CAPITAL CUSTOM CLOTHIERS

Database Project

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Summary:

Capital Custom Clothiers is a family-owned custom tailor shop based in Annapolis, Maryland. Since 2010 they have been steadily carving out a niche within the Annapolitan bespoke market. As a family business of 3 members, responsibilities are starkly defined. However, there is a clear gap in the ability to analyze sales concisely through one modality. Currently, Capital uses QuickBooks to keep account of payments made and received but this is primarily used as a compliance mechanism for tax purposes. The database we would like to implement would not only provide specific data about the most popular products, but also give insight as to which business segments are the most lucrative as well. We expect that with the increased ability to discern customer proclivities, we will be able to narrow business focus to the highest yielding outputs. Once the conceptual and logical models are approved by our stakeholders, we will proceed to the physical database creation.

Stakeholders:

The primary stakeholders for this project are the two business owners and their daughter who also double as the employees of the business. The secondary stakeholders are potentially the consumers of the product, the customers. A successful deployment of this database will potentially increase revenue for the business owners and provide customers a wider selection of the items they purchase most. Owners will now be able to assess which area of the business is most lucrative, what types of alterations are typically requested and what article of custom attire is most sought after. Customers will be able to see cost estimates, which products they've previously purchased, and the status of their payments. Additionally, new insights could provide the impetus to streamline customer access to high demand products and services.

Business Rules:

- You must pay 50% upfront for custom attire to secure fabric
- Other 50% must be paid at final fitting to leave with attire
- For rentals you must submit rental agreement
- For rentals you must submit your measurements before order can be placed
- Rental order must be paid in full before order is placed
- A custom suit takes 4-6 weeks to be made
- A custom order placed with an initial deposit cannot be cancelled after 24 hours
- For non-custom orders, items may be returned within 5 business days with a 20% restock fee

Glossary:

Client – An individual who schedules an appointment online, via phone, or in person

Alteration – A garment being altered to customer specifications

Order – A measurement form with stylistic details sent to workshop

Bespoke/Custom Attire – A commissioned piece of clothing with 20 or more measurements

Invoice – Itemized summation of services rendered with total cost

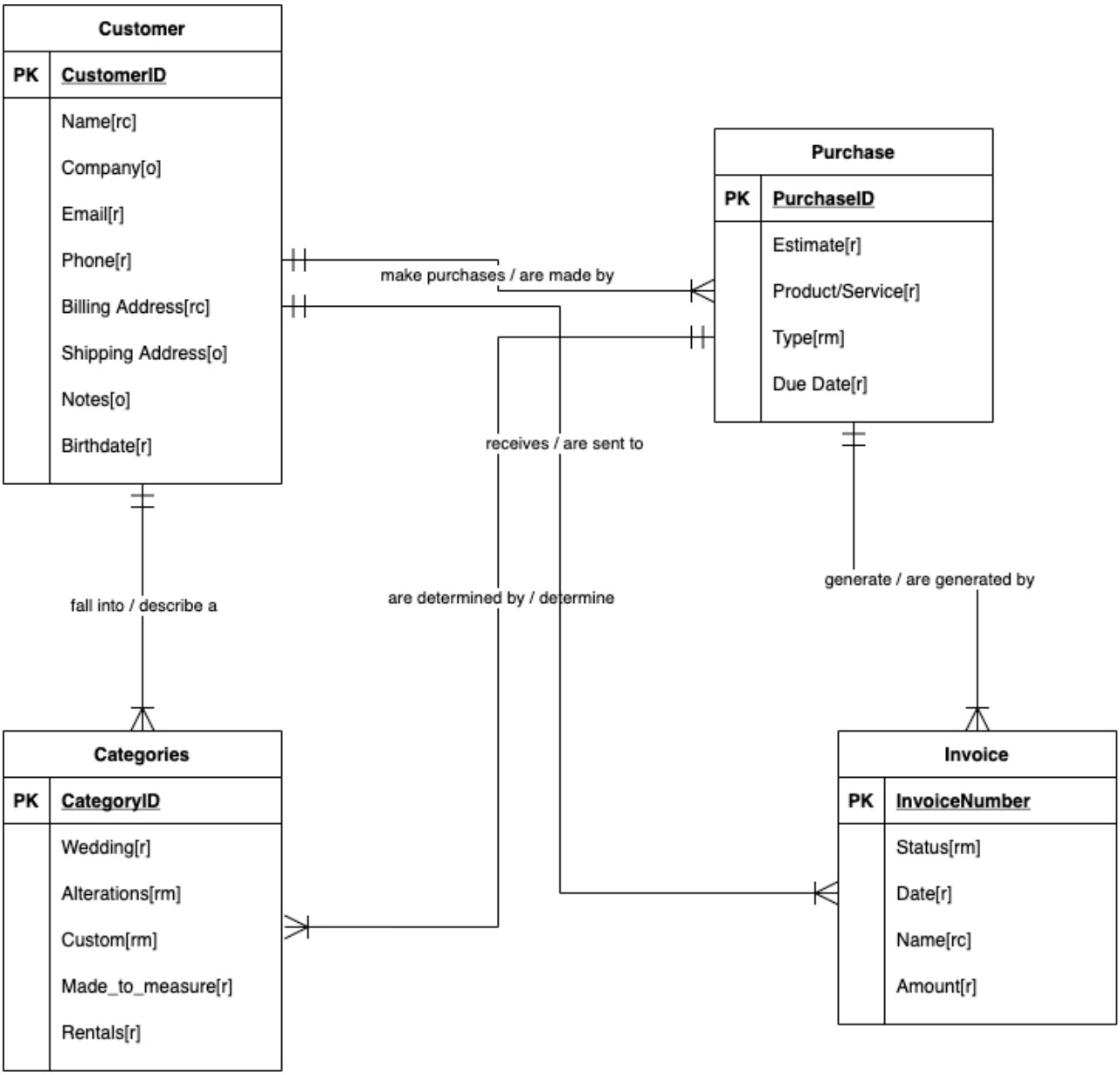
Invoice Status – Can be overdue, paid, closed

Managed Wedding Party – Ensuring all members of a wedding party meet deadlines to receive wedding attire on time.

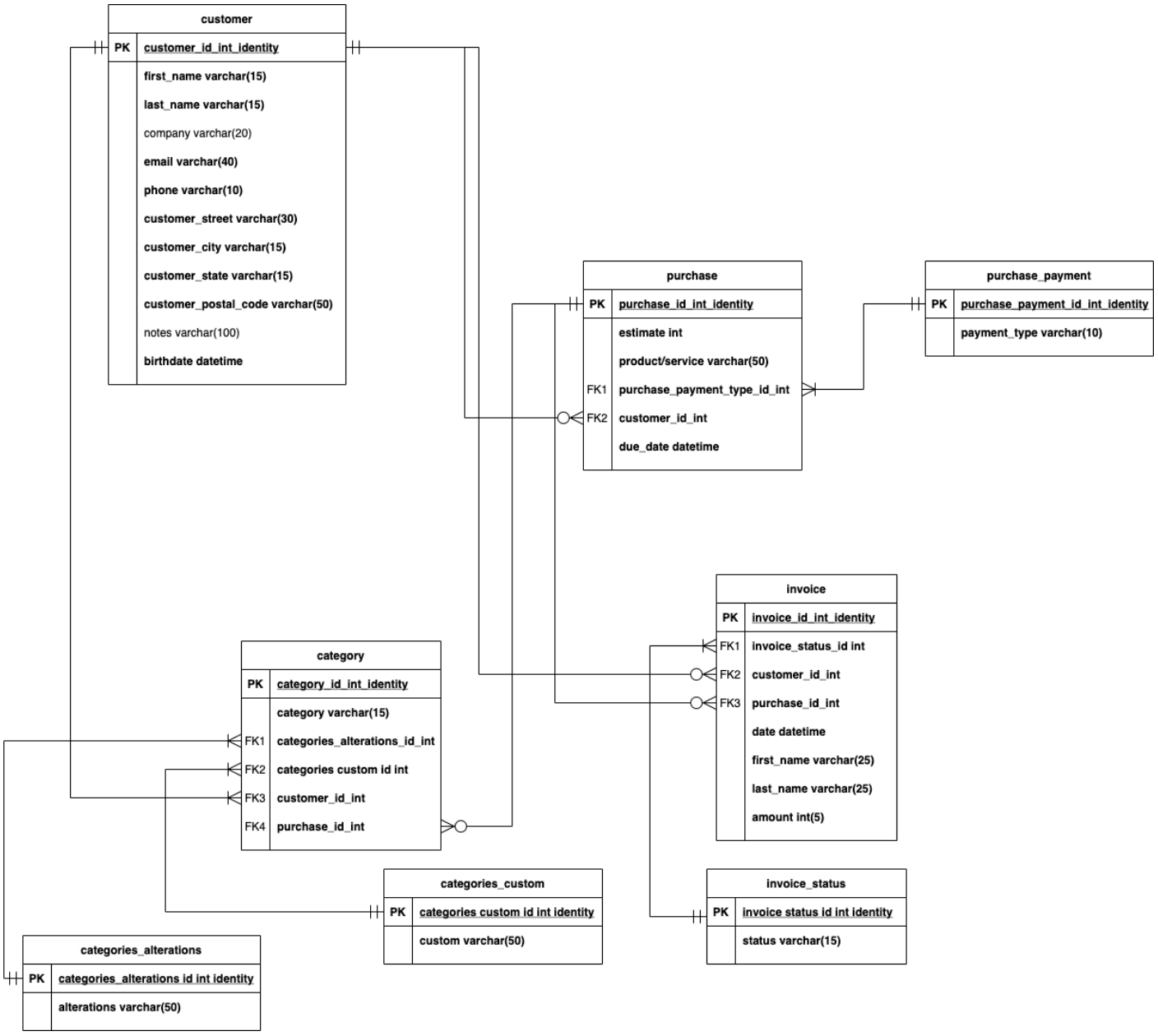
Data Questions:

- What is the most purchased piece of custom attire?
- How many weddings are done annually?
- What types of alterations are done the most?
- How many made to measure shirts are done annually?

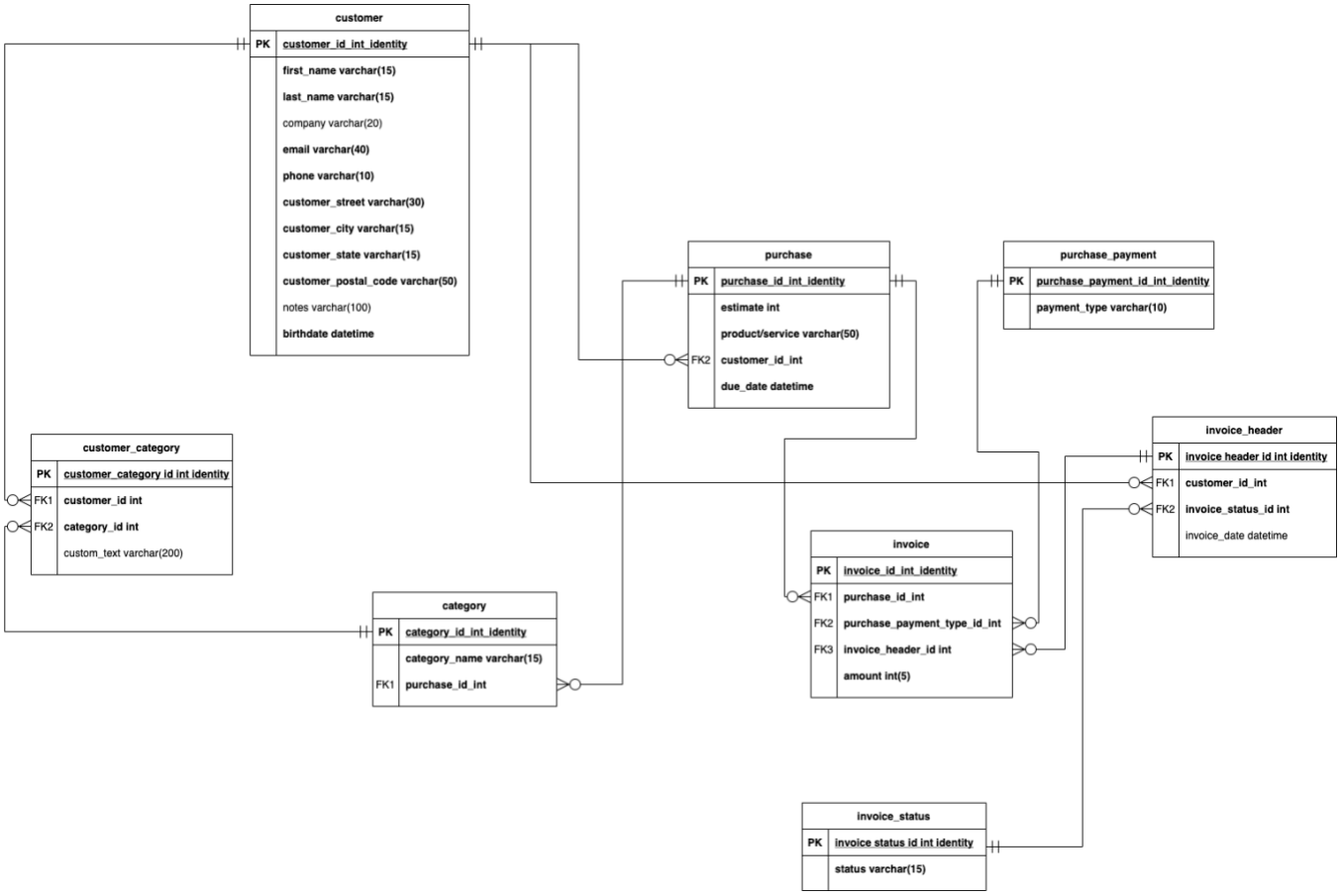
ERD - Conceptual Model:



Logical Model, Deliverable 1:



Logical Model, Deliverable 2:



Logical Model Amendments, D2:

- "Custom_text varchar(200)" was removed from from the customer_category table. This field was redundant as there is a "notes" section in the customer table.
- "estimate int" and "due_date datetime" were removed from the table purchase. Both fields became redundant upon further investigation into the invoice related tables.
- The GETDATE() function was appended to two tables for good housekeeping measures.

SQL SERVER CODE:

```
/*Drop Section:
Here, as a precautionary measure we preemtively drop the tables we intend to create should they
exist in the database already.*/

IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE
TABLE_NAME = 'invoice')
BEGIN
	DROP TABLE invoice
END
GO


IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE
TABLE_NAME = 'invoice_header')
BEGIN
	DROP TABLE invoice_header
END
GO


IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE
TABLE_NAME = 'customer_category')
BEGIN
	DROP TABLE customer_category
END
GO

IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE
TABLE_NAME = 'category')
BEGIN
	DROP TABLE category
END
GO


IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE
TABLE_NAME = 'purchase')
BEGIN
	DROP TABLE purchase
END
GO
```

```
IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE
TABLE_NAME = 'customer')
BEGIN
	DROP TABLE customer
END
GO

IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE
TABLE_NAME = 'purchase_payment')
BEGIN
	DROP TABLE purchase_payment
END
GO

IF EXISTS (SELECT * FROM INFORMATION_SCHEMA.TABLES WHERE
TABLE_NAME = 'invoice_status')
BEGIN
	DROP TABLE invoice_status
END
GO

--Creation: In this section we create tables for our database as well as their column identifiers
and any constraints. "Not null" implies mandatory fields.

CREATE TABLE invoice_status (
	invoice_status_id int identity primary key
	, invoice_standing varchar(15) not null
)
GO

CREATE TABLE purchase_payment (
	purchase_payment_id int identity primary key
	, payment_type varchar(15) not null
)
GO

CREATE TABLE customer (
	customer_id int identity primary key
	, first_name varchar(30) not null
	, last_name varchar(30) not null
	, company varchar(50)
	, email varchar(50)
	, phone_number varchar(12) not null
	, customer_street varchar(50) not null
	, customer_city varchar(35) not null
	, customer_state varchar(35) not null
```

```
        , customer_postal_code varchar(15) not null
        , notes varchar(200)
        , gender varchar(5)
        , birthdate datetime
        , product_service varchar(50) not null
        , customer_aquisition datetime DEFAULT CONVERT(DATE, GETDATE()) not null
        , category_name varchar(20) not null
)
GO

CREATE TABLE purchase (
        purchase_id int identity primary key
        , product_service varchar(50) not null
        , customer_id int FOREIGN KEY REFERENCES customer(customer_id)
)
GO

CREATE TABLE category (
        category_id int identity primary key
        , category_name varchar(20) not null
        , purchase_id int FOREIGN KEY REFERENCES purchase(purchase_id)
)
GO

CREATE TABLE customer_category (
        customer_category_id int identity primary key
        , customer_id int FOREIGN KEY REFERENCES customer(customer_id) not null
        , category_id int FOREIGN KEY REFERENCES category(category_id) not null
)
GO

CREATE TABLE invoice_header (
        invoice_header_id int identity primary key
        , invoice_date datetime DEFAULT CONVERT(DATE, GETDATE()) not null
        , customer_id int FOREIGN KEY REFERENCES customer(customer_id) not null
        , invoice_status_id int FOREIGN KEY REFERENCES invoice_status(invoice_status_id)
not null
)
GO

CREATE TABLE invoice (
        invoice_id int identity primary key
        , amount int not null
        , purchase_id int FOREIGN KEY REFERENCES purchase(purchase_id) not null
        , purchase_payment_id int FOREIGN KEY REFERENCES
purchase_payment(purchase_payment_id) not null
```

```
	, invoice_header_id int FOREIGN KEY REFERENCES
invoice_header(invoice_header_id) not null
)
GO

--Next, well begin to upload data to our tables.

INSERT INTO invoice_status
	(invoice_standing)
VALUES
	('Voided')
	, ('Paid')
	, ('Partial')
	, ('Overdue')
	, ('Pending')
	, ('Rejected')
	, ('Refunded')
	, ('Declined')
GO

--Checked to see if it worked. Success.
SELECT * FROM invoice_status

INSERT INTO purchase_payment
	(payment_type)
VALUES
	('Visa')
	, ('AMEX')
	, ('Discover')
	, ('ApplePay')
	, ('MasterCard')
GO

--Checked to see if it worked. Success.
SELECT * FROM purchase_payment

INSERT INTO purchase
	(product_service)
VALUES
	('Alterations - Shirt')
	, ('Alterations - Jacket')
	, ('Alterations - Trousers')
	, ('Alterations - Vest')
	, ('Alterations - Dress')
	, ('Alterations - Jeans')
	, ('Alterations - Overcoat')
```

```
        , ('Custom - Shirt')
        , ('Custom - Suit')
        , ('Custom - Sport Coat')
        , ('Custom - Trousers')
        , ('Custom - Overcoat')
        , ('Custom - Vest')
        , ('Custom - Uniform')
        , ('Custom - Shorts')
        , ('Made to Measure - Shirt')
        , ('Made to Measure - Suit')
        , ('Made to Measure - Sport Coat')
        , ('Made to Measure - Trousers')
        , ('Made to Measure - Overcoat')
        , ('Made to Measure - Vest')
        , ('Made to Measure - Shorts')
        , ('Wedding - Managing')
        , ('Wedding - Not Managing')
        , ('Wedding - One-Off')
GO

--Checked to see if it worked. Success.
SELECT * FROM purchase

INSERT INTO category
        (category_name)
VALUES
        ('Accessories')
        , ('Alterations')
        , ('Custom')
        , ('Made to Measure')
        , ('Wedding')
GO


--Checked to see if it worked. Success.
SELECT * FROM category

/* INSERT QUERY NO: 1 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Arvy', 'Acey', '', 'aacey0@princeton.edu', '410-732-9739', 'Rigney', 'Ridgely', 'MD', 21684, '', 'M',
'2001-02-24', 'Made to Measure - Shirt', 'Made to Measure'
);
```

```
/* INSERT QUERY NO: 2 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Roberto', 'Malzard', '', 'rmalzard1@tiny.cc', '443-753-6779', 'Oneill', 'Baltimore', 'MD', 21229, '',
'F', '1984-11-14', 'Wedding - Managing', 'Wedding'
);

/* INSERT QUERY NO: 3 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Jory', 'Kermeen', 'Jetwire', 'jkermeen2@stanford.edu', '240-757-0370', 'Paget', 'Silver Spring',
'MD', 20904, '', 'M', '1993-03-25', 'Custom - Shirt', 'Custom'
);

/* INSERT QUERY NO: 4 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Pearce', 'Tompsett', '', 'ptompsett3@e-recht24.de', '301-123-6476', 'Ridgeview', 'Bethesda', 'MD',
20892, '', 'F', '1968-04-10', 'Wedding - Not Managing', 'Wedding'
);

/* INSERT QUERY NO: 5 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Randell', 'Rowsel', '', 'rrowsel4@howstuffworks.com', '240-385-7001', 'Gulseth', 'Rockville',
'MD', 20851, '', '', '', 'Alterations - Trousers', 'Alterations'
);

/* INSERT QUERY NO: 6 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
```

```
(
'Garald', 'Daldan', '', 'gdaldan5@paypal.com', '443-652-5992', 'Jenifer', 'Baltimore', 'MD', 21239,
'', 'F', '1996-08-24', 'Wedding - Not Managing', 'Wedding'
);

/* INSERT QUERY NO: 7 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Harrison', 'McPeake', '', 'hmcpeake6@omniture.com', '240-647-9709', 'School', 'Silver Spring',
'MD', 20918, '', 'M', '1963-04-18', 'Made to Measure - Shirt', 'Made to Measure'
);

/* INSERT QUERY NO: 8 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Bink', 'Flower', '', 'bflower7@nymag.com', '410-867-3984', 'Hoepker', 'Baltimore', 'MD', 21203,
'', 'F', '1998-03-18', 'Wedding - Managing', 'Wedding'
);

/* INSERT QUERY NO: 9 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Barron', 'Clifton', '', 'bclifton8@wikipedia.org', '240-460-7746', 'Pine View', 'Frederick', 'MD',
21705, '', 'F', '1995-05-24', 'Wedding - One Off', 'Wedding'
);

/* INSERT QUERY NO: 10 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Olin', 'MacAlees', '', 'omacalees9@github.com', '443-860-8967', 'Summit', 'Baltimore', 'MD',
21229, '', 'F', '1987-03-06', 'Alterations - Dress', 'Alterations'
);

/* INSERT QUERY NO: 11 */
```

```
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Herrick', 'Reynoollds', '', 'hreynoolldsa@mac.com', '301-378-4961', 'Hollow Ridge', 'Hyattsville',
'MD', 20784, '', 'F', '1990-07-16', 'Wedding - Managing', 'Wedding'
);

/* INSERT QUERY NO: 12 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Griffie', 'Gellibrand', '', '', '240-131-1169', 'Fieldstone', 'Bethesda', 'MD', 20816, '', 'F', '1980-03-
25', 'Wedding - One Off', 'Wedding'
);

/* INSERT QUERY NO: 13 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Wiatt', 'Hannam', '', 'whannamc@paginegialle.it', '410-468-3052', 'Cottonwood', 'Baltimore',
'MD', 21265, '', 'F', '1987-04-07', 'Alterations - Shirt', 'Alterations'
);

/* INSERT QUERY NO: 14 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Ben', 'Neave', '', 'bneaved@fema.gov', '301-645-3184', 'Summit', 'Bethesda', 'MD', 20892, '', 'M',
'1985-11-29', 'Made to Measure - Shirt', 'Made to Measure'
);

/* INSERT QUERY NO: 15 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
```

'Willdon', 'Lill', '', '', '410-891-7097', 'Bonner', 'Baltimore', 'MD', 21275, '', 'F', '1980-10-13',
'Alterations - Shirt', 'Alterations'
);

/* INSERT QUERY NO: 16 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Caesar', 'Barlow', '', '', '240-964-6115', 'Elmside', 'Rockville', 'MD', 20851, '', 'F', '1994-10-01',
'Wedding - Managing', 'Wedding'
);

/* INSERT QUERY NO: 17 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Araldo', 'Hickin', '', 'ahicking@oakley.com', '240-820-7893', 'Esch', 'Frederick', 'MD', 21705, '',
'F', '1963-06-27', 'Wedding - One Off', 'Wedding'
);

/* INSERT QUERY NO: 18 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Theobald', 'Townes', '', 'ttownesh@dell.com', '240-505-8961', 'North', 'Rockville', 'MD', 20851, '',
'M', '1974-04-10', 'Custom - Shirt', 'Custom'
);

/* INSERT QUERY NO: 19 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Tiebout', 'Hamblett', '', 'thambletti@boston.com', '410-530-5940', 'Arizona', 'Baltimore', 'MD',
21203, '', '', '', 'Alterations - Trousers', 'Alterations'
);

/* INSERT QUERY NO: 20 */

```
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Ted', 'Mowsdale', 'Quatz', '', '410-586-6061', 'Cody', 'Baltimore', 'MD', 21265, '', 'M', '2004-02-
28', 'Made to Measure - Shirt', 'Made to Measure'
);

/* INSERT QUERY NO: 21 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Bealle', 'Meak', '', 'bmeakk@bigcartel.com', '410-953-9821', 'Bellgrove', 'Baltimore', 'MD',
21275, '', 'M', '2005-06-27', 'Alterations - Jacket', 'Alterations'
);

/* INSERT QUERY NO: 22 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Harper', 'Dannett', '', 'hdannettl@nsw.gov.au', '240-860-0315', 'Gina', 'Gaithersburg', 'MD',
20883, '', 'M', '1987-05-27', 'Alterations - Jacket', 'Alterations'
);

/* INSERT QUERY NO: 23 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Tyler', 'Brundle', 'Aimbu', 'tbrundlem@icio.us', '301-943-4919', 'Clove', 'Rockville', 'MD',
20851, '', 'M', '1964-03-14', 'Custom - Shirt', 'Custom'
);

/* INSERT QUERY NO: 24 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
```

'Mauricio', 'Howard', 'Jayo', '', '240-575-7120', 'Dorton', 'Hagerstown', 'MD', 21747, '', 'M', '1999-01-16', 'Custom - Suit', 'Custom'
);

/* INSERT QUERY NO: 25 */
INSERT INTO customer(first_name, last_name, company, email, phone_number, customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate, product_service, category_name)
VALUES
(
'Kearney', 'Zorzin', '', 'kzorzino@bing.com', '202-217-3659', 'Florence', 'Laurel', 'MD', 20709, '', 'F', '1964-02-14', 'Wedding - Not Managing', 'Wedding'
);

/* INSERT QUERY NO: 26 */
INSERT INTO customer(first_name, last_name, company, email, phone_number, customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate, product_service, category_name)
VALUES
(
'Kimball', 'Carillo', '', 'kcarillop@usgs.gov', '410-332-6424', 'Sloan', 'Baltimore', 'MD', 21265, '', 'M', '1976-11-29', 'Custom - Shirt', 'Custom'
);

/* INSERT QUERY NO: 27 */
INSERT INTO customer(first_name, last_name, company, email, phone_number, customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate, product_service, category_name)
VALUES
(
'Dexter', 'Dyke', '', 'ddykeq@livejournal.com', '410-335-5920', 'Schlimgen', 'Baltimore', 'MD', 21282, '', 'F', '1977-05-18', 'Alterations - Dress', 'Alterations'
);

/* INSERT QUERY NO: 28 */
INSERT INTO customer(first_name, last_name, company, email, phone_number, customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate, product_service, category_name)
VALUES
(
'Alonzo', 'Cotterrill', '', '', '301-925-6893', 'Bellgrove', 'Laurel', 'MD', 20709, '', 'M', '1979-07-15', 'Custom - Suit', 'Custom'
);

/* INSERT QUERY NO: 29 */

```
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Gunar', 'Babington', 'Zoombox', 'gbabingtons@sphinn.com', '410-639-0682', 'Lakewood',
'Baltimore', 'MD', 21265, '', 'F', '1971-02-18', 'Wedding - Not Managing', 'Wedding'
);

/* INSERT QUERY NO: 30 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Isidor', 'Loachhead', '', 'iloachheadt@cargocollective.com', '410-881-9706', 'Miller', 'Baltimore',
'MD', 21265, '', 'M', '1987-01-25', 'Custom - Shirt', 'Custom'
);

/* INSERT QUERY NO: 31 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Gibby', 'Bohills', '', 'gbohillsu@mashable.com', '410-977-9223', 'Carey', 'Baltimore', 'MD',
21275, '', 'F', '2005-06-06', 'Wedding - Managing', 'Wedding'
);

/* INSERT QUERY NO: 32 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Gare', 'Illidge', '', 'gillidgev@about.com', '301-523-8167', 'Tennyson', 'Annapolis', 'MD', 21405,
'', '', '', 'Alterations - Trousers', 'Alterations'
);

/* INSERT QUERY NO: 33 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
```

'Kane', 'Shoutt', '', '', '301-627-9680', 'Dahle', 'Hyattsville', 'MD', 20784, '', 'F', '1961-04-01',
'Alterations - Dress', 'Alterations'
);

/* INSERT QUERY NO: 34 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Aguistin', 'Brandi', '', '', '410-836-5996', 'Debra', 'Baltimore', 'MD', 21216, '', 'F', '1999-04-24',
'Wedding - Managing', 'Wedding'
);

/* INSERT QUERY NO: 35 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Hakim', 'Coronado', '', 'hcoronadoy@wikimedia.org', '410-103-5374', 'Fuller', 'Baltimore', 'MD',
21275, '', 'M', '1973-09-28', 'Alterations - Trousers', 'Alterations'
);

/* INSERT QUERY NO: 36 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Burke', 'Brims', '', 'bbrimsz@java.com', '240-767-4519', 'Sloan', 'Hagerstown', 'MD', 21747, '', 'F',
'1971-11-09', 'Wedding - Not Managing', 'Wedding'
);

/* INSERT QUERY NO: 37 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Northrup', 'Hallut', '', 'nhallut10@biglobe.ne.jp', '301-882-6914', 'Pawling', 'Rockville', 'MD',
20851, '', 'M', '2001-10-01', 'Alterations - Jacket', 'Alterations'
);

/* INSERT QUERY NO: 38 */

```
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Malachi', 'De Giovanni', '', 'mdegiovanni11@joomla.org', '410-340-6078', '4th', 'Baltimore',
'MD', 21290, '', 'F', '1978-07-05', 'Alterations - Shirt', 'Alterations'
);

/* INSERT QUERY NO: 39 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Cull', 'Barthelemy', '', '', '240-315-2959', 'Utah', 'Silver Spring', 'MD', 20918, '', 'F', '1994-02-28',
'Wedding - Managing', 'Wedding'
);

/* INSERT QUERY NO: 40 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Ailbert', 'Burril', 'Edgeclub', 'aburril13@deviantart.com', '410-968-3134', 'Westridge',
'Baltimore', 'MD', 21281, '', '', '', 'Alterations - Trousers', 'Alterations'
);

/* INSERT QUERY NO: 41 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Skye', 'Ritchie', '', 'sritchie14@diigo.com', '410-196-5673', 'Saint Paul', 'Baltimore', 'MD', 21282,
'', 'F', '1992-07-30', 'Wedding - Not Managing', 'Wedding'
);

/* INSERT QUERY NO: 42 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
```

'Husein', 'Mumby', '', '', '240-139-9173', 'Harbort', 'Gaithersburg', 'MD', 20883, '', 'M', '1992-06-13', 'Custom - Shirt', 'Custom'
);

/* INSERT QUERY NO: 43 */
INSERT INTO customer(first_name, last_name, company, email, phone_number, customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate, product_service, category_name)
VALUES
(
'Sergei', 'Bottomley', '', 'sbottomley16@shop-pro.jp', '410-229-2167', 'Logan', 'Baltimore', 'MD', 21211, '', 'F', '1963-03-31', 'Alterations - Dress', 'Alterations'
);

/* INSERT QUERY NO: 44 */
INSERT INTO customer(first_name, last_name, company, email, phone_number, customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate, product_service, category_name)
VALUES
(
'Sig', 'Bourdas', '', 'sbourdas17@washington.edu', '410-777-4826', 'Sunnyside', 'Baltimore', 'MD', 21282, '', 'F', '1977-06-12', 'Alterations - Shirt', 'Alterations'
);

/* INSERT QUERY NO: 45 */
INSERT INTO customer(first_name, last_name, company, email, phone_number, customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate, product_service, category_name)
VALUES
(
'Cyrillus', 'Blincowe', '', '', '443-925-7679', 'Mandrake', 'Baltimore', 'MD', 21203, '', 'F', '1961-07-08', 'Wedding - Managing', 'Wedding'
);

/* INSERT QUERY NO: 46 */
INSERT INTO customer(first_name, last_name, company, email, phone_number, customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate, product_service, category_name)
VALUES
(
'Seamus', 'Scobie', '', 'sscobie19@zimbio.com', '301-834-2691', 'Debra', 'Silver Spring', 'MD', 20910, '', 'F', '1988-12-03', 'Alterations - Shirt', 'Alterations'
);

/* INSERT QUERY NO: 47 */

```
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Orren', 'Griffithe', '', 'ogriffithe1a@ezinearticles.com', '443-480-7208', 'Sullivan', 'Baltimore',
'MD', 21211, '', 'M', '1971-03-01', 'Custom - Suit', 'Custom'
);

/* INSERT QUERY NO: 48 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Louis', 'Clawley', '', '', '410-453-8669', 'Fallview', 'Baltimore', 'MD', 21211, '', 'M', '1987-05-03',
'Custom - Shirt', 'Custom'
);

/* INSERT QUERY NO: 49 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Norbie', 'Huelin', '', 'nhuelin1c@ucsd.edu', '443-154-2967', 'Fuller', 'Baltimore', 'MD', 21211, '',
'M', '2006-03-20', 'Custom - Suit', 'Custom'
);

/* INSERT QUERY NO: 50 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
'Loydie', 'Climance', 'Agivu', 'lclimance1d@webnode.com', '410-154-5030', 'Reindahl',
'Baltimore', 'MD', 21265, '', 'F', '2006-03-28', 'Wedding - Managing', 'Wedding'
);

/* INSERT QUERY NO: 51 */
INSERT INTO customer(first_name, last_name, company, email, phone_number,
customer_street, customer_city, customer_state, customer_postal_code, notes, gender, birthdate,
product_service, category_name)
VALUES
(
```

```
'Rhys', 'Harragin', '', 'rharragin1e@wp.com', '410-496-9170', 'Golf', 'Baltimore', 'MD', 21265, '',
'M', '1978-05-17', 'Custom - Suit', 'Custom'
);

--Checked to see if it worked. Success.
SELECT * FROM customer


--This queryshows the most purchased custom attire item
SELECT
	COUNT(*) category_name
	, product_service
 FROM
	customer
 WHERE product_service LIKE 'C%'
 GROUP BY product_service
 ORDER BY category_name DESC

 --This query shows the annual count of weddings
SELECT
	COUNT(category_name) AS num_weddings
	, SUM(COUNT(category_name)) OVER() AS total_count
	, product_service
	, customer_aquisition
 FROM
	customer
 WHERE product_service LIKE 'W%' AND customer_aquisition >= '2021-01-01'
 GROUP BY customer_aquisition
		, category_name
		, product_service
 ORDER BY
		category_name DESC

--This query shows the most done alterations
SELECT
	COUNT(*) category_name
	, product_service
 FROM
	customer
 WHERE product_service LIKE 'A%'
 GROUP BY product_service
 ORDER BY category_name DESC

--This query shows the annual count of weddings
SELECT
	COUNT(category_name) AS num_made_to_measure
```

```
        , SUM(COUNT(category_name)) OVER() AS total_count
        , product_service
        , customer_aquisition
 FROM
        customer
WHERE product_service LIKE 'M%' AND customer_aquisition >= '2021-01-01'
GROUP BY customer_aquisition
                , category_name
                , product_service
ORDER BY
                category_name DESC
```

SQL SELECT STATEMENTS:

What is the most purchased piece of custom attire?

```
569  SELECT
570      COUNT(*) category_name
571      , product_service
572    FROM
573      customer
574   WHERE product_service LIKE 'C%'
575   GROUP BY product_service
576   ORDER BY category_name DESC
577
```

100 %

Results | Messages

	category_name	product_service
1	7	Custom - Shirt
2	5	Custom - Suit

How many weddings are done annually?

```
580  SELECT
581      COUNT(category_name) AS num_weddings
582      , SUM(COUNT(category_name)) OVER() AS total_count
583      , product_service
584      , customer_aquisition
585    FROM
586      customer
587   WHERE product_service LIKE 'W%' AND customer_aquisition >= '2021-01-01'
588   GROUP BY customer_aquisition
589          , category_name
590          , product_service
591   ORDER BY
592          category_name DESC
```

100 %

Results | Messages

	num_weddings	total_count	product_service	customer_aquisition
1	9	18	Wedding - Managing	2021-06-22 00:00:00.000
2	6	18	Wedding - Not Managing	2021-06-22 00:00:00.000
3	3	18	Wedding - One Off	2021-06-22 00:00:00.000

What types of alterations are done the most?

```sql
--CREATE VIEW AS MostDoneAlteration AS
SELECT
    COUNT(*) category_name
    , product_service
  FROM
    customer
 WHERE product_service LIKE 'A%'
 GROUP BY product_service
 ORDER BY category_name DESC
```

100 %

Results | Messages

	category_name	product_service
1	5	Alterations - Shirt
2	5	Alterations - Trousers
3	4	Alterations - Dress
4	3	Alterations - Jacket

How many made to measure shirts are done annually?

```sql
SELECT
    COUNT(category_name) AS num_made_to_measure
    , SUM(COUNT(category_name)) OVER() AS total_count
    , product_service
    , customer_aquisition
  FROM
    customer
WHERE product_service LIKE 'M%' AND customer_aquisition >= '2021-01-01'
GROUP BY customer_aquisition
       , category_name
       , product_service
ORDER BY
       category_name DESC
```

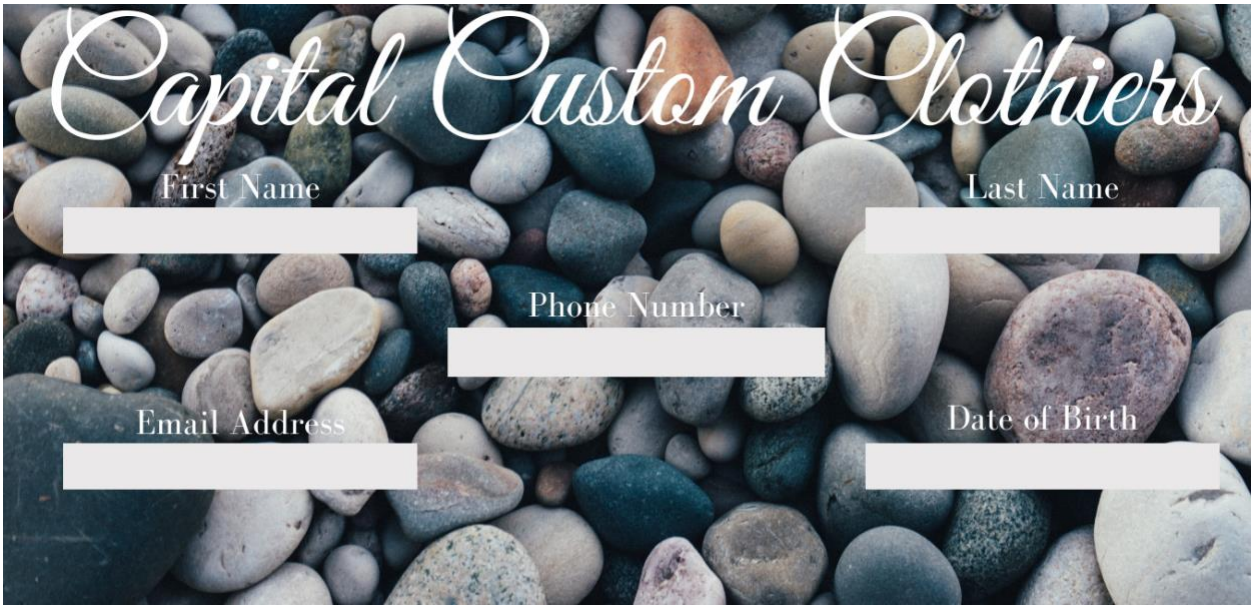
100 %

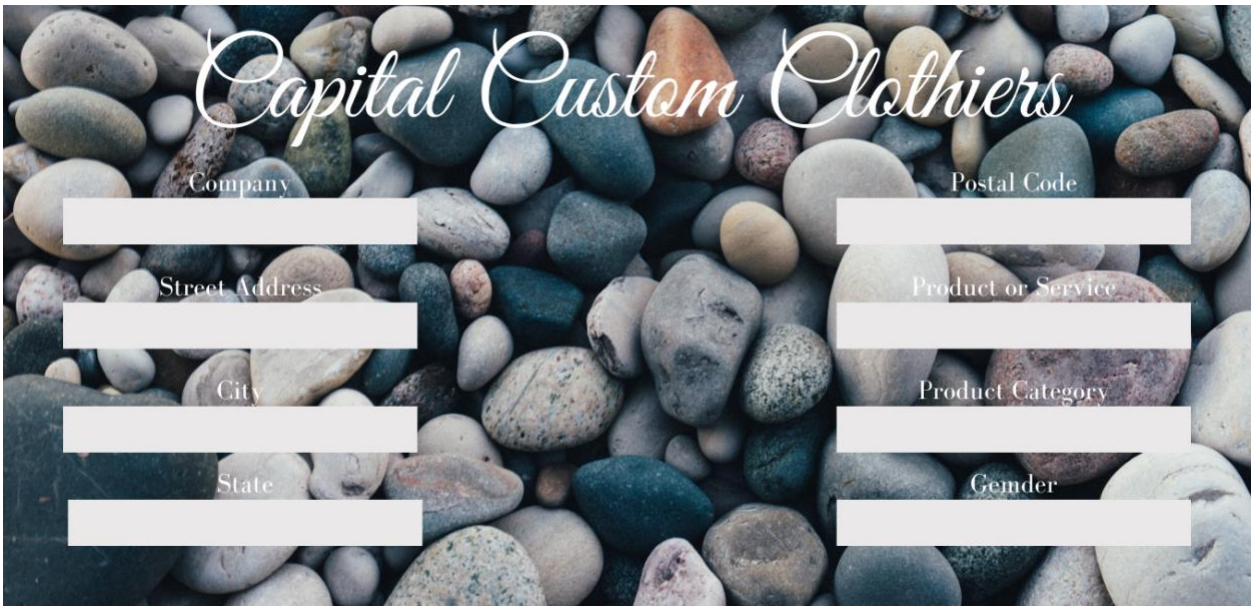
Results | Messages

	num_made_to_measure	total_count	product_service	customer_aquisition
1	4	4	Made to Measure - Shirt	2021-06-22 00:00:00.000

Graphical User Interface:

Capital Custom Clothiers
CUSTOMER INTAKE FORM


Capital Custom Clothiers
First Name
Last Name
Phone Number
Email Address
Date of Birth



<u>Reflection/Discussion</u>:

While enriching, the creation of this database was quite an arduous task for me that required a tremendous amount of humility and patience. I ran into the same error message multiple times in different forms and ultimately it got the best of me:

Msg 515, Level 16, State 2, Line 192
Cannot insert the value NULL into column 'purchase_id', table 'IST659_M407_makonnor.dbo.category'; column does not allow nulls. INSERT fails.
The statement has been terminated.

Despite my best efforts, I was not able to derive a solution, so I created a work-around instead. I had to flatten the database a bit which in a higher-stakes situation would be disadvantageous to the business in that it negates some of the hard work we did to normalize our database in the first place.

The beauty of database creation is there is never a true “end” point. The database can always be further optimized. For instance, I was initially conservative with my varchar lengths because I wanted to optimize as much as possible. However, I underestimated the lengths of certain datapoints which caused me to have to drop the tables and start over. I added ample room next time but certainly too much.

If I were to begin again, I would spend a lot of time trying to better comprehend the three normal forms. They are crucial in terms of visualizing the layers and nuances of how the database will interact with itself. Even then at times, for a beginner, it is difficult to conceptualize what is happening behind the scenes. To that point, I would rearrange my

conceptual model as well to fit more of a “spoke-and-wheel” shape. I believe that aesthetic would have aided in visualizing a little easier.

Heeding the advice of starting early is crucial. Hindsight is 20/20 and just because the labs are straightforward it doesn’t mean success will be as abundant when the training-wheels come off. Time is also a crucial factor in terms of communication with your stakeholder. Things change, which means the database has to as well. Anticipating as many potential issues in advance will pay large dividends. A unique balance of rigidity and flexibility in my limited opinion are needed for a solid database. Views are helpful with this. I would also in the future like to add stored procedures that allow for a safer, more controlled input of data. For now, there are only 3 intended users who are also family members, so information security isn’t a huge issue currently. However, should another employee be hired, that may need to be addressed. A stored procedure would also need to be created for deleting information as well.

The extent of a database’s usefulness can only be measured by the creativity of the engineer and the vision of the stakeholder(s). Though the scale of this project may have been smaller in scope, a customized database specified for the needs of a stakeholder is immensely useful. With a few queries and the use of aggregate functions, the entire business focus of an organization can be heavily influenced and provide direction where there was once only speculation.