



KGSB Clothing

Knoelle Grassi & Samantha Bentley
kgrassi2693 & sbentley4059
kgrassi2693_kgsb_clothing_db_project

Revolutionizing KGSB Clothing: Solving Inventory and Data Management Challenges

KGSB Clothing seeks to build a database to manage their data. The *current challenge* lies in the absence of a robust database system to efficiently manage inventory, track customer information, and ensure data integrity. To *address this*, we propose implementing a database solution that streamlines inventory management, maintains detailed customer records, and ensures data integrity through a robust design. This solution will facilitate efficient data access, enabling quick retrieval of information for order processing, reporting, and analytics, ultimately enhancing the overall functionality and customer experience of the platform.

Optimizing Operations: Solving Inventory and Customer Management Challenges

Our company's **problems** include inventory management, managing customer information, data integrity, and efficient data access. We need an efficient way to track the inventory of our store. This includes maintaining accurate records of product quantities, restocking, and handling returns. We also need to manage customer data. We must keep track of customer profiles, purchase history, and other relevant information. We must ensure data consistency and prevent duplicate entries to ensure business operations run smoothly. The store's database should also allow quick and easy information retrieval for order processing, reporting, and analytics purposes.

Our **objectives** are to create a product catalog, track inventory, create a customer catalog, order processing, and create reports on our store. The product catalog should show details about every product. It requires the name, description, price, category, and availability of each product. The inventory tracking should maintain real-time inventory records. Whenever a product is sold or restocked, the inventory should be updated accordingly. The customer catalog should keep track of customer information. It should maintain personal details like name, contact information, and addresses of every customer along with purchase history with orders and products bought. Through order processing the database should keep track of incoming inventory and who the incoming inventory is from. The database should support various reports such as sales summaries, stock levels, and customer information.

Our **constraints** are budget, scalability, security, performance, and readability. The database needs to be built within budget constraints. It also should accommodate future growth without major overhauls. There should also be proper access controls and encryption to protect Customer data. The database should also be able to perform well even during peak times. The database should be designed where it's easy to read and maintain by anyone who requires access.

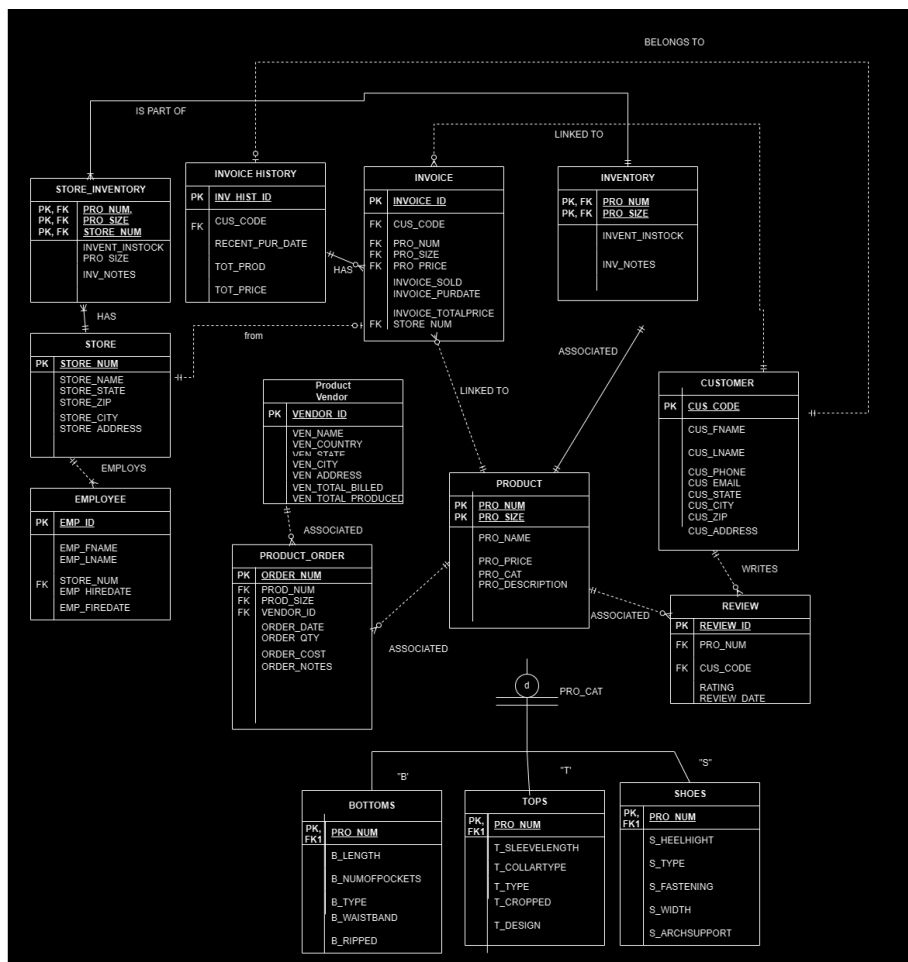
Scope, Boundaries, and Business Rules:

Our **Scope** involves Inventory Management, Customer Information Management, Data Integrity, and Efficient Data Access. Inventory management should track product quantities, restocking, and handling returns. Customer Information Management should maintain customer profiles, purchase history, and other relevant information for the customer. Data Integrity should ensure consistency and prevent duplicate entries. Efficient Data access should have quick and easy access to get information for order processing, reporting, and analytics.

We should have entities for Product, Inventory, Invoice, Customer, Product Vendor, Invoice History, Review, Employee, Stores, Store Inventory, and Product Order.

The **Product** entities should have subtypes of *bottoms*, *tops*, and *shoes*. It should have attributes of product number, product name, product price, product category, product size, and product description. The product category should be the subtype discriminator for the subtypes. *Bottoms* should have attributes of length, number of pockets, type, waistband, and if it's ripped. *Tops* should have attributes of sleeve length, collar type, type, if it's cropped, and design. *Shoes* should have attributes of heel height, shoe type, fastenings, width, and arch support. The **Inventory** entities should have attributes for product number and product size from product table, quantity in stock, and inventory notes. The **Invoice** entities should have attributes for customer code from customer, product number and product size from product, number of products sold, purchase date, product price from product, total price which is derived from qty sold and product price, invoice number, and store number. The **Invoice History** entities should have attributes customer code from Invoice, total products bought, total price, and invoice history id. The **Customer** entities should have attributes for customer first name, customer last name, customer phone number, customer email, customer state, customer city, customer zip code, customer street number, and customer code. The **product vendor** entities should have attributes for vendor number, vendor name, vendor country, vendor state, vendor city, vendor address, vendor total billed, and vendor total produced. The **Product Order** entities should have attributes for order number, product number and product size from product, vendor number from product vendor, order date, order quantity, order cost, and order notes. The **Review** entities should have attributes for review ID, product number and product size from product, customer code from customer, rating, and review date. The **Employee** entities should have attributes for employee number, employee first name, employee last name, employee hire date, employee fire date, and store number from the store they're employed at from store. The **Store** entities should have attributes for store number, store name, store state, store ZIP code, store state, store city, and store address. Store Inventory

Each Product can be categorized as Bottoms, Tops, or Shoes. Each Inventory record is associated with one Product. Each Invoice is linked to one Customer and one product. Each Invoice History record is linked to one Customer. Each product is associated with many product orders. Each product order is associated with one product vendor. Each Review is associated with one Product and written by one Customer. Each Employee works at one Store. Each Store can have multiple Store Inventory records, each representing a stocked Product. Each invoice is from a store.



```

1  -- MariaDB dump 10.19  Distrib 10.9.8-MariaDB, for Linux (x86_64)
2  --
3  -- Host: 10.200.208.126    Database: kgrassi2693_kgsb_clothing_db_project
4  -- -----
5  -- Server version  10.4.33-MariaDB
6
7  /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
8  /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
9  /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
10  /*!40101 SET NAMES utf8mb4 */;
11  /*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;
12  /*!40103 SET TIME_ZONE='+00:00' */;
13  /*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;
14  /*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0 */;
15  /*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO' */;
16  /*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;
17
18  --
19  -- Table structure for table `BOTTOMS`
20  --
21
22  DROP TABLE IF EXISTS `BOTTOMS`;
23  /*!40101 SET @saved_cs_client      = @@character_set_client */;
24  /*!40101 SET character_set_client = utf8 */;
25  CREATE TABLE `BOTTOMS` (
26    `PROD_NUM` int(11) NOT NULL,
27    `PROD_SIZE` varchar(6) NOT NULL,
28    `LENGTH` varchar(50) DEFAULT NULL,
29    `NUM_OF_POCKETS` int(11) DEFAULT NULL,
30    `TYPE` varchar(50) NOT NULL,
31    `WAISTBAND` varchar(50) DEFAULT NULL,
32    `IS_RIPPED` tinyint(1) DEFAULT NULL,
33    KEY `PROD_NUM` (`PROD_NUM`,`PROD_SIZE`),
34    CONSTRAINT `BOTTOMS_ibfk_1` FOREIGN KEY (`PROD_NUM`, `PROD_SIZE`) REFERENCES `PRODUCT` (`PROD_NUM`, `PROD_SIZE`)
35  ) ENGINE=InnoDB DEFAULT CHARSET=latin1 COLLATE=latin1_swedish_ci;

```

```

36  /*!40101 SET character_set_client = @saved_cs_client */;
37
38  --
39  -- Dumping data for table `BOTTOMS`
40  --
41
42  LOCK TABLES `BOTTOMS` WRITE;
43  /*!40000 ALTER TABLE `BOTTOMS` DISABLE KEYS */;
44  INSERT INTO `BOTTOMS` VALUES
45  (1,'32','Ankle',4,'Jeans','Normal',1),
46  (5,'30','Mid Thigh',3,'Shorts','High-Waisted',0),
47  (1,'38','Ankle',4,'Jeans','Normal',1),
48  (5,'40','Mid Thigh',3,'Shorts','High-Waisted',0),
49  (10,'28','Mini',3,'Skirt','High-Waisted',0),
50  (14,'M','Ankle',0,'Leggings','Normal',0),
51  (1,'30','Ankle',4,'Jeans','Normal',1),
52  (5,'44','Mid Thigh',3,'Shorts','High-Waisted',0),
53  (10,'34','Mini',3,'Skirt','High-Waisted',0),
54  (14,'L','Ankle',0,'Leggings','Normal',0),
55  (20,'36','Ankle',100,'Cargo Pants','High-Waisted',0);
56  /*!40000 ALTER TABLE `BOTTOMS` ENABLE KEYS */;
57  UNLOCK TABLES;
58
59  --
60  -- Table structure for table `CUSTOMER`
61  --
62
63  DROP TABLE IF EXISTS `CUSTOMER`;
64  /*!40101 SET @saved_cs_client      = @@character_set_client */;
65  /*!40101 SET character_set_client = utf8 */;
66  CREATE TABLE `CUSTOMER` (
67    `CUS_CODE` int(11) NOT NULL AUTO_INCREMENT,
68    `CUS_FNAME` varchar(50) DEFAULT NULL,
69    `CUS_LNAME` varchar(50) NOT NULL,
70    `CUS_PHONE` bigint(10) DEFAULT NULL,

```

```

1343 ✓ SELECT INVOICE_ID, CUS_FNAME, CUS_LNAME, INVOICE.CUS_CODE AS CUS_CODE, PROD_NUM, PROD_SIZE, QTY_SOLD,
1344         PURCHASE_DATE, TOTAL_PRICE, STORE_ID FROM INVOICE, CUSTOMER
1345         WHERE CUS_FNAME = 'Emerald' AND PURCHASE_DATE = '1991-10-31' AND CUSTOMER.CUS_CODE = INVOICE.CUS_CODE;

```

```

1347 ✓ SELECT INVOICE_ID, CUS_FNAME, CUS_LNAME, INVOICE.CUS_CODE AS CUS_CODE, PROD_NUM, PROD_SIZE, QTY_SOLD,
1348         PURCHASE_DATE, TOTAL_PRICE, STORE_ID FROM INVOICE, CUSTOMER
1349        WHERE CUS_FNAME = 'Virginia' AND PURCHASE_DATE = '2014-11-16' AND CUSTOMER.CUS_CODE = INVOICE.CUS_CODE;

```

Output kgrass12693_kgsb_clo...ng_db_project.PRODUCT kgrass12693_kgsb_clo...ng_db_project.PRODUCT 2 Result 688 ×

	INVOICE_ID	CUS_FNAME	CUS_LNAME	CUS_CODE	PROD_NUM	PROD_SIZE	QTY_SOLD	PURCHASE_DATE	TOTAL_PRICE	STORE_ID
1	91	Virginia	Kilback	91	1	30	99	2014-11-16	989.01	18

```

1349 ✓ SELECT INVOICE_ID, CUS_FNAME, CUS_LNAME, INVOICE.CUS_CODE AS CUS_CODE, PROD_NUM, PROD_SIZE, QTY_SOLD,
1350         PURCHASE_DATE, TOTAL_PRICE, STORE_ID FROM INVOICE, CUSTOMER
1351         WHERE CUS_FNAME = 'Ella' AND PURCHASE_DATE = '2019-01-04' AND CUSTOMER.CUS_CODE = INVOICE.CUS_CODE;

```

The current inventory of products sold within this year so far, 2024-01-01 to 2024-04-04.

1353	✓	SELECT INVENTORY.PROD_NUM, INVENTORY.PROD_SIZE, INVENT_INSTOCK FROM INVENTORY, INVOICE		
1354		WHERE PURCHASE_DATE BETWEEN '2024-01-01' AND '2024-04-04'		
1355		AND INVENTORY.PROD_NUM = INVOICE.PROD_NUM AND INVENTORY.PROD_SIZE = INVOICE.PROD_SIZE		
1356		GROUP BY PROD_NUM, PROD_SIZE;		

	PROD_NUM	PROD_SIZE	INVENT_INSTOCK
1	18	9.5	3281

The current inventory of products sold in a year, 2023-04-04 to 2024-04-04.

1358	✓	SELECT INVENTORY.PROD_NUM, INVENTORY.PROD_SIZE, INVENT_INSTOCK FROM INVENTORY, INVOICE		
1359		WHERE PURCHASE_DATE BETWEEN '2023-04-04' AND '2024-04-04'		
1360		AND INVENTORY.PROD_NUM = INVOICE.PROD_NUM AND INVENTORY.PROD_SIZE = INVOICE.PROD_SIZE		
1361		GROUP BY PROD_NUM, PROD_SIZE;		

	PROD_NUM	PROD_SIZE	INVENT_INSTOCK
1	6	8.5	799730
2	18	9.5	3281
3	20	36	9980

The current inventory of products sold in a calendar year, 2023-01-01 to 2023-12-31.

1363	✓	SELECT INVENTORY.PROD_NUM, INVENTORY.PROD_SIZE, INVENT_INSTOCK FROM INVENTORY, INVOICE		
1364		WHERE PURCHASE_DATE BETWEEN '2023-01-01' AND '2023-12-31'		
1365		AND INVENTORY.PROD_NUM = INVOICE.PROD_NUM AND INVENTORY.PROD_SIZE = INVOICE.PROD_SIZE		
1366		GROUP BY PROD_NUM, PROD_SIZE;		

	PROD_NUM	PROD_SIZE	INVENT_INSTOCK
1	6	8.5	799730
2	16	M	91
3	20	36	9980

Inventory of all products that are the type Shoes ('S').

```
1368 ✓ SELECT INVENTORY.PROD_NUM, INVENTORY.PROD_SIZE, INVENT_INSTOCK
1369 FROM INVENTORY, PRODUCT
1370 WHERE PROD_CAT = 'S' AND INVENTORY.PROD_NUM = PRODUCT.PROD_NUM AND INVENTORY.PROD_SIZE = PRODUCT.PROD_SIZE;
```

	PROD_NUM	PROD_SIZE	INVENT_INSTOCK
1	2	5.0	6929
2	2	8.5	6999
3	2	9.0	6525
4	6	10.5	7771
5	6	6.5	9229
6	6	8.5	799730
7	11	7.0	3917
8	11	9.0	1171
9	15	6.0	2878
10	15	9.0	2410
11	18	7.5	1632
12	18	9.5	3281

Inventory of all products that are the type Bottoms ('B').

```
1372 ✓ SELECT INVENTORY.PROD_NUM, INVENTORY.PROD_SIZE, INVENT_INSTOCK
1373 FROM INVENTORY, PRODUCT
1374 WHERE PROD_CAT = 'B' AND INVENTORY.PROD_NUM = PRODUCT.PROD_NUM AND INVENTORY.PROD_SIZE = PRODUCT.PROD_SIZE;
```

	PROD_NUM	PROD_SIZE	INVENT_INSTOCK
1	1	30	376173
2	1	32	596
3	1	38	98
4	5	30	1307
5	5	40	4774
6	5	44	7408
7	10	28	2245
8	10	34	556
9	14	L	5288
10	14	M	5780
11	20	36	9980

A stored procedure that allows a user to pass in an Invoice ID that shows all product orders associated with the product in the invoice.

```
1376 DELIMITER //
1377 ✓ CREATE PROCEDURE GETORDERINVOICEDetails(IN InvoiceID INT)
1378 BEGIN
1379     SELECT
1380         po.ORDER_NUM,
1381         po.ORDER_DATE,
1382         po.ORDER_QTY,
1383         po.ORDER_COST,
1384         po.ORDER_NOTES,
1385         po.VEN_NUM,
1386         i.INVOICE_ID,
1387         i.PURCHASE_DATE,
1388         i.QTY_SOLD,
1389         i.TOTAL_PRICE
1390     FROM
1391         PRODUCT_ORDER po
1392     JOIN
1393         INVOICE i ON po.PROD_NUM = i.PROD_NUM
1394                   AND po.PROD_SIZE = i.PROD_SIZE
1395     WHERE
1396         i.INVOICE_ID = InvoiceID;
1397 END//
1398 DELIMITER ;
1399
1400 CALL GETORDERINVOICEDetails( InvoiceID: 1);
```

	ORDER_NUM	ORDER_DATE	ORDER_QTY	ORDER_COST	ORDER_NOTES	INVOICE_ID	PURCHASE_DATE	QTY_SOLD	TOTAL_PRICE
1	1803	1989-09-01	17734	69379.94	Rerum in voluptatem adipisci voluptas accusamus iste quia. Re...	1	1991-10-31	33	329.67
2	1243	2017-09-09	6809	43700.85	Ea qui quae culpa. Vel ratione eum quis molestias eius. Quae...	1	1991-10-31	33	329.67
3	1483	1974-09-09	29568	75426.38	Id sed corporis beatae illum labore animi. Nam quia debitis a...	1	1991-10-31	33	329.67
4	1723	1992-04-25	14164	86943.20	Id quia est similique voluptas et culpa repellat. Modi rerum ...	1	1991-10-31	33	329.67
5	1963	1984-09-23	30499	86041.84	Est praesentium hic maxime id et nulla. Doloribus officia quo...	1	1991-10-31	33	329.67

A singular product of Blue Jeans being entered into the product table.

```
443 INSERT INTO PRODUCT(PROD_NAME, PROD_PRICE, PROD_DESCRIPTION, PROD_CAT, PROD_SIZE, PROD_NUM) VALUES
444 ('Blue Jeans', 39.99, 'Classic Blue Jeans', 'B', '32', '1');
```

A group of products being entered into the product table.

```
445 INSERT INTO PRODUCT(PROD_NAME, PROD_PRICE, PROD_DESCRIPTION, PROD_CAT, PROD_SIZE, PROD_NUM) VALUES
446 ('Canvas Sneakers', 49.99, 'Blue High Top Canvas Sneakers', 'S', '9.0', 2),
447 ('Cropped T-Shirt', 29.99, 'Basic Cropped Cotton Shirt', 'T', 'S', 3),
448 ('Fleece Hoodie', 25.99, 'Blue Fleece Jacket', 'T', 'L', 4),
449 ('Casual Shorts', 19.99, 'Denim High-waisted Shorts', 'B', '30', 5),
450 ('Beach sandals', 14.99, 'Brown Beach Sandals', 'S', '8.5', 6);
```

A group of invoices being inserted into the invoice table.

```
1241 INSERT INTO INVOICE(CUS_CODE, PROD_NUM, PROD_SIZE, PROD_PRICE, QTY_SOLD, PURCHASE_DATE, STORE_ID) VALUES
1242 (3,1,'30',9.99,33,'1991-10-31',3),
1243 (16,6,'8.5',21.99,50,'1986-03-05',16),
1244 (17,6,'8.5',21.99,77,'2006-01-23',17),
1245 (22,8,'L',25.99,12,'2017-07-16',1),
1246 (23,8,'L',27.99,65,'2005-03-24',2),
1247 (24,8,'L',27.99,53,'1997-11-17',3),
1248 (25,8,'L',27.99,62,'1993-05-15',4),
1249 (26,9,'L',28.99,97,'1991-11-08',5),
1250 (27,9,'L',28.99,21,'1997-08-28',6),
1251 (34,13,'M',39.99,13,'1989-04-01',13),
1252 (35,13,'M',39.99,54,'2019-03-07',14),
1253 (40,16,'S',59.99,8,'1983-10-09',19),
1254 (41,16,'S',59.99,95,'2003-01-13',20),
1255 (42,17,'S',59.99,62,'2019-06-29',21),
1256 (43,17,'S',69.99,32,'1978-04-24',1),
1257 (51,1,'30',9.99,51,'1978-04-27',9),
1258 (64,6,'8.5',21.99,39,'2012-02-14',1),
1259 (65,6,'8.5',21.99,11,'1997-12-17',2),
1260 (70,8,'L',25.99,70,'1992-05-08',7),
1261 (71,8,'L',27.99,87,'1980-04-28',8),
1262 (72,8,'L',27.99,95,'1979-02-17',9),
1263 (73,8,'L',27.99,77,'1990-11-08',10),
1264 (74,9,'L',28.99,49,'2007-06-29',11),
1265 (75,9,'L',28.99,36,'1991-12-09',12),
1266 (82,13,'M',39.99,9,'2005-03-31',19),
1267 (83,13,'M',39.99,48,'1976-01-02',20),
1268 (88,16,'S',59.99,17,'1981-12-24',4),
1269 (89,16,'S',59.99,4,'1986-12-01',5),
1270 (90,17,'S',59.99,49,'2009-10-16',6),
1271 (91,17,'S',69.99,83,'2017-05-21',7),
```

Output of a virtual table showing all employees and their stores.

```
1402 CREATE VIEW EMPLOYEE_STORE AS
1403 SELECT
1404     e.EMP_ID,
1405     e.EMP_FNAME,
1406     e.EMP_LNAME,
1407     e.STORE_NUM,
1408     s.STORE_NAME
1409 FROM
1410     EMPLOYEE e
1411 JOIN
1412     STORE s ON e.STORE_NUM = s.STORE_NUM;
1413
1414 ✓ SELECT * FROM EMPLOYEE_STORE;
```

EMP_ID	EMP_FNAME	EMP_LNAME	STORE_NUM	STORE_NAME	EMP_ID	EMP_FNAME	EMP_LNAME	STORE_NUM	STORE_NAME
1	John	Bow	1	Rath-Borer	24	Megan	Martinez	4	Kunze and Larkin
21	Alex	Gomez	1	Rath-Borer	44	Alamercy	Garita	4	Kunze and Larkin
41	Robert	Lee	1	Rath-Borer	47	Avery	Cruz	4	Kunze and Larkin
41	Isabella	Carul	1	Rath-Borer	87	Madeline	Weaver	4	Kunze and Larkin
44	Liam	Redinger	1	Rath-Borer	107	Mona	Cross	4	Kunze and Larkin
84	Heath	Church	1	Rath-Borer	127	Ella	Montgomery	4	Kunze and Larkin
104	Daniel	Vatss	1	Rath-Borer	147	Noah	Peters	4	Kunze and Larkin
124	Flavia	Wildehorn	1	Rath-Borer	167	Alexander	Bell	4	Kunze and Larkin
144	Rex	Porter	1	Rath-Borer	184	Isabella	Orwell	4	Kunze and Larkin
164	Harper	Foster	1	Rath-Borer	5	David	Martinez	5	Dach-O'-Conner
184	Ben	The Reiller	1	Rath-Borer	25	Tylan	Rodriguez	5	Dach-O'-Conner
2	June	Smith	2	Rice, Sanger and Roberts	45	Joseph	Rodriguez	5	Dach-O'-Conner
22	Victoria	Hernandez	2	Rice, Sanger and Roberts	85	Michael	Rowers	5	Dach-O'-Conner
42	Megan	Perez	2	Rice, Sanger and Roberts	105	Marwan	Cortez	5	Dach-O'-Conner
62	Yusef	Vazetta	2	Rice, Sanger and Roberts	125	Marwan	Barr	5	Dach-O'-Conner
82	Mia	Butler	2	Rice, Sanger and Roberts	145	Samuel	Hogers	5	Dach-O'-Conner
102	Elana	Flaming	2	Rice, Sanger and Roberts	165	Emma	Bishop	5	Dach-O'-Conner
122	Isia	Singh	2	Rice, Sanger and Roberts	185	Ella	Chapman	5	Dach-O'-Conner
142	Ethan	Beams	2	Rice, Sanger and Roberts	4	Madeline	Taylor	6	West, Borczany and Hudson
162	William	Casper	2	Rice, Sanger and Roberts	24	Madison	Torres	6	West, Borczany and Hudson
182	Daniel	Spencer	2	Rice, Sanger and Roberts	44	Lauren	Nguyen	6	West, Borczany and Hudson
3	Michael	Johnson	3	Heathcote, Wiegand and Kozey	49	Mary	McInt	6	West, Borczany and Hudson
23	Joan	Blair	3	Heathcote, Wiegand and Kozey	89	Leila	Mendez	6	West, Borczany and Hudson
43	William	Hoppe	3	Heathcote, Wiegand and Kozey	109	Emma	Wang	6	West, Borczany and Hudson
63	Walen	Slack	3	Heathcote, Wiegand and Kozey	129	Chloe	Wells	6	West, Borczany and Hudson
83	Eljahn	Vogues	3	Heathcote, Wiegand and Kozey	149	Isabella	Vargas	6	West, Borczany and Hudson
103	Levi	Schultz	3	Heathcote, Wiegand and Kozey	169	Aiden	Hernandez	7	Waber-Dottilio
123	Matthew	Todd	3	Heathcote, Wiegand and Kozey	189	Matthew	Wilson	7	Waber-Dottilio
143	Henry	Macdonald	3	Heathcote, Wiegand and Kozey	29	Colin	Gonzalez	7	Waber-Dottilio
163	Isabella	Olson	3	Heathcote, Wiegand and Kozey	49	Anthony	Rivera	7	Waber-Dottilio
183	Charlotte	Bauer	3	Heathcote, Wiegand and Kozey	79	James	Ortiz	7	Waber-Dottilio
3	Jonathan	Storace	4	Kunze and Larkin	89	Oliver	Ray	7	Waber-Dottilio
110	Amelia	Holland	7	Waber-Dottilio	11	Noah	Nguyen	11	Vost, Bayford and Brauns
130	Lance	McLain	7	Waber-Dottilio	31	Brandon	Hernandez	11	Vost, Bayford and Brauns
150	James	Kennedy	7	Waber-Dottilio	51	Lucas	Fisher	11	Vost, Bayford and Brauns
170	Aria	Wagner	7	Waber-Dottilio	71	Wyatt	Briggs	11	Vost, Bayford and Brauns
8	Emily	Brown	8	Cross and Sons	91	Isaiah	Palmer	11	Vost, Bayford and Brauns
28	Eliza	Perez	8	Cross and Sons	111	Malcolm	Byrant	11	Vost, Bayford and Brauns
48	Stephanie	Chavez	8	Cross and Sons	131	Benjamin	Sison	11	Vost, Bayford and Brauns
68	Emily	Alvarez	8	Cross and Sons	151	Ize	Fuller	11	Vost, Bayford and Brauns
88	Aurora	Kirchman	8	Cross and Sons	171	Monde	Jackson	12	Stiedemann, Hegmann and Enard
108	Travis	Trujillo	8	Cross and Sons	191	Abigail	Rivera	12	Stiedemann, Hegmann and Enard
128	Amelia	Mitchell	8	Cross and Sons	211	Malissa	Nguyen	12	Stiedemann, Hegmann and Enard
148	Mia	Harrison	8	Cross and Sons	231	Luna	Snyder	12	Stiedemann, Hegmann and Enard
168	Jonathan	Harvey	8	Cross and Sons	251	Michael	Park	12	Stiedemann, Hegmann and Enard
188	Christopher	Clark	9	Stroman Ltd	271	Grayson	Montgomery	12	Stiedemann, Hegmann and Enard
28	Ethan	Flores	9	Stroman Ltd	291	Harper	Harper	12	Stiedemann, Hegmann and Enard
48	Heidi	Torres	9	Stroman Ltd	311	Lucy	Mattias	12	Stiedemann, Hegmann and Enard
68	Benjamin	Burns	9	Stroman Ltd	331	Garrett	Sullivan	12	Stiedemann, Hegmann and Enard
88	Julian	Yu	9	Stroman Ltd	351	Andrew	Harris	12	Stiedemann, Hegmann and Enard
108	Harper	Edison	9	Stroman Ltd	371	William	Lopez	12	Stiedemann, Hegmann and Enard
128	Jonathan	Barnes	9	Stroman Ltd	391	Lucy	Montgomery	12	Stiedemann, Hegmann and Enard
148	Eljahn	Washington	9	Stroman Ltd	411	Jack	Burns	12	Stiedemann, Hegmann and Enard
168	Scarlett	Fernandez	9	Stroman Ltd	431	Henry	Murphy	12	Stiedemann, Hegmann and Enard
188	Amelia	Wells	10	VonKuden-Ruckner	451	Payton	Svensson	12	Stiedemann, Hegmann and Enard
28	Monica	Sanchez	10	VonKuden-Ruckner	471	Swain	Ross	12	Stiedemann, Hegmann and Enard
48	Rachel	Kia	10	VonKuden-Ruckner	491	Mia	Fisher	12	Stiedemann, Hegmann and Enard
68	Sofia	Hayes	10	VonKuden-Ruckner	511	Luna	Haynes	12	Stiedemann, Hegmann and Enard
88	Paizley	Leah	10	VonKuden-Ruckner	531	Julia	Sawmoss	12	Stiedemann, Hegmann and Enard
108	Liam	Vaughn	10	VonKuden-Ruckner	551	Sawmoss	Allen	14	Stark and Sons
128	Lily	Bennett	10	VonKuden-Ruckner	571	Sophia	Harris	14	Stark and Sons
148	Charlotte	Gordon	10	VonKuden-Ruckner	591	Michelle	Perez	14	Stark and Sons
168	Liam	Leah	10	VonKuden-Ruckner	611	Aria	Ford	14	Stark and Sons
188	Daniel	Thomas	11	Vost, Bayford and Brauns	631	Lily	McClure	14	Stark and Sons
117	Jessy	Bentley	14	Stark and Sons	117	Jessy	Bentley	14	Stark and Sons
137	Jacob	Russell	14	Stark and Sons	137	Jacob	Russell	14	Stark and Sons
157	Michael	Griffin	14	Stark and Sons	157	Michael	Griffin	14	Stark and Sons
177	Jonathan	Andrews	14	Stark and Sons	177	Jonathan	Andrews	14	Stark and Sons
197	James	Young	14	Stark and Sons	197	James	Young	14	Stark and Sons
217	Aiden	Clark	14	Stark and Sons	217	Aiden	Clark	14	Stark and Sons
237	Thomas	Smith	14	Stark and Sons	237	Thomas	Smith	14	Stark and Sons
257	Robert	Peerson	14	Stark and Sons	257	Robert	Peerson	14	Stark and Sons
277	Sebastian	Zhang	14	Stark and Sons	277	Sebastian	Zhang	14	Stark and Sons
297	David	Faulkner	14	Stark and Sons	297	David	Faulkner	14	Stark and Sons
317	Grace	Ward	14	Stark and Sons	317	Grace	Ward	14	Stark and Sons
337	Kelly	Blakburn	14	Stark and Sons	337	Kelly	Blakburn	14	Stark and Sons
357	Elana	Scott	14	Stark and Sons	357	Elana	Scott	14	Stark and Sons
377	Emma	Kling	14	Stark and Sons	377	Emma	Kling	14	Stark and Sons
397	Kevin	Schuster-Konler	14	Stark and Sons	397	Kevin	Schuster-Konler	14	Stark and Sons
417	Kevin	Hayes	14	Stark and Sons	417	Kevin	Hayes	14	Stark and Sons
437	Elizabeth	Parrish	14	Stark and Sons	437	Elizabeth	Parrish	14	Stark and Sons
457	Elia	Patrick	14	Stark and Sons	457	Elia	Patrick	14	Stark and Sons
477	Lucas	Henderson	14	Stark and Sons	477	Lucas	Henderson	14	Stark and Sons
497	Daniel	Hansen	14	Stark and Sons	497	Daniel	Hansen	14	Stark and Sons
517	Grayson	Shaw	14	Stark and Sons	517	Grayson	Shaw	14	Stark and Sons
537	Ryan	Hill	14	Stark and Sons	537	Ryan	Hill	14	Stark and Sons
557	Colton	Scott	14	Stark and Sons	557	Colton	Scott	14	Stark and Sons
577	Christopher	Martinez	14	Stark and Sons	577	Christopher	Martinez	14	Stark and Sons
597	Alexander	Harrison	14	Stark and Sons	597	Alexander	Harrison	14	Stark and Sons
617	Ben	Cameron	14	Stark and Sons	617	Ben	Cameron	14	Stark and Sons
637	Colton	Henderson	14	Stark and Sons	637	Colton	Henderson	14	Stark and Sons
657	Isabella	Watson	14	Stark and Sons	657	Isabella	Watson	14	Stark and Sons
677	Aurora	Fowler	14	Stark and Sons	677	Aurora	Fowler	14	Stark and Sons
697	Isabella	Kling	14	Stark and Sons	697	Isabella	Kling	14	Stark and Sons
717	Jessy	Bentley	14	Stark and Sons	717	Jessy	Bentley	14	Stark and Sons
737	Jacob	Russell	14	Stark and Sons	737	Jacob	Russell	14	Stark and Sons
757	Michael	Griffin	14	Stark and Sons	757	Michael	Griffin	14	Stark and Sons
777	Jonathan	Andrews	14	Stark and Sons	777	Jonathan	Andrews	14	Stark and Sons
797	James	Young	14	Stark and Sons	797	James	Young	14	Stark and Sons
817	Aiden	Clark	14	Stark and Sons	817	Aiden	Clark	14	Stark and Sons
837	Thomas	Smith	14	Stark and Sons	837	Thomas	Smith	14	Stark and Sons
857	Robert	Peerson	14	Stark and Sons	857	Robert	Peerson	14	Stark and Sons
877	Sebastian	Zhang	14	Stark and Sons	877	Sebastian	Zhang	14	Stark and Sons
897	David	Faulkner	14	Stark and Sons	897	David	Faulkner	14	Stark and Sons
917	Grace	Ward	14	Stark and Sons	917	Grace	Ward	14	Stark and Sons
937	Kelly	Blakburn	14	Stark and Sons	937	Kelly	Blakburn	14	Stark and Sons
957	Elana	Scott	14	Stark and Sons	957	Elana	Scott	14	Stark and Sons
977	Emma	Kling	14	Stark and Sons	977	Emma	Kling	14	Stark and Sons
997	Kevin	Schuster-Konler	14	Stark and Sons	997	Kevin	Schuster-Konler	14	Stark and Sons
1017	Kevin	Hayes	14	Stark and Sons	1017	Kevin	Hayes	14	Stark and Sons
1037	Elizabeth	Parrish	14	Stark and Sons	1037	Elizabeth	Parrish	14	Stark and Sons
1057	Elia	Patrick	14	Stark and Sons	1057	Elia	Patrick	14	Stark and Sons
1077	Lucas	Henderson	14	Stark and Sons	1077	Lucas	Henderson	14	Stark and Sons
1097	Daniel	Hansen	14	Stark and Sons	1097	Daniel	Hansen	14	Stark and Sons
1117	Grayson	Shaw	14	Stark and Sons	1117	Grayson	Shaw	14	Stark and Sons
1137	Ryan	Hill	14	Stark and Sons	1137	Ryan	Hill	14	Stark and Sons
1157	Colton	Scott	14	Stark and Sons	1157	Colton	Scott	14	Stark and Sons
1177	Christopher	Martinez	14	Stark and Sons	1177	Christopher	Martinez	14	Stark and Sons
1197	Alexander	Harrison	14	Stark and Sons	1197	Alexander	Harrison	14	Stark and Sons
1217	Ben	Cameron	14	Stark and Sons	1217	Ben	Cameron	14	Stark and Sons
1237	Colton	Henderson	14	Stark and Sons	1237	Colton	Henderson	14	Stark and Sons
1257	Isabella	Watson	14	Stark and Sons	1257	Isabella	Watson	14	Stark and Sons
1277	Aurora	Fowler	14	Stark and Sons	1277	Aurora	Fowler	14	Stark and Sons
1297	Isabella	Kling	14	Stark and Sons	1297	Isabella	Kling	14	Stark and Sons
1317	Jessy	Bentley	14	Stark and Sons	1317	Jessy	Bentley	14	Stark and Sons
1337	Jacob	Russell	14	Stark and Sons	1337	Jacob	Russell	14	Stark and Sons
1357	Michael	Griffin	14	Stark and Sons	1357	Michael	Griffin	14	Stark and Sons
1377	Jonathan	Andrews	14	Stark and Sons	1377	Jonathan	Andrews	14	Stark and Sons
1397	James	Young	14	Stark and Sons	1397	James	Young	14	Stark and Sons
1417	Aiden	Clark	14	Stark and Sons	1417	Aiden	Clark	14	Stark and Sons
1437	Thomas	Smith	14	Stark and Sons	1437	Thomas	Smith	14	Stark and Sons
1457	Robert	Peerson	14	Stark and Sons	1457	Robert	Peerson	14	Stark and Sons
1477	Sebastian	Zhang	14	Stark and Sons	1477	Sebastian	Zhang	14	Stark and Sons
1497	David	Faulkner	14	Stark and Sons	1497	David	Faulkner	14	Stark and Sons
1517	Grace	Ward	14	Stark and Sons	1517	Grace	Ward	14	Stark and Sons
1537	Kelly	Blakburn	14	Stark and Sons	1537	Kelly	Blakburn	14	Stark and Sons
1557	Elana	Scott	14	Stark and Sons	1557	Elana	Scott	14	Stark and Sons
1577	Emma	Kling	14	Stark and Sons	1577	Emma	Kling	14	Stark and Sons
1597	Kevin	Schuster-Konler	14	Stark and Sons	1597	Kevin	Schuster-Konler	14	Stark and Sons
1617	Kevin	Hayes	14	Stark and Sons	1617	Kevin	Hayes	14	Stark and Sons
1637	Elizabeth	Parrish	14	Stark and Sons	1637	Elizabeth	Parrish	14	Stark and Sons
1657	Elia	Patrick	14	Stark and Sons	1657	Elia	Patrick	14	Stark and Sons
1677	Lucas	Henderson	14	Stark and Sons	1677	Lucas	Henderson	14	Stark and Sons
1697	Daniel	Hansen	14	Stark and Sons	1697	Daniel	Hansen	14	Stark and Sons
1717	Grayson	Shaw	14	Stark and Sons	1717	Grayson	Shaw	14	Stark and Sons
1737	Ryan	Hill	14	Stark and Sons	1737	Ryan	Hill	14	Stark and Sons
1757	Colton	Scott	14	Stark and Sons	1757	Colton	Scott	14	Stark and Sons
1777	Christopher	Martinez	14	Stark and Sons	1777	Christopher	Martinez	14	Stark and Sons
1797	Alexander	Harrison	14	Stark and Sons	1797	Alexander	Harrison	14	Stark and Sons
1817	Ben	Cameron	14	Stark and Sons	1817	Ben	Cameron	14	Stark and Sons
1837	Colton	Henderson	14	Stark and Sons	1837	Colton	Henderson	14	Stark and Sons
1857	Isabella	Watson	14	Stark and Sons					

The data dictionary of all the tables in the database.

```
1416 ✓ SELECT table_name, column_name, column_type, is_nullable,
1417        column_comment FROM information_schema.COLUMNS WHERE table_schema =
1418        'kgrassi2693_kgsb_clothing_db_project' ORDER BY table_name, ordinal_position ASC;
```

table_name	column_name	column_type	is_nullable	column_comment
1 BOTTOMS	PROD_NUM	int(11)	NO	
2 BOTTOMS	PROD_SIZE	varchar(6)	NO	
3 BOTTOMS	LENGTH	varchar(50)	YES	
4 BOTTOMS	NUM_OF_POCKETS	int(11)	YES	
5 BOTTOMS	TYPE	varchar(50)	NO	
6 BOTTOMS	WAISTBAND	varchar(50)	YES	
7 BOTTOMS	IS_RIPPED	tinyint(1)	YES	
8 CUSTOMER	CUS_CODE	int(11)	NO	
9 CUSTOMER	CUS_FNAME	varchar(50)	YES	
10 CUSTOMER	CUS_LNAME	varchar(50)	NO	
11 CUSTOMER	CUS_PHONE	bigint(10)	YES	
12 CUSTOMER	CUS_EMAIL	varchar(100)	YES	
13 CUSTOMER	CUS_STATE	varchar(2)	YES	
14 CUSTOMER	CUS_CITY	varchar(100)	NO	
15 CUSTOMER	CUS_ZIP	int(5)	NO	
16 CUSTOMER	CUS_ADDRESS	varchar(100)	NO	
17 EMPLOYEE	EMP_ID	int(11)	NO	
18 EMPLOYEE	EMP_FNAME	varchar(50)	YES	
19 EMPLOYEE	EMP_LNAME	varchar(50)	NO	
20 EMPLOYEE	STORE_NUM	int(11)	NO	
21 EMPLOYEE	EMP_HIREDATE	date	NO	
22 EMPLOYEE	EMP_FIREDATE	date	YES	
23 EMPLOYEE_STORE	EMP_ID	int(11)	NO	
24 EMPLOYEE_STORE	EMP_FNAME	varchar(50)	YES	
25 EMPLOYEE_STORE	EMP_LNAME	varchar(50)	NO	
26 EMPLOYEE_STORE	STORE_NUM	int(11)	NO	
27 EMPLOYEE_STORE	STORE_NAME	varchar(50)	NO	
28 INVENTORY	PROD_NUM	int(11)	NO	
29 INVENTORY	PROD_SIZE	varchar(6)	NO	
30 INVENTORY	INVENT_INSTOCK	int(11)	YES	
31 INVENTORY	INVT_NOTES	varchar(100)	YES	
32 INVOICE	INVOICE_ID	int(11)	NO	
33 INVOICE	CUS_CODE	int(11)	NO	
34 INVOICE	PROD_NUM	int(11)	NO	
35 INVOICE	PROD_SIZE	varchar(6)	NO	
36 INVOICE	PROD_PRICE	decimal(10,2)	NO	
37 INVOICE	QTY_SOLD	int(11)	NO	
38 INVOICE	PURCHASE_DATE	date	NO	
39 INVOICE	TOTAL_PRICE	decimal(12,2)	YES	
40 INVOICE	STORE_ID	int(11)	NO	
41 INVOICE_HISTORY	INV_HIST_ID	int(11)	NO	
42 INVOICE_HISTORY	CUS_CODE	int(11)	NO	
43 INVOICE_HISTORY	TOTAL_QTY	int(11)	NO	
44 INVOICE_HISTORY	TOTAL_PRICE	decimal(10,0)	NO	
45 PRODUCT	PROD_NUM	int(11)	NO	
46 PRODUCT	PROD_NAME	varchar(50)	NO	
47 PRODUCT	PROD_PRICE	decimal(10,2)	NO	
48 PRODUCT	PROD_DESCRIPTION	text	YES	
49 PRODUCT	PROD_CAT	varchar(1)	NO	
50 PRODUCT	PROD_SIZE	varchar(6)	NO	
51 PRODUCT_ORDER	PROD_NUM	int(11)	NO	
52 PRODUCT_ORDER	PROD_SIZE	varchar(6)	NO	
53 PRODUCT_ORDER	VEN_NUM	int(11)	NO	
54 PRODUCT_ORDER	ORDER_NUM	int(11)	NO	
55 PRODUCT_ORDER	ORDER_DATE	date	NO	
56 PRODUCT_ORDER	ORDER_QTY	int(11)	NO	
57 PRODUCT_ORDER	ORDER_COST	decimal(12,2)	NO	
58 PRODUCT_ORDER	ORDER_NOTES	varchar(100)	YES	
59 PRODUCT_VENDOR	VENDOR_ID	int(11)	NO	
60 PRODUCT_VENDOR	VEN_NAME	varchar(50)	NO	
61 PRODUCT_VENDOR	VEN_COUNTRY	varchar(50)	NO	
62 PRODUCT_VENDOR	VEN_STATE	varchar(2)	YES	
63 PRODUCT_VENDOR	VEN_CITY	varchar(100)	NO	
64 PRODUCT_VENDOR	VEN_ADDRESS	varchar(50)	NO	
65 PRODUCT_VENDOR	VEN_TOTAL_BILLED	decimal(12,2)	YES	
66 PRODUCT_VENDOR	VEN_TOTAL_PRODUCED	int(11)	YES	
67 REVIEW	REVIEW_ID	int(11)	NO	
68 REVIEW	PROD_NUM	int(11)	NO	
69 REVIEW	PROD_SIZE	varchar(6)	NO	
70 REVIEW	CUS_CODE	int(11)	NO	
71 REVIEW	RATING	int(1)	NO	
72 REVIEW	REVIEW_DATE	date	NO	
73 REVIEW	COMMENTS	text	YES	
74 SHOES	PROD_NUM	int(11)	NO	
75 SHOES	PROD_SIZE	varchar(6)	NO	
76 SHOES	HEEL_HEIGHT	varchar(10)	YES	
77 SHOES	SHOE_TYPE	varchar(20)	NO	
78 SHOES	FASTENINGS	varchar(20)	NO	
79 SHOES	WIDTH	varchar(2)	NO	
80 SHOES	ARCH_SUPPORT	varchar(10)	YES	
81 STORE	STORE_NUM	int(11)	NO	
82 STORE	STORE_NAME	varchar(50)	NO	
83 STORE	STORE_STATE	varchar(2)	YES	
84 STORE	STORE_ZIP	int(5)	NO	
85 STORE	STORE_CITY	varchar(50)	NO	
86 STORE	STORE_ADDRESS	varchar(50)	NO	
87 STORE_INVENTORY	STORE_INVENT_NUM	int(11)	NO	
88 STORE_INVENTORY	PROD_NUM	int(11)	NO	
89 STORE_INVENTORY	STORE_NUM	int(11)	NO	
90 STORE_INVENTORY	INVENT_INSTOCK	int(11)	YES	
91 STORE_INVENTORY	PROD_SIZE	varchar(6)	NO	
92 TOPS	PROD_NUM	int(11)	NO	
93 TOPS	PROD_SIZE	varchar(6)	NO	
94 TOPS	SLEEVE_LENGTH	varchar(25)	NO	
95 TOPS	COLLAR_TYPE	varchar(50)	NO	
96 TOPS	IS_CROPPED	tinyint(1)	YES	
97 TOPS	DESIGN	varchar(100)	NO	

For KGSB Clothing, we proposed a database that focused on improving inventory management, customer information tracking, and ensuring data integrity. We implemented a robust database system that adds inventory management processes, accurate customer records, and enhanced data accessibility.

Our database solution has various key components, including a centralized product catalog, real-time inventory tracking, detailed customer profiles, order processing mechanisms, and comprehensive reporting functionalities. The product catalog provides detailed information about each product and facilitates better inventory management and order processing. Real-time inventory tracking will ensure accurate stock levels, enabling proactive restocking and efficient handling of returns. Furthermore, the database solution prioritizes data integrity and security, ensuring that all information remains consistent and accurate. Overall, the proposed database solution will empower KGSB Clothing to optimize their operations, improve customer satisfaction, and drive sustainable growth in the competitive retail market.

In conclusion, the database solution for KGSB Clothing offers a comprehensive approach to addressing their inventory and data management challenges. With our database, KGSB Clothing can streamline operations, enhance data accuracy and unlock new opportunities for business growth and success. With a focus on efficiency, reliability, and data security, the proposed solution aligns with KGSB Clothing's objectives of optimizing operations and delivering exceptional customer experiences in the ever-evolving retail landscape.

	Knoelle Grassi	Samatha Bentley
Editing & Formatting		x
Typing the Database	x	
Creating the PowerPoint		x
Creating the EERD	x	x
Page 1	x	
Page 2		x
Page 3	x	
Page 4-13	x	
Creating the Data for the Database	x	x