", and a "Submit" button. It also includes a message: "Try searching again using the Pull List Number".

Middle: A header bar with links: Home, Frequent Customers, Pull Lists, Inventory. Below it, a section titled "Stairway to Heaven Comics" displays a "Pull list for Allwarden, Sarah" table:

Pull List Number	Email	Phone	Title	Publisher	Cost	Pick Up Date
3	sarahallwarden@gmail.com	6034185502	Paper Girls #1	Image	2.99	2020-04-26
3	sarahallwarden@gmail.com	6034185502	Snot Girl #1	Image	3.99	2020-04-26

Bottom Right: A sidebar with buttons for "Add another title to pull list here!", "Comic Titles" dropdown (set to "Paper Girls #1"), "Pull List Number" input, and "Submit" button. It also includes a link: "Delete items from pull list here!".

5. This PHP document shows all the pull list customer data

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

//this document pulls information that shows all the pull list customers and their biographical
data
echo "<html>
    <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
    </head>
    <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>All Pull Customers List Data</h3></center></h3><br><br>";
echo "      <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
            <div class='dropdown'>
                <li class = 'li'><a class ='havlink'>
                    <button class='dropbtn'>Frequent Customers </a>
                    <i class='fa fa-caret-down'></i>
                </button>
            </li>
            <div class= 'dropdown-content'>
                <a href='frequentcustomerform.html'>Add Frequent Customer</a>
                <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
                <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
            </div>
        </div>
        <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
                <button class='dropbtn'>Pull Lists </a>
                <i class='fa fa-caret-down'></i>
            </button>
        </li>
        <div class= 'dropdown-content'>
            <a href = 'pullcustomerform.html'>Add Pull Customer</a>
            <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
```

```
<a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";

$result = mysqli_query($con,"SELECT * FROM pull_customers");

echo "<div class = 'display'>";
echo "<table border='1'>
<tr>
<th>Pull List Number</th>
<th>Last Name</th>
<th>First Name</th>
<th>Phone Number</th>
<th>Email</th>
<th>Notes</th>
<th>Last Pick Up Date</th>
</tr>";

while($row = mysqli_fetch_array($result))
{
    echo "<tr>";
    echo "<td>" . $row['pull_list_num'] . "</td>";
    echo "<td>" . $row['pull_lname'] . "</td>";
    echo "<td>" . $row['pull_fname'] . "</td>";
    echo "<td>" . $row['pull_phone'] . "</td>";
    echo "<td>" . $row['pull_email'] . "</td>";
    echo "<td>" . $row['pull_notes'] . "</td>";
    echo "<td>" . $row['pull_PUpdate'] . "</td>";
```

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```
echo "</tr>";
}
echo "</table>";
echo "</div>";

echo "<div class = 'forms'>";

echo "<h3> Go to a specific pull list here </h3>";
echo "<form action='plistfullID.php' method='post'>
<label for ='pull_list_num'> Pull List Number: </label>
<input type ='number' id = 'pull_list_num' name ='pull_list_num'><br><br>
<label for='pull_lname'> Last Name: </label>
<input type ='text' id = 'pull_lname' name ='pull_lname' minlength = '1' maxlength = '50'>
<label for = 'pull_fname'> First Name: </label>
<input type = 'text' id = 'pull_fname' name ='pull_fname' minlength = '1' maxlength=
'50'><br><br>
<input type='submit' value = 'Submit' />
</form>";
echo "<h3> Add another title to pull list here!</h3>";

$result = $con->query("select product_ID, comictitle from comics");

echo "<form action = 'pullcomics.php' method = 'post'>";
echo "Comic Titles <select name='comictitles'>";

while ($row = $result->fetch_assoc()) {

    unset($product_ID, $comictitle);
    $product_ID = $row['product_ID'];
    $comictitle= $row['comictitle'];
    echo '<option value='.$product_ID.'>'.$comictitle.'</option>';

}

echo "</select>";
echo " <label for ='pullID'> Pull List Number: </label>
<input type ='number' id = 'pullID' name ='pullID'>
<input type = 'submit' value='Submit' />
</form><br><br><br>";
```

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```
echo "<h3>Update Records Here</h3>
<p> Please fill in all fields, even if they are remaining the same </p>
<form action = 'updaterecordplist.php' method = 'post'>
<label for ='pupdate'> New Pick Up Date: </label>
<input type ='text' id = 'pupdate' name ='pupdate' placeholder='YYYY-MM-DD'/><br>
<label for ='pull_list_num'> Pull List Number: </label>
<input type ='number' id = 'pull_list_num' name ='pull_list_num'/><br><br>
<label for='pull_lname'> Last Name: </label>
<input type ='text' id = 'pull_lname' name ='pull_lname' minlength = '1' maxlength = '50'>
<label for = 'pull_fname'> First Name: </label>
<input type = 'text' id = 'pull_fname' name ='pull_fname' minlength = '1' maxlength=
'50'><br><br>
<label for ='pullphone'> Phone Number: </label>
<input type='text' id ='pullphone' name ='pullphone' maxlength='20'><br><br>
<label for='pullemail'> Email: </label>
<input type='text' id='pullemail' name='pullemail'><br><br>
<input type ='submit' value='Submit'>
</form><br><br><br>";
echo "
"<h3>Delete Records Here</h3>
<form action = 'deleterecordplist.php' method = 'post'>
<label for ='pull_list_num'> Pull List Number: </label>
<input type ='number' id = 'pull_list_num' name ='pull_list_num'/><br><br>
<br><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
</form>";
echo "</div>";
echo "</body>
<html>";
?>
```

Stairway to Heaven Comics

All Pull Customers List Data

Home Frequent Customers Pull Lists Inventory

Pull List Number	Last Name	First Name	Phone Number	Email	Notes	Last Pick Up Date
1	Silva	Aby	6039883957	none@gmail.com		2020-03-04
2	Hart	Aden	603686728	rshart.12@gmail.com		2020-02-15
3	Allwarden	Sarah	6034185502	sarahallwarden@gmail.com		2020-04-26
4	Salazar	Daniel	9787038651	vinnydoombats@gmail.com		2020-03-14
5	Kelleher	Emily	6039230921	none@gmail.com		2020-01-24
6	Maher	Eric	9789949116	none@gmail.com		2020-02-02
7	Miller	Katie	5082698332	katiebmiller09@gmail.com		2020-04-20
55	Shaw	Brandon	41355502921	bcsshaw93@gmail.com		
56	Allwarden	Sarah	6034185502	sarahallwarden@gmail.com		
57	Longbottom	Neville	5559871111	nlongbottom@hogwarts.edu		

Go to a specific pull list here

Pull List Number:

Last Name: First Name:

Submit

Add another title to pull list here!

Comic Titles

Paper Girls #1 Pull

List Number:

Submit

6. This PHP document allows us to update the biographical information on a pull list

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

// this page is for updating a pull list record

echo "<html>
    <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
    </head>
    <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>Update Pull List Record</h3></center></h3><br><br>";
echo "      <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
            <div class='dropdown'>
                <li class = 'li'><a class ='navlink'>
                    <button class='dropbtn'>Frequent Customers </a>
                    <i class='fa fa-caret-down'></i>
                </button>
            </li>
            <div class= 'dropdown-content'>
                <a href='frequentcustomerform.html'>Add Frequent Customer</a>
                <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
                <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
            </div>
        </div>
        <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
                <button class='dropbtn'>Pull Lists </a>
                <i class='fa fa-caret-down'></i>
            </button>
        </li>
        <div class= 'dropdown-content'>
            <a href = 'pullcustomerform.html'>Add Pull Customer</a>
```

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```
<a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
<a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";

$ID = $_POST['pull_list_num'];
$dlastname = $_POST['pull_lname'];
$firstname = $_POST['pull_fname'];
$demail = $_POST['pullemail'];
$dphone = $_POST['pullphone'];
$PUpdate = $_POST['pupdate'];

$sql1 = "UPDATE pull_customers SET pull_lname = '$dlastname' WHERE pull_list_num =
$ID";

if ($con->query($sql1) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}

$sql2 = "UPDATE pull_customers SET pull_fname = '$firstname' WHERE pull_list_num =
$ID";

if ($con->query($sql2) === TRUE) {
    echo "Record updated successfully";
```

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```
} else {
    echo "Error updating record: " . $con->error;
}

$sql3 = "UPDATE pull_customers SET pull_email = '$demail' WHERE pull_list_num = $dID";

if ($con->query($sql3) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}

$sql4 = "UPDATE pull_customers SET pull_phone = '$dphone' WHERE pull_list_num = $dID";

if ($con->query($sql4) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}

$sql5 = "UPDATE pull_customers SET pull_PUdate = '$PUdate' WHERE pull_list_num = $dID";

if ($con->query($sql5) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}

$con->close();
echo "</body>
<html>";
?>
```

The screenshot shows a web page with two main sections. On the left, there is a form titled "Update Records Here" with fields for "New Pick Up Date" (set to "2020-04-26"), "Pull List Number" (set to "57"), "Last Name" (set to "Neville"), "First Name" (set to "Longbottom"), "Phone Number" (set to "5559871111"), and "Email" (set to "nlongbottom@hogwarts"). Below the form is a "Submit" button. On the right, there is a header "Stairway to Heaven Comics" with a sub-header "Update Pull List Record". Below the header is a navigation menu with links to "Home", "Frequent Customers", "Pull Lists", and "Inventory". At the bottom of the page, there is a repeating success message: "Record updated successfullyRecord updated successfullyRecord updated successfullyRecord updated successfullyRecord updated successfullyRecord updated successfully".

7. This PHP document allows you to delete a specific comic from a pull list

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database="lis458olsp20_allwarde_1";

$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

// this page deletes a comic from a pull list

echo "<html>
<head>
<link rel='stylesheet' type='text/css' href='stairway.css'>
</head>
<body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>Delete Comic From Pull List</h3></center></h3><br><br>";
echo "      <nav>
<ul class = 'nav'>
<li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
<button class='dropbtn'>Frequent Customers </a>
<i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
<a href='frequentcustomerform.html'>Add Frequent Customer</a>
<a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
<a href='freqcustdisplay.php'>All Frequent Customer Records</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
<button class='dropbtn'>Pull Lists </a>
<i class='fa fa-caret-down'></i>
</button>
</li>
<div class= 'dropdown-content'>
<a href = 'pullcustomerform.html'>Add Pull Customer</a>
<a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
```

```
<a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";
```



```
$dID = $_POST['pull_list_num'];

if(isset($_POST['comictitles']) )
{
    $comicID = $_POST['comictitles'];

    $sql2 = "DELETE FROM pull_comics WHERE pull_list_num = $comicID and product_ID =
$comicID";

    if ($con->query($sql2) === TRUE)
    {
        echo "Comic deleted successfully from Pull List";
    }
    else {
        echo "Error deleting record: " . $con->error;
    }
}

$con->close();
echo "</body>
<html>";
?>
```

The screenshot shows a web interface. On the left, a form titled "Delete items from pull list here!" contains a dropdown menu with "Supergirl Being Super #1" and a button labeled "Pull". Below it is a text input field labeled "List Number:" with the value "7" and a "Submit" button. On the right, there is a navigation bar with "Home" and "Frequent Customers" links. A success message "Comic deleted successfully from Pull List" is displayed below the navigation bar.

8. This php successfully deletes a pull list record

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

$con = mysqli_connect($host,$user,$password,$database)
      or die ("Couldn't connect to server");

// this page deletes a pull list record

echo "<html>
      <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
      </head>
      <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>Delete Pull List Record </h3></center></h3><br><br>";
echo "      <nav>
        <ul class = 'nav'>
          <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
          <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
              <button class='dropbtn'>Frequent Customers </a>
              <i class='fa fa-caret-down'></i>
            </button>
          </li>
          <div class= 'dropdown-content'>
            <a href='frequentcustomerform.html'>Add Frequent Customer</a>
            <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
```

```
<a href='freqcustdisplay.php'>All Frequent Customer Records</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Pull Lists </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href = 'pullcustomerform.html'>Add Pull Customer</a>
    <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
    <a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";
```

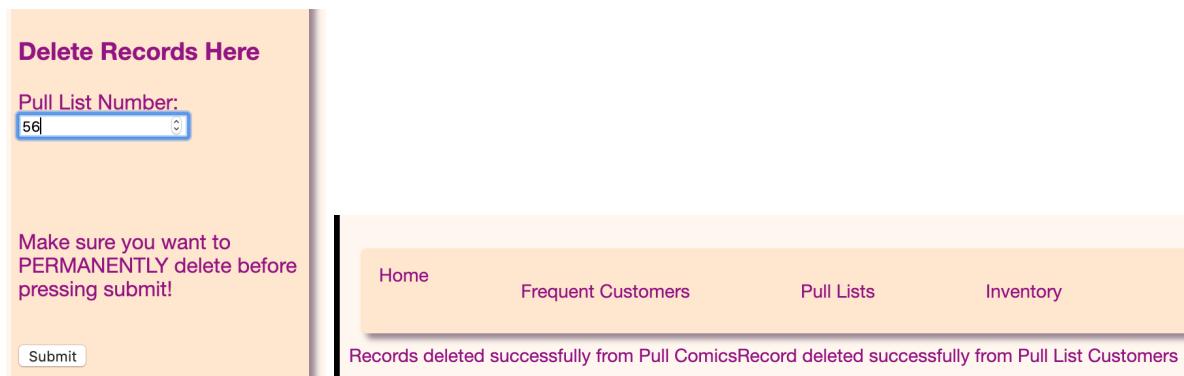
```
$dID = $_POST['pull_list_num'];
```

```
$sql2 = "DELETE FROM pull_comics WHERE pull_list_num = $dID";

if ($con->query($sql2) === TRUE)
{
    echo "Records deleted successfully from Pull Comics";
}
else {
```

```
echo "Error deleting record: " . $con->error;
}

$sql = "DELETE FROM pull_customers WHERE pull_list_num = $dID";
if ($con->query($sql) === TRUE)
{
    echo "Record deleted successfully from Pull List Customers<br><br>";
}
else {
    echo "Error deleting record: " . $con->error;
}
$con->close();
echo "</body>
<html>";
?>
```



Inventory PHP pages

1. This PHP adds a new product to the inventory

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

// this is for creating a new inventory record
```

```
echo "<html>
  <head>
    <link rel='stylesheet' type='text/css' href='stairway.css'>
  </head>
  <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>Inventory Intake: New Product </h3></center></h3><br><br>";
echo "      <nav>
        <ul class = 'nav'>
          <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
          <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
              <button class='dropbtn'>Frequent Customers </a>
              <i class='fa fa-caret-down'></i>
            </button>
          </li>
          <div class= 'dropdown-content'>
            <a href='frequentcustomerform.html'>Add Frequent Customer</a>
            <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
            <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
          </div>
        </div>
        <div class='dropdown'>
          <li class = 'li'><a class ='navlink'>
            <button class='dropbtn'>Pull Lists </a>
            <i class='fa fa-caret-down'></i>
          </button>
        </li>
        <div class= 'dropdown-content'>
          <a href = 'pullcustomerform.html'>Add Pull Customer</a>
          <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
          <a href = 'plistdata.php'>All Pull List Customer Data</a>
        </div>
      </div>
      <div class='dropdown'>
        <li class = 'li'><a class ='navlink'>
          <button class='dropbtn'>Inventory </a>
          <i class='fa fa-caret-down'></i>
        </button>
      </li>
      <div class= 'dropdown-content'>
        <a href='inventoryform.html'>Add Product</a>
        <a href = 'productsearch.html'> Search/Update Product </a>
```

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```
<a href='comicdata.php'> All Comics Inventory Data</a>
<a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";
```

```
$productType = $_POST['producttype'];
$stock = $_POST['stock'];

if ($productType == 'comic')
{
    $sql_comic="INSERT INTO comics (product_ID, comictitle, comiclnamewriter,
comicfnamewriter, comicpub)
VALUES
($_POST[product_ID], '$_POST[title]', '$_POST[authlname]', '$_POST[authfname]',
'$_POST[pub]');";

mysqli_query($con,$sql_comic)
or die('Error: ' . mysqli_error());

$sql_products ="INSERT INTO products (product_ID, product_cost, product_stock,
product_count)
VALUES
($_POST[product_ID], $_POST[price], '$stock', $_POST[quantity]);"

mysqli_query($con,$sql_products)
or die('Error: ' . mysqli_error());


$newcomic = "SELECT comics.product_ID, comics.comictitle, comics.comiclnamewriter,
comics.comicfnamewriter, comics.comicpub,
products.product_cost, products.product_stock, products.product_count
from comics
inner join products
on products.product_ID = comics.product_ID
```

```
where products.product_ID = $_POST[product_ID] and comics.product_ID =
$_POST[product_ID];
```

```
$result = mysqli_query($con,$newcomic)
or die('Error: ' . mysqli_error());
```



```
echo "<div class = 'displayproducts'>";
echo "<table border='1'>
<tr>
<th>Product ID</th>
<th>Title</th>
<th>Writer Last Name</th>
<th>Writer First Name</th>
<th>Publisher</th>
<th>Price</th>
<th>In stock?</th>
<th>Quantity Count</th>
</tr>";
```



```
while($row = mysqli_fetch_array($result))

{
echo "<tr>";
echo "<td>" . $row['product_ID'] . "</td>";
echo "<td>" . $row['comictitle'] . "</td>";
echo "<td>" . $row['comiclnamewriter'] . "</td>";
echo "<td>" . $row['comicfnamewriter'] . "</td>";
echo "<td>" . $row['comicpub'] . "</td>";
echo "<td>" . $row['product_cost'] . "</td>";
echo "<td>" . $row['product_stock'] . "</td>";
echo "<td>" . $row['product_count'] . "</td>";
echo "</tr>";

}
echo "</table>";
echo "</div>";
```

```
}

elseif ($productType == 'graphic')
{
    $sql_graphic="INSERT INTO graphic_novel (product_ID, graphic_novelttitle,
graphic_novellnamewriter, graphic_novelfnamewriter, graphic_novelpub)
VALUES
($_POST[product_ID], '$_POST[title]', '$_POST[authlname]',
'$_POST[authfname]', '$_POST[pub]');

$sql_products ="INSERT INTO products (product_ID, product_cost, product_stock,
product_count)
VALUES
($_POST[product_ID], $_POST[price], '$stock', $_POST[quantity]);"

mysqli_query($con,$sql_graphic)
or die('Error: ' . mysqli_error());

mysqli_query($con,$sql_products)
or die('Error: ' . mysqli_error());

$newgraphic = "SELECT graphic_novel.product_ID, graphic_novel.graphic_novelttitle,
graphic_novel.graphic_novellnamewriter,
graphic_novel.graphic_novelfnamewriter, graphic_novel.graphic_novelpub,
products.product_cost, products.product_stock, products.product_count
from graphic_novel
inner join products
on graphic_novel.product_ID = products.product_ID
where graphic_novel.product_ID = $_POST[product_ID] and products.product_ID =
$_POST[product_ID];

$result = mysqli_query($con,$newgraphic)
or die('Error: ' . mysqli_error());


echo "<div class = 'display'>";
echo "<table border='1'>
<tr>
<th>Product ID</th>
```

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```
<th>Title</th>
<th>Writer Last Name</th>
<th>Writer First Name</th>
<th>Publisher</th>
<th>Price</th>
<th>In stock?</th>
<th>Quantity Count</th>
</tr>";

while($row = mysqli_fetch_array($result))

{

echo "<tr>";
echo "<td>" . $row['product_ID'] . "</td>";
echo "<td>" . $row['graphic_novelttitle'] . "</td>";
echo "<td>" . $row['graphic_novellnamewriter'] . "</td>";
echo "<td>" . $row['graphic_novelfnamewriter'] . "</td>";
echo "<td>" . $row['graphic_novelpub'] . "</td>";
echo "<td>" . $row['product_cost'] . "</td>";
echo "<td>" . $row['product_stock'] . "</td>";
echo "<td>" . $row['product_count'] . "</td>";
echo "</tr>";


}

echo "</table>";
echo "</div>";


}

echo "<div class = 'formsproducts'>";
echo "<h3>Update Records Here</h3>
<p> Please fill in all fields, even if they are remaining the same </p>
<form action = 'updateproduct.php' method = 'post'>
<input type='radio' id='comic' name='producttype' value='comic'>
<label for='comic'>Comic</label>
<input type='radio' id='graphic' name='producttype' value='graphic'>
<label for='graphic'>Graphic Novel/Trade Paper Back</label><br><br>
```

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```
<label for='title'> Title: </label>
<input type ='text' id = 'title' name ='title' minlength = '1' maxlength = '250'><br><br>
<label for = 'authfname'> First Name Author: </label>
<input type = 'text' id = 'authfname' name ='authfname' minlength = '1' maxlength= '50'>
<label for = 'authlname'> Last Name Author: </label>
<input type = 'text' id = 'authlname' name ='authlname' minlength = '1' maxlength=
'50'><br><br>
<label for ='pub'> Publisher: </label>
<input type='text' id ='pub' name ='pub' maxlength='50'><br><br><br>

<label for='product_ID'> Product ID: </label>
<input type='number' id='product_ID' name='product_ID' min = '0'> <br>

<p> In stock:
<input type='radio' id='yes' name='stock' value='yes'>
<label for='stock'>Yes</label>
<input type='radio' id='no' name='stock' value='no'>
<label for='stock'>No</label> </p><br>

<label for='quantity'> Quantity: </label>
<input type='number' id='quantity' name='quantity' min = '0'> <br><br>

<label for ='price'> Price: </label>
<input type ='number' id = 'price' name ='price' min = '0' step = '.01'><br><br>
<input type ='submit' value='Submit'>
</form>
</form><br><br><br>";
```

```
echo
"<h3>Delete Records Here</h3>
<form action = 'deleteproduct.php' method = 'post'>
<label for ='product_ID'> Product ID: </label>
<input type ='number' id = "product_ID" name ='product_ID'><br><br>
<input type='radio' id='comic' name='producttype' value='comic'>
<label for='comic'>Comic</label>
<input type='radio' id='graphic' name='producttype' value='graphic'>
<label for='graphic'>Graphic Novel/Trade Paper Back</label><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
```

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```
</form>";  
  
echo "</div>";  
  
echo "</body>  
<html>";  
  
?>
```



The screenshot shows a web-based application for managing comic book inventory. At the top, there's a header with the title "Stairway to Heaven Comics" and a sub-section "Inventory Intake: New Product". Below the header is a navigation bar with links for "Home", "Frequent Customers", "Pull Lists", and "Inventory". The main content area contains a table with columns: Product ID, Title, Writer Last Name, Writer First Name, Publisher, Price, In stock?, and Quantity Count. A row in the table shows data for a comic titled "Saga #32" by Brian K. Vaughan. To the right of the table is a button labeled "Update Records Here" and a note: "Please fill in all fields, even if they are remaining the same".

Product ID	Title	Writer Last Name	Writer First Name	Publisher	Price	In stock?	Quantity Count
92881	Saga #32	Vaughan	Brian K.	Image	2.99	yes	10

2. This PHP document searches for a product in the inventory

```
<?php  
$host='canary.simmons.edu';  
$user= 'allwarde';  
$password='1709544';  
$database="lis458olsp20_allwarde_1";  
  
$con = mysqli_connect($host,$user,$password,$database)  
or die ("Couldn't connect to server");  
  
// this is our query results from searching iventory  
echo "<html>  
    <head>  
        <link rel='stylesheet' type='text/css' href='stairway.css'>  
    </head>  
    <body>";  
echo "<center><h2>Stairway to Heaven Comics</h2></center>";  
echo "<center><h3>Product Page </h3></center></h3><br><br>";  
echo "      <nav>  
          <ul class = 'nav'>  
              <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
```

```
<div class='dropdown'>
  <li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Frequent Customers </a>
    <i class='fa fa-caret-down'></i>
  </button>
</li>
<div class= 'dropdown-content'>
  <a href='frequentcustomerform.html'>Add Frequent Customer</a>
  <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
  <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
</div>
</div>

<div class='dropdown'>
  <li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Pull Lists </a>
    <i class='fa fa-caret-down'></i>
  </button>
</li>
<div class= 'dropdown-content'>
  <a href = 'pullcustomerform.html'>Add Pull Customer</a>
  <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
  <a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>

<div class='dropdown'>
  <li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
  </button>
</li>
<div class= 'dropdown-content'>
  <a href='inventoryform.html'>Add Product</a>
  <a href = 'productsearch.html'> Search/Update Product </a>
  <a href='comicdata.php'> All Comics Inventory Data</a>
  <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";
$searchmethod = $_POST['searchmethod'];
$productType = $_POST['producttype'];

if($productType == 'comic')
```

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```
{  
//search by title  
if($searchmethod == 'title')  
{  
    //establish count of how many results for the title  
    $sql = "select count(*) as count from comics where '$_POST[title]' = comictitle;";  
  
    $result = mysqli_query($con, $sql)  
    or die ("Error");  
  
    // if zero the product isn't in the database  
    $row = mysqli_fetch_assoc($result);  
    if ( $row['count']==0 )  
    {  
        die ("This product does not exist");  
    }  
  
    $title= $_POST['title'];  
    $sql = "SELECT comics.product_ID, comics.comictitle, comics.comiclnamewriter,  
comics.comicfnamewriter, comics.comicpub,  
products.product_cost, products.product_stock, products.product_count  
from comics  
inner join products  
on products.product_ID = comics.product_ID  
where comics.comictitle = '$title';";  
  
    $result = mysqli_query($con,$sql);  
  
    echo "<div class = 'display'>";  
    echo "<table border='1', center;>  
<tr>  
    <th>Product ID</th>  
    <th>Title</th>  
    <th>Writer Last Name</th>  
    <th>Writer First Name</th>  
    <th>Publisher</th>  
    <th>Price</th>  
    <th>In stock?</th>  
    <th>Quantity Count</th>  
</tr>";  
  
    while($row = mysqli_fetch_array($result))
```

```

{
echo "<tr>";
echo "<td>" . $row['product_ID'] . "</td>";
echo "<td>" . $row['comictitle'] . "</td>";
echo "<td>" . $row['comiclnamewriter'] . "</td>";
echo "<td>" . $row['comicfnamewriter'] . "</td>";
echo "<td>" . $row['comicpub'] . "</td>";
echo "<td>" . $row['product_cost'] . "</td>";
echo "<td>" . $row['product_stock'] . "</td>";
echo "<td>" . $row['product_count'] . "</td>";
echo "</tr>";
}
echo "</table>";
echo "</div>";
}

//search by author last name/first name
elseif($searchmethod == 'name')
{
$firstname= $_POST['authfname'];
$lastname = $_POST['authlname'];
$sql = "select count(*) as count from comics where '$firstname' = comicfnamewriter and
'$lastname'= comiclnamewriter;";

$result = mysqli_query($con, $sql)
or die ("Error");

// if zero the product isn't in the database
$row = mysqli_fetch_assoc($result);
if ( $row['count']==0 )
{
die ("This product does not exist");
}

$sql = "SELECT comics.product_ID, comics.comictitle, comics.comiclnamewriter,
comics.comicfnamewriter, comics.comicpub,
products.product_cost, products.product_stock, products.product_count
from comics
inner join products
on products.product_ID = comics.product_ID
where comics.comicfnamewriter = '$firstname' and comics.comiclnamewriter=
'$lastname';";

```

```
$result = mysqli_query($con,$sql);
echo "<div class = 'display'>";
echo "<table border='1'; center;>
<tr>
<th>Product ID</th>
<th>Title</th>
<th>Writer Last Name</th>
<th>Writer First Name</th>
<th>Publisher</th>
<th>Price</th>
<th>In stock?</th>
<th>Quantity Count</th>
</tr>";

while($row = mysqli_fetch_array($result))
{
    echo "<tr>";
    echo "<td>" . $row['product_ID'] . "</td>";
    echo "<td>" . $row['comictitle'] . "</td>";
    echo "<td>" . $row['comiclnamewriter'] . "</td>";
    echo "<td>" . $row['comicfnamewriter'] . "</td>";
    echo "<td>" . $row['comicpub'] . "</td>";
    echo "<td>" . $row['product_cost'] . "</td>";
    echo "<td>" . $row['product_stock'] . "</td>";
    echo "<td>" . $row['product_count'] . "</td>";
    echo "</tr>";
}
echo "</table>";
echo "</div>";
}

//search by publisher
elseif($searchmethod == 'pub')
{
    $sql = "select count(*) as count from comics where '$_POST[pub]' = comicpub;";

    $result = mysqli_query($con, $sql)
        or die ("Error");

    // if zero the product isn't in the database
    $row = mysqli_fetch_assoc($result);
    if ( $row['count']==0 )
```

```
{  
    die ("This product does not exist");  
}  
$pub= $_POST['pub'];  
  
$sql = "SELECT comics.product_ID, comics.comictitle, comics.comiclnamewriter,  
comics.comicfnamewriter, comics.comicpub,  
products.product_cost, products.product_stock, products.product_count  
from comics  
inner join products  
on products.product_ID = comics.product_ID  
where comics.comicpub = '$pub';";  
  
  
  
$result = mysqli_query($con,$sql);  
  
echo "<div class = 'display'>";  
echo "<table border='1'; center;>  
<tr>  
<th>Product ID</th>  
<th>Title</th>  
<th>Writer Last Name</th>  
<th>Writer First Name</th>  
<th>Publisher</th>  
<th>Price</th>  
<th>In stock?</th>  
<th>Quantity Count</th>  
</tr>";  
  
while($row = mysqli_fetch_array($result))  
{  
    echo "<tr>";  
    echo "<td>" . $row['product_ID'] . "</td>";  
    echo "<td>" . $row['comictitle'] . "</td>";  
    echo "<td>" . $row['comiclnamewriter'] . "</td>";  
    echo "<td>" . $row['comicfnamewriter'] . "</td>";  
    echo "<td>" . $row['comicpub'] . "</td>";  
    echo "<td>" . $row['product_cost'] . "</td>";  
    echo "<td>" . $row['product_stock'] . "</td>";  
    echo "<td>" . $row['product_count'] . "</td>";  
    echo "</tr>";  
}  
}
```

```
    echo "</table>";
    echo "</div>";
}
}

// graphic novel
elseif ($productType == 'graphic')
{
//search by title
if($searchmethod == 'title')
{
//establish count of how many results for the title
$sql = "select count(*) as count from graphic_novel where '$_POST[title]' =
graphic_novelttitle;";

$result = mysqli_query($con, $sql)
or die ("Error");

// if zero the product isn't in the database
$row = mysqli_fetch_assoc($result);
if ( $row['count']==0 )
{
die ("This product does not exist");
}

$title= $_POST['title'];
$sql = "SELECT graphic_novel.product_ID, graphic_novel.graphic_novelttitle,
graphic_novel.graphic_novellnamewriter,
graphic_novel.graphic_novelfnamewriter, graphic_novel.graphic_novelpub,
products.product_cost, products.product_stock, products.product_count
from graphic_novel
inner join products
on graphic_novel.product_ID = products.product_ID
where graphic_novel.graphic_novelttitle = '$title';

$result = mysqli_query($con,$sql);

echo "<div class = 'display'>";
echo "<table border='1'; center;>
<tr>
<th>Product ID</th>
```

```
<th>Title</th>
<th>Writer Last Name</th>
<th>Writer First Name</th>
<th>Publisher</th>
<th>Price</th>
<th>In stock?</th>
<th>Quantity Count</th>
</tr>";

while($row = mysqli_fetch_array($result))
{
    echo "<tr>";
    echo "<td>" . $row['product_ID'] . "</td>";
    echo "<td>" . $row['graphic_novelttitle'] . "</td>";
    echo "<td>" . $row['graphic_novellnamewriter'] . "</td>";
    echo "<td>" . $row['graphic_novelfnamewriter'] . "</td>";
    echo "<td>" . $row['graphic_novelpub'] . "</td>";
    echo "<td>" . $row['product_cost'] . "</td>";
    echo "<td>" . $row['product_stock'] . "</td>";
    echo "<td>" . $row['product_count'] . "</td>";
    echo "</tr>";
}
echo "</table>";
echo "</div>";
}

//search by author last name/first name
elseif($searchmethod == 'name')
{
    $firstname= $_POST['authfname'];
    $lastname = $_POST['authlname'];
    $sql = "select count(*) as count from graphic_novel where '$firstname' =
graphic_novelfnamewriter and '$lastname'= graphic_novellnamewriter";

    $result = mysqli_query($con, $sql)
        or die ("Error");

    // if zero the product isn't in the database
    $row = mysqli_fetch_assoc($result);
    if ( $row['count']==0 )
    {
        die ("This product does not exist");
    }
}
```

```
$sql = "SELECT graphic_novel.product_ID, graphic_novel.graphic_novelttitle,
graphic_novel.graphic_novellnamewriter,
graphic_novel.graphic_novelfnamewriter, graphic_novel.graphic_novelpub,
products.product_cost, products.product_stock, products.product_count
from graphic_novel
inner join products
on graphic_novel.product_ID = products.product_ID
where graphic_novel.graphic_novellnamewriter = '$firstname' and
graphic_novel.graphic_novellnamewriter = '$lastname';"
```

```
$result = mysqli_query($con,$sql);

echo "<div class = 'display'>";
echo "<table border='1'; center;>
<tr>
<th>Product ID</th>
<th>Title</th>
<th>Writer Last Name</th>
<th>Writer First Name</th>
<th>Publisher</th>
<th>Price</th>
<th>In stock?</th>
<th>Quantity Count</th>
</tr>";

while($row = mysqli_fetch_array($result))
{
    echo "<tr>";
    echo "<td>" . $row['product_ID'] . "</td>";
    echo "<td>" . $row['graphic_novelttitle'] . "</td>";
    echo "<td>" . $row['graphic_novellnamewriter'] . "</td>";
    echo "<td>" . $row['graphic_novelfnamewriter'] . "</td>";
    echo "<td>" . $row['graphic_novelpub'] . "</td>";
    echo "<td>" . $row['product_cost'] . "</td>";
    echo "<td>" . $row['product_stock'] . "</td>";
    echo "<td>" . $row['product_count'] . "</td>";
    echo "</tr>";
}
echo "</table>";
echo "</div>";
```

```
}

//search by publisher
elseif($searchmethod == 'pub')
{
    $sql = "select count(*) as count from comics where '$_POST[pub]' = comicpub;";

    $result = mysqli_query($con, $sql)
        or die ("Error");

    // if zero the product isn't in the database
    $row = mysqli_fetch_assoc($result);
    if ( $row['count']==0 )
    {
        die ("This product does not exist");
    }
    $pub= $_POST['pub'];

    $sql = "SELECT graphic_novel.product_ID, graphic_novel.graphic_noveltitle,
graphic_novel.graphic_novellnamewriter,
graphic_novel.graphic_novelfnamewriter, graphic_novel.graphic_novelpub,
products.product_cost, products.product_stock, products.product_count
from graphic_novel
inner join products
on graphic_novel.product_ID = products.product_ID
where graphic_novel.graphic_novelpub = '$pub';";

    $result = mysqli_query($con,$sql);

    echo "<div class = 'display'>";
    echo "<table border='1'; center;>
<tr>
<th>Product ID</th>
<th>Title</th>
<th>Writer Last Name</th>
<th>Writer First Name</th>
<th>Publisher</th>
<th>Price</th>
<th>In stock?</th>
<th>Quantity Count</th>
</tr>";

    while($row = mysqli_fetch_array($result))
```

```
{  
    echo "<tr>";  
    echo "<td>" . $row['product_ID'] . "</td>";  
    echo "<td>" . $row['graphic_novelttitle'] . "</td>";  
    echo "<td>" . $row['graphic_novellnamewriter'] . "</td>";  
    echo "<td>" . $row['graphic_novelfnamewriter'] . "</td>";  
    echo "<td>" . $row['graphic_novelpub'] . "</td>";  
    echo "<td>" . $row['product_cost'] . "</td>";  
    echo "<td>" . $row['product_stock'] . "</td>";  
    echo "<td>" . $row['product_count'] . "</td>";  
    echo "</tr>";  
}  
}  
  
echo "<div class = 'forms'>";  
echo "<h3>Update Records Here</h3>  
<p> Please fill in all fields, even if they are remaining the same </p>  
<form action = 'updateproduct.php' method = 'post'>  
    <input type='radio' id='comic' name='producttype' value='comic'>  
    <label for='comic'>Comic</label>  
    <input type='radio' id='graphic' name='producttype' value='graphic'>  
    <label for='graphic'>Graphic Novel/Trade Paper Back</label><br><br>  
  
    <label for='title'> Title: </label>  
    <input type ='text' id = 'title' name ='title' minlength = '1' maxlength = '250'><br><br>  
    <label for = 'authfname'> First Name Author: </label>  
    <input type = 'text' id = 'authfname' name ='authfname' minlength = '1' maxlength= '50'>  
    <label for = 'authlname'> Last Name Author: </label>  
    <input type = 'text' id = 'authlname' name ='authlname' minlength = '1' maxlength= '50'><br><br>  
    <label for ='pub'> Publisher: </label>  
    <input type='text' id ='pub' name ='pub' maxlength='50'><br><br><br>  
  
    <label for='product_ID'> Product ID: </label>  
    <input type='number' id='product_ID' name='product_ID' min = '0'> <br>  
  
    <p> In stock:  
    <input type='radio' id='yes' name='stock' value='yes'>
```

```

<label for='stock'>Yes</label>
<input type='radio' id='no' name='stock' value='no'>
<label for='stock'>No</label> </p><br>

<label for='quantity'> Quantity: </label>
<input type='number' id='quantity' name='quantity' min = '0'> <br><br>

<label for ='price'> Price: </label>
<input type ='number' id = 'price' name ='price' min = '0' step = '.01'><br><br>
<input type ='submit' value='Submit'>
</form>
</form><br><br><br>";
echo
"<h3>Delete Records Here</h3>
<form action = 'deleteproduct.php' method = 'post'>
<label for ='product_ID'> Product ID: </label>
<input type ='number' id = "product_ID" name ='product_ID'><br><br>
<input type='radio' id='comic' name='producttype' value='comic'>
<label for='comic'>Comic</label>
<input type='radio' id='graphic' name='producttype' value='graphic'>
<label for='graphic'>Graphic Novel/Trade Paper Back</label><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
</form>";
echo "</div>";
echo "</body>
<html>";
?>

```

Stairway to Heaven Comics
Product Page

[Home](#) [Frequent Customers](#) [Pull Lists](#) [Inventory](#)

Product ID	Title	Writer Last Name	Writer First Name	Publisher	Price	In stock?	Quantity Count
10	Outcast: Volume 1	Kirkman	Robert	Image	9.99	no	0
726171	Outcast Volume 4	Kirkman	Robert	Image	14.99	yes	3

Update Records Here

Please fill in all fields, even if they are remaining the same

Comic
 Graphic Novel/Trade Paper Back

3. This PHP page shows all the graphic novel inventory

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database="lis458olsp20_allwarde_1";

$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

echo "<html>
    <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
    </head>
    <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>All Graphic Novel Inventory </h3></center></h3><br><br>";
echo "    <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
            <div class='dropdown'>
                <li class = 'li'><a class ='navlink'>
                    <button class='dropbtn'>Frequent Customers </a>
                    <i class='fa fa-caret-down'></i>
                </button>
            </li>
            <div class= 'dropdown-content'>
                <a href='frequentcustomerform.html'>Add Frequent Customer</a>
                <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer
Page</a>
                <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
            </div>
        </div>
        <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
                <button class='dropbtn'>Pull Lists </a>
                <i class='fa fa-caret-down'></i>
            </button>
        </li>
        <div class= 'dropdown-content'>
            <a href = 'pullcustomerform.html'>Add Pull Customer</a>
            <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
        </div>
    </ul>
</nav>"
```

```
<a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";
```

```
$sql = "SELECT graphic_novel.product_ID, graphic_novel.graphic_novelttitle,
graphic_novel.graphic_novellnamewriter,
graphic_novel.graphic_novelfnamewriter, graphic_novel.graphic_novelpub,
products.product_cost, products.product_stock, products.product_count
from graphic_novel
inner join products
on graphic_novel.product_ID = products.product_ID
order by graphic_novel.graphic_novelpub;";
```

```
$result = mysqli_query($con,$sql);
```

```
echo "<div class = 'display'>";
echo "<table border='1'; center;>
<tr>
<th>Product ID</th>
<th>Title</th>
<th>Writer Last Name</th>
<th>Writer First Name</th>
<th>Publisher</th>
<th>Price</th>
<th>In stock?</th>
<th>Quantity Count</th>
```

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```
</tr>";  
  
while($row = mysqli_fetch_array($result))  
{  
    echo "<tr>";  
    echo "<td>" . $row['product_ID'] . "</td>";  
    echo "<td>" . $row['graphic_novelttitle'] . "</td>";  
    echo "<td>" . $row['graphic_novellnamewriter'] . "</td>";  
    echo "<td>" . $row['graphic_novelfnamewriter'] . "</td>";  
    echo "<td>" . $row['graphic_novelpub'] . "</td>";  
    echo "<td>" . $row['product_cost'] . "</td>";  
    echo "<td>" . $row['product_stock'] . "</td>";  
    echo "<td>" . $row['product_count'] . "</td>";  
    echo "</tr>";  
}  
echo "</table>";  
echo "</div>";  
  
echo "<div class = 'forms'>";  
echo "<h3>Update Records Here</h3>  
<p> Please fill in all fields, even if they are remaining the same </p>  
<form action = 'updateproduct.php' method = 'post'>  
    <input type='radio' id='comic' name='producttype' value='comic'>  
    <label for='comic'>Comic</label>  
    <input type='radio' id='graphic' name='producttype' value='graphic'>  
    <label for='graphic'>Graphic Novel/Trade Paper Back</label><br><br>  
  
    <label for='title'> Title: </label>  
    <input type = 'text' id = 'title' name = 'title' minlength = '1' maxlength = '250'><br><br>  
    <label for = 'authfname'> First Name Author: </label>  
    <input type = 'text' id = 'authfname' name = 'authfname' minlength = '1' maxlength= '50'>  
    <label for = 'authlname'> Last Name Author: </label>  
    <input type = 'text' id = 'authlname' name = 'authlname' minlength = '1' maxlength= '50'><br><br>  
    <label for = 'pub'> Publisher: </label>  
    <input type='text' id ='pub' name ='pub' maxlength='50'><br><br><br>  
  
    <label for='product_ID'> Product ID: </label>  
    <input type='number' id='product_ID' name='product_ID' min = '0'> <br>
```

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```
<p> In stock:  
<input type='radio' id='yes' name='stock' value='yes'>  
<label for='stock'>Yes</label>  
<input type='radio' id='no' name='stock' value='no'>  
<label for='stock'>No</label> </p><br>  
  
<label for='quantity'> Quantity: </label>  
<input type='number' id='quantity' name='quantity' min = '0'> <br><br>  
  
<label for ='price'> Price: </label>  
<input type ='number' id = 'price' name ='price' min = '0' step = '.01'><br><br>  
<input type ='submit' value='Submit'>  
</form>  
</form><br><br><br>";  
echo  
"<h3>Delete Records Here</h3>  
<form action = 'deleteproduct.php' method = 'post'>  
<label for ='product_ID'> Product ID: </label>  
<input type ='number' id = "product_ID" name ='product_ID'><br><br>  
<input type='radio' id='comic' name='producttype' value='comic'>  
<label for='comic'>Comic</label>  
<input type='radio' id='graphic' name='producttype' value='graphic'>  
<label for='graphic'>Graphic Novel/Trade Paper Back</label><br>  
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>  
<input type ='submit' value='Submit'>  
</form>";  
  
echo "</div>";  
echo "</body>  
<html>";
```

Stairway to Heaven Comics
All Graphic Novel Inventory

Home	Frequent Customers	Pull Lists	Inventory				
Product ID	Title	Writer Last Name	Writer First Name	Publisher	Price	In stock?	Quantity Count
15	Poppy! And the Lost Lagoon	Kindt	Matt	Dark Horse	14.99	no	0
19	The Umbrella Academy	Way	Gerard	Dark Horse	19.99	no	0
4	Green Arrow: Quiver	Smith	Kevin	DC Comics	19.95	yes	3
5	Batgirl: The Greatest Story Ever Told	Fox	Gardener	DC Comics	19.95	no	0
1	Boundless	Tamaki	Tamaki	Drawn & Quarterly	24.95	yes	2
16	Locke and Key: Volume 3	Hill	Joe	IDW	19.99	no	0
10	Outcast: Volume 1	Kirkman	Robert	Image	9.99	no	0
11	The Family Trade	Jordan	Justin	Image	9.99	yes	4
12	Sana Harrower 2	Maunhan	Brian K	Image	16.00	no	0

Update Records Here
Please fill in all fields, even if they are remaining the same
 Comic Graphic Novel/Trade Paper Back
Title:
First Name Author: Last Name
Author:
Publisher:

4. This PHP page shows all the comic inventory

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

$con = mysqli_connect($host,$user,$password,$database)
or die ("Couldn't connect to server");

// this shows all the comic inventory
echo "<html>
    <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
    </head>
    <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>All Comic Inventory</h3></center></h3><br><br>";
echo "      <nav>
        <ul class = 'nav'>
            <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
            <div class='dropdown'>
                <li class = 'li'><a class ='navlink'>
                    <button class='dropbtn'>Frequent Customers </a>
                    <i class='fa fa-caret-down'></i>
                </button>
            </li>
            <div class= 'dropdown-content'>
                <a href='frequentcustomerform.html'>Add Frequent Customer</a>
                <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
                <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
            </div>
        </div>
        <div class='dropdown'>
            <li class = 'li'><a class ='navlink'>
                <button class='dropbtn'>Pull Lists </a>
                <i class='fa fa-caret-down'></i>
            </button>
        </li>
        <div class= 'dropdown-content'>
            <a href = 'pullcustomerform.html'>Add Pull Customer</a>
```

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```
<a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
<a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";
```

```
$sql = "SELECT comics.product_ID, comics.comictitle, comics.comiclnamewriter,
comics.comicfnamewriter, comics.comicpub,
products.product_cost, products.product_stock, products.product_count
from comics
inner join products
on products.product_ID = comics.product_ID
order by comics.comicpub;";
```

```
$result = mysqli_query($con,$sql);
```

```
echo "<div class ='display'>";

echo "<table border='1'; center;>
<tr>
<th>Product ID</th>
<th>Title</th>
<th>Writer Last Name</th>
<th>Writer First Name</th>
<th>Publisher</th>
<th>Price</th>
<th>In stock?</th>
<th>Quantity Count</th>
</tr>";
```

```
while($row = mysqli_fetch_array($result))
{
    echo "<tr>";
    echo "<td>" . $row['product_ID'] . "</td>";
    echo "<td>" . $row['comictitle'] . "</td>";
    echo "<td>" . $row['comiclnamewriter'] . "</td>";
    echo "<td>" . $row['comicfnamewriter'] . "</td>";
    echo "<td>" . $row['comicpub'] . "</td>";
    echo "<td>" . $row['product_cost'] . "</td>";
    echo "<td>" . $row['product_stock'] . "</td>";
    echo "<td>" . $row['product_count'] . "</td>";
    echo "</tr>";
}
echo "</table>";
echo "</div>";

echo "<div class = 'forms'>";
echo "<h3>Update Records Here</h3>
<p> Please fill in all fields, even if they are remaining the same </p>
<form action = 'updateproduct.php' method = 'post'>
<input type='radio' id='comic' name='producttype' value='comic'>
<label for='comic'>Comic</label>
<input type='radio' id='graphic' name='producttype' value='graphic'>
<label for='graphic'>Graphic Novel/Trade Paper Back</label><br><br>

<label for='title'> Title: </label>
<input type = 'text' id = 'title' name = 'title' minlength = '1' maxlength = '250'><br><br>
<label for = 'authfname'> First Name Author: </label>
<input type = 'text' id = 'authfname' name = 'authfname' minlength = '1' maxlength= '50'>
<label for = 'authlname'> Last Name Author: </label>
<input type = 'text' id = 'authlname' name = 'authlname' minlength = '1' maxlength=
'50'><br><br>
<label for = 'pub'> Publisher: </label>
<input type='text' id = 'pub' name = 'pub' maxlength='50'><br><br><br>

<label for='product_ID'> Product ID: </label>
<input type='number' id='product_ID' name='product_ID' min = '0'> <br>

<p> In stock:
```

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```
<input type='radio' id='yes' name='stock' value='yes'>
<label for='stock'>Yes</label>
<input type='radio' id='no' name='stock' value='no'>
<label for='stock'>No</label> </p><br>

<label for='quantity'> Quantity: </label>
<input type='number' id='quantity' name='quantity' min = '0'> <br><br>

<label for ='price'> Price: </label>
<input type ='number' id = 'price' name ='price' min = '0' step = '.01'><br><br>
<input type ='submit' value='Submit'>
</form>
</form><br><br><br>";

echo
"<h3>Delete Records Here</h3>
<form action = 'deleteproduct.php' method = 'post'>
<label for ='product_ID'> Product ID: </label>
<input type ='number' id = "product_ID" name ='product_ID' /><br><br>
<input type='radio' id='comic' name='producttype' value='comic'>
<label for='comic'>Comic</label>
<input type='radio' id='graphic' name='producttype' value='graphic'>
<label for='graphic'>Graphic Novel/Trade Paper Back</label><br>
<p> Make sure you want to PERMANENTLY delete before pressing submit!</p><br>
<input type ='submit' value='Submit'>
</form>";"

echo "</div>";
echo "</body>
<html>";
```

Stairway to Heaven Comics
All Comic Inventory

Home Frequent Customers Pull Lists Inventory

Product ID	Title	Writer Last Name	Writer First Name	Publisher	Price	In stock?	Quantity Count
103	Slam: The Next Jam #1	Ribon	Pamela	Bonni Box	3.99	no	0
105	Supergirl Being Super #1	Tamaki	Mariko	DC Comics	4.99	yes	10
2626	Snot Girl #2	OMalley	Brian Lee	Image	2.99	yes	10
54243	Snot Girl #6	Brian Lee	OMalley	Image	2.99	yes	10
1928281	Snot Girl #3	OMalley	Brian Lee	Image	2.99	yes	10
18273	Snot Girl #5	OMalley	Brian Lee	Image	2.99	yes	10
101	Paper Girls #1	Vaughn	Brian K	Image	2.99	no	0
102	Snot Girl #1	O'Malley	Brian Lee	Image	3.99	no	0
104	Sleepless #1	Vaughn	Sarah	Image	2.99	yes	3
107	Bitch Planet: Triple Feature #1	DeConnick	Kate	Image	3.99	no	0
92981	Saga #32	Vaughn	Brian K.	Image	2.99	yes	10
7277281	Snot Girl #4	OMalley	Brian Lee	Image	2.99	yes	10
61941	Cover	Bendis	Michael	Jinx World	3.99	yes	5
106	Star Wars: The Storms of Crait #1	Acker	Ben	Marvel Comics	3.99	no	0
108	Domino #1	Simone	Gail	Marvel Comics	3.99	no	0

Please fill in all fields, even if you are remaining the same

Comic Graphic Novel/Trade Paper Back

Title:

First Name Author: Last Name

Author:

Publisher:

Product ID:

In stock: Yes No

Quantity:

Price:

Submit

5. This PHP document allows you to update a product

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database='lis458olsp20_allwarde_1';

$con = mysqli_connect($host,$user,$password,$database)
      or die ("Couldn't connect to server");
// this page updates a product inventory
echo "<html>
      <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
      </head>
      <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>Update Product Inventory </h3></center></h3><br><br>";
echo "      <nav>
        <ul class = 'nav'>
          <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
          <div class='dropdown'>
            <li class = 'li'><a class ='havlink'>
              <button class='dropbtn'>Frequent Customers </a>
              <i class='fa fa-caret-down'></i>
            </button>
          </li>
          <div class= 'dropdown-content'>
            <a href='frequentcustomerform.html'>Add Frequent Customer</a>
            <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
            <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
          </div>
        </div>
        <div class='dropdown'>
          <li class = 'li'><a class ='navlink'>
            <button class='dropbtn'>Pull Lists </a>
            <i class='fa fa-caret-down'></i>
          </button>
        </li>
        <div class= 'dropdown-content'>
          <a href = 'pullcustomerform.html'>Add Pull Customer</a>
          <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
        </div>
      </div>
    </body>
  </html>"
```

```
<a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";

$productType = $_POST['producttype'];
$dID = $_POST['product_ID'];
$dtitle = $_POST['title'];
$dfirstname = $_POST['authfname'];
$dlastname = $_POST['authlname'];
$dpub = $_POST['pub'];
$stock = $_POST['stock'];
$quantity = $_POST['quantity'];
$price = $_POST['price'];

if ($productType == 'comic'){
    $sql1 = "UPDATE comics SET comictitle = '$dtitle' WHERE product_ID = $dID";
    if ($con->query($sql1) === TRUE) {
        echo "Record updated successfully";
    } else {
        echo "Error updating record: " . $con->error;
    }
    $sql2 = "UPDATE comics SET comicfnamewriter = '$dfirstname' WHERE product_ID = $dID";
}
```

```
if ($con->query($sql2) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}

$sql3 = "UPDATE comics SET comiclnamewriter = '$dlastname' WHERE product_ID = $dID";

if ($con->query($sql3) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}

$sql4 = "UPDATE comics SET comicpub = '$dpub' WHERE product_ID = $dID";

if ($con->query($sql4) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}

$sql5 = "UPDATE products SET product_stock = '$stock' WHERE product_ID = $dID";

if ($con->query($sql5) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}

$sql6 = "UPDATE products SET product_count = '$quantity' WHERE product_ID = $dID";

if ($con->query($sql6) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}

$sql7 = "UPDATE products SET product_cost = '$price' WHERE product_ID = $dID";

if ($con->query($sql7) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}
```

}

if (\$productType == 'graphic') {

 \$sql1 = "UPDATE graphic_novel SET graphic_novelttitle = '\$dtitle' WHERE product_ID = \$dID";

 if (\$con->query(\$sql1) === TRUE) {

 echo "Record updated successfully";

 } else {

 echo "Error updating record: " . \$con->error;

}

 \$sql2 = "UPDATE graphic_novel SET graphic_novelfnamewriter = '\$dfirstname' WHERE product_ID = \$dID";

 if (\$con->query(\$sql2) === TRUE) {

 echo "Record updated successfully";

 } else {

 echo "Error updating record: " . \$con->error;

}

 \$sql3 = "UPDATE graphic_novel SET graphic_novelfnamewriter = '\$lastname' WHERE product_ID = \$dID";

 if (\$con->query(\$sql3) === TRUE) {

 echo "Record updated successfully";

 } else {

 echo "Error updating record: " . \$con->error;

}

 \$sql4 = "UPDATE graphic_novel SET graphic_novelpub = '\$dpub' WHERE product_ID = \$dID";

 if (\$con->query(\$sql4) === TRUE) {

 echo "Record updated successfully";

 } else {

 echo "Error updating record: " . \$con->error;

}

 \$sql5 = "UPDATE products SET product_stock = '\$stock' WHERE product_ID = \$dID";

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```
if ($con->query($sql5) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}
$sql6 = "UPDATE products SET product_count = '$quantity' WHERE product_ID = $dID";

if ($con->query($sql6) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}
$sql7 = "UPDATE products SET product_cost = '$price' WHERE product_ID = $dID";

if ($con->query($sql7) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $con->error;
}
}

echo "</body>
<html>";
$con->close();
?>
```

6. This PHP code deletes a product from the inventory

```
<?php
$host='canary.simmons.edu';
$user= 'allwarde';
$password='1709544';
$database="lis458olsp20_allwarde_1";

$con = mysqli_connect($host,$user,$password,$database)
      or die ("Couldn't connect to server");
// this document deletes an inventory item

echo "<html>
      <head>
        <link rel='stylesheet' type='text/css' href='stairway.css'>
      </head>
      <body>";
echo "<center><h2>Stairway to Heaven Comics</h2></center>";
echo "<center><h3>Delete Inventory Item</h3></center></h3><br><br>";
echo "      <nav>
        <ul class = 'nav'>
          <li class = 'li'><a href = home.html class ='navlink'>Home</a></li>
          <div class='dropdown'>
            <li class = 'li'><a class ='havlink'>
              <button class='dropbtn'>Frequent Customers </a>
              <i class='fa fa-caret-down'></i>
            </button>
          </li>
          <div class= 'dropdown-content'>
            <a href='frequentcustomerform.html'>Add Frequent Customer</a>
            <a href='frequentcustomerhistoryform.html'>Update/Find Frequent Customer Page</a>
            <a href='freqcustdisplay.php'>All Frequent Customer Records</a>
          </div>
        </div>
        <div class='dropdown'>
          <li class = 'li'><a class ='navlink'>
            <button class='dropbtn'>Pull Lists </a>
            <i class='fa fa-caret-down'></i>
          </button>
        </li>
        <div class= 'dropdown-content'>
          <a href = 'pullcustomerform.html'>Add Pull Customer</a>
          <a href= 'pulllistsearch.html'>Update/Find Pull Customer Page</a>
        </div>
      </ul>
    </nav>
  </body>
</html>"
```

```
<a href = 'plistdata.php'>All Pull List Customer Data</a>
</div>
</div>
<div class='dropdown'>
<li class = 'li'><a class ='navlink'>
    <button class='dropbtn'>Inventory </a>
    <i class='fa fa-caret-down'></i>
    </button>
</li>
<div class= 'dropdown-content'>
    <a href='inventoryform.html'>Add Product</a>
    <a href = 'productsearch.html'> Search/Update Product </a>
    <a href='comicdata.php'> All Comics Inventory Data</a>
    <a href='graphicnoveldata.php'> All Graphic Novel/Trade Paper Back Inventory
Data</a>
</div>
</div>
</nav>";
```

```
$productType = $_POST['producttype'];
$dID = $_POST['product_ID'];

if($productType == 'comic'){
    $sql2 = "DELETE FROM comics WHERE product_ID = $dID";
    if ($con->query($sql2) === TRUE)
    {
        echo "Records deleted successfully from Comics";
    }
    else {
        echo "Error deleting record: " . $con->error;
    }
}

$sql1 = "DELETE FROM frequent_orders_products WHERE product_ID = $dID";
if ($con->query($sql1) === TRUE)
{
    echo "Record deleted successfully from Products <br><br>";
}
else {
    echo "Error deleting record: " . $con->error;
}

$sql = "DELETE FROM products WHERE product_ID = $dID";
```

```
if ($con->query($sql) === TRUE)
{
    echo "Record deleted successfully from Products <br><br>";
}
else {
    echo "Error deleting record: " . $con->error;
}
}

elseif($productType == 'graphic')
{
    $sql2 = "DELETE FROM graphic_novel WHERE product_ID = $dID";
    if ($con->query($sql2) === TRUE)
    {
        echo "Records deleted successfully from Comics";
    }
    else {
        echo "Error deleting record: " . $con->error;
    }
    $sql1 = "DELETE FROM frequent_orders_products WHERE product_ID = $dID";
    if ($con->query($sql1) === TRUE)
    {
        echo "Record deleted successfully from Products <br><br>";
    }
    else {
        echo "Error deleting record: " . $con->error;
    }
}

$sql = "DELETE FROM products WHERE product_ID = $dID";
if ($con->query($sql) === TRUE)
{
    echo "Record deleted successfully from Products <br><br>";
}
else {
    echo "Error deleting record: " . $con->error;
}
}

$con->close();

echo "</body>
<html>";
?>
```

The screenshot shows a two-panel interface. The left panel is titled "Delete Records Here" and contains fields for Product ID (61941), type (Comic selected), and category (Novel/Trade Paper Back). It also includes a warning message: "Make sure you want to PERMANENTLY delete before pressing submit!" and a "Submit" button. The right panel is titled "Stairway to Heaven Comics" and "Delete Inventory Item". It features a navigation bar with Home, Frequent Customers, Pull Lists, and Inventory links. Below the navigation, success messages state: "Records deleted successfully from Comics", "Record deleted successfully from Products", and "Record deleted successfully from Products".

Links:

PHP interface: <http://web.simmons.edu/~allwarde/LIS458/stairwaytoheaven/home.html>

Screencast:

<https://drive.google.com/file/d/1tWpm-yudLQ08iUZVVOyCK44SBqQU--Zp/view?usp=sharing>