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ID - C0837117
Product- Drills

Term Project
Nitro Drills

Database Design & SQL
Faculty – Jim Cooper
Term – Fall

CONTENTS

Company Description

1.1 Company Name:

Nitro Drills

1.2 Company Overview:

Nitro Drills was establish in 2016 with the goal to deliver tools necessary in several works maintaining the quality, durability and lowest price possible to the customers. At first we were named 'Nitro Tools'. But then as the sales growth in drills were much more than other products, we focused on just only one product to deliver the best drills possible to our customers.

Now we are known as one of the best drills seller in the country. We have drills of the best price range and functionality and our drills are particularly known for durability. We have several brands in our collection. We focus on customer satisfaction more than anything. We believe that customers are always right.

Company Description

1.3 Product:

Drills

1.4 Product Attribute:

Attributes	Sample Data
Product Id (UK)	12345
Model Number	58736
Product Name	Black & Decker Electronic Drill
Assembly Required	No
Batteries Required	Yes
Batteries Included	Yes
Manufacturer	JAKKS Pacific
Stock	100
Product Dimension	5.08 x 21.29 x 24.13 cm;
Weight	900 gm
Color	Yellow
Warranty	2 Years

Customer Sale Invoice

2.1 Invoice:

Nitro Drills

437 Patterson Street
Toronto, ON M1K 5V5
437-123-3098

Invoice of:
Nicole Coleman
53 Silvio Ave,
Sarnia, ON, M1L 2K3
237-228-0291

Invoice No: 304852
Customer ID: 234345
Date: 22.10.2021
Payment: Cash on Delivery
Delivery Method: Home Delivery

PRODUCT ID	MODEL	QTY	BRAND	Color	UNIT PRICE	EXTENDED PRICE
345334	345-V	1	Black Decker	Black	$99.99	$199.98
567453	MK-234	2	DEWALT	Red	$100.00	$200.00
345346	SLR-2	1	BOSCH	Yellow	$89.99	$89.99
456345	232-SV	3	WO	Black	$120.00	$360.00
870678	MARK-2	1	Craftsman	Navy	$98.99	$98.99

Sub-Total	$948.96
Tax	$49.00
Total	$997.96

Entity Relationship Diagrams

3.1 ER Diagram (With M:M):
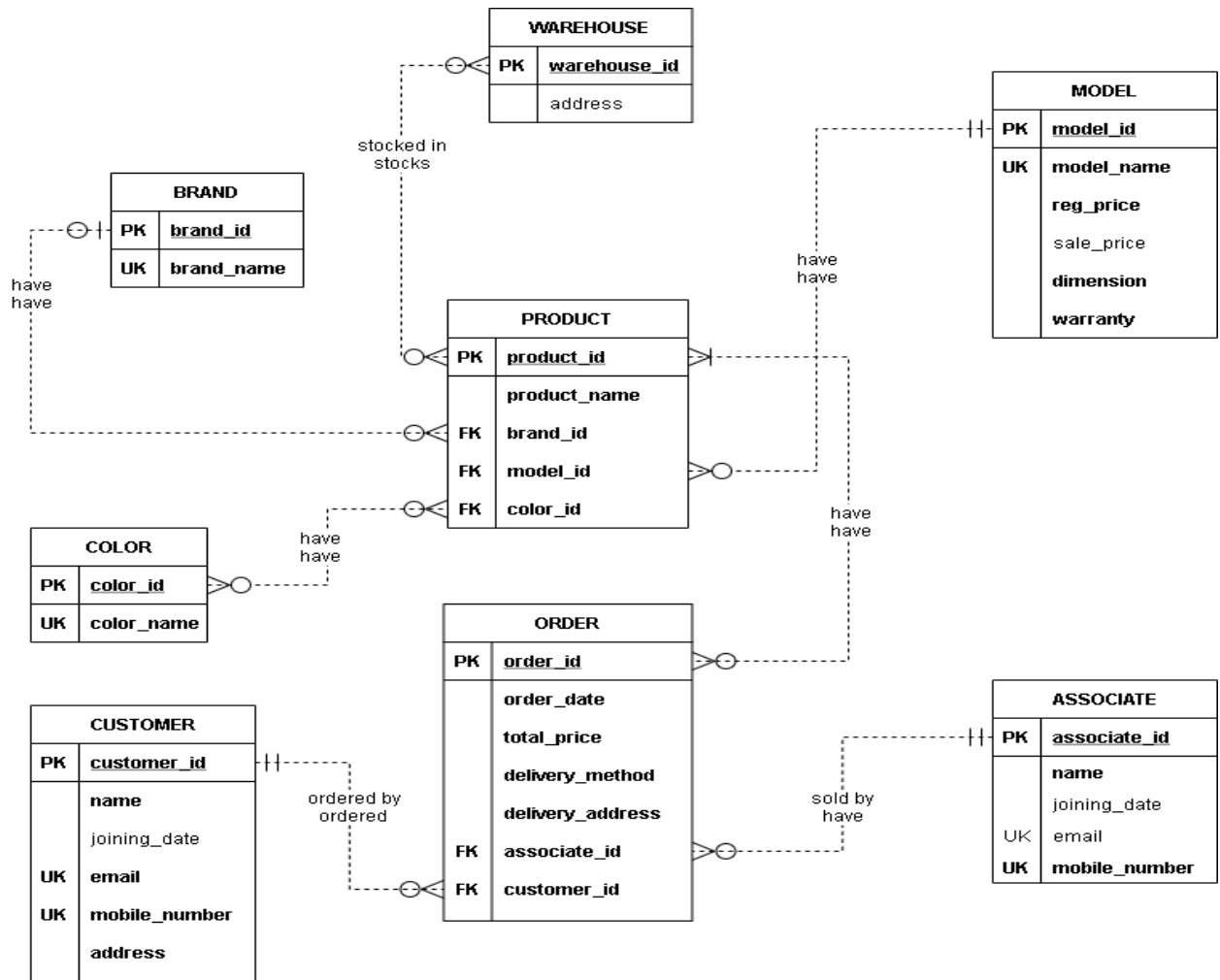
WAREHOUSE

PK	warehouse_id
	address

stocked in
stocks

BRAND

PK	brand_id
UK	brand_name

have
have

MODEL

PK	model_id
UK	model_name
	reg_price
	sale_price
	dimension
	warranty

have
have

PRODUCT

PK	product_id
	product_name
FK	brand_id
FK	model_id
FK	color_id

COLOR

PK	color_id
UK	color_name

have
have

ORDER

PK	order_id
	order_date
	total_price
	delivery_method
	delivery_address
FK	associate_id
FK	customer_id

have
have

CUSTOMER

PK	customer_id
	name
	joining_date
UK	email
UK	mobile_number
	address

ordered by
ordered

ASSOCIATE

PK	associate_id
	name
	joining_date
UK	email
UK	mobile_number

sold by
have

Each **PRODUCT** may have zero or one **BRAND**
Each **BRAND** may have zero, one or multiple **PRODUCT**s

Each **PRODUCT** must have one and only one **MODEL**
Each **MODEL** may have zero, one or multiple **PRODUCT**s

Each **PRODUCT** may be stocked in zero, one or multiple **WAREHOUSE**
Each **WAREHOUSE** may stock zero, one or multiple **PRODUCT**s

Each **PRODUCT** may have zero, one, or multiple **COLOR**
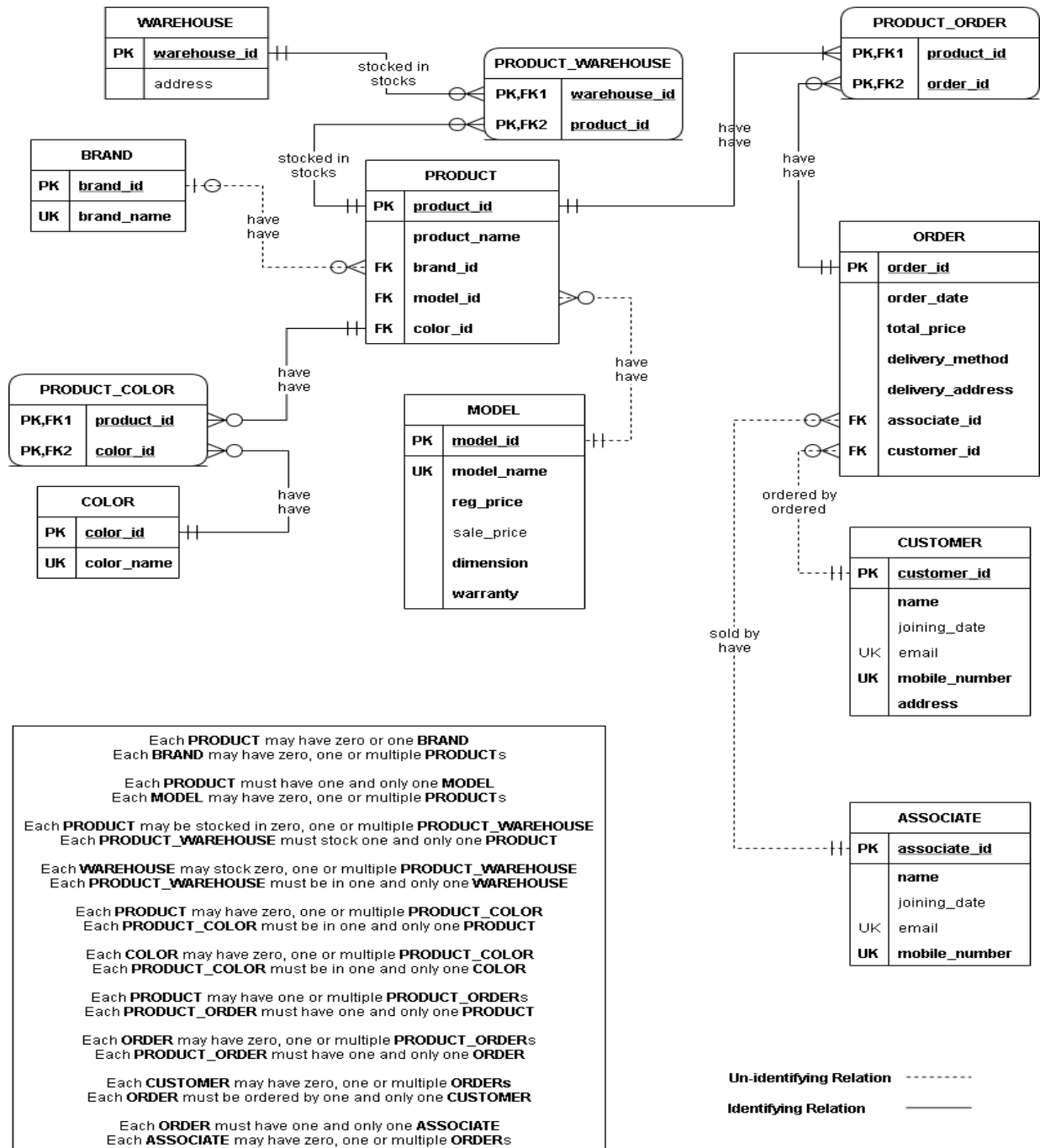Each **COLOR** may have zero, one or multiple **PRODUCT**s

Each **PRODUCT** may have zero, one or multiple **ORDER**s
Each **ORDER** may have one or multiple **PRODUCT**s

Each **CUSTOMER** may have zero, one or multiple **ORDER**s
Each **ORDER** must be ordered by one and only one **CUSTOMER**

Each **ORDER** must have one and only one **ASSOCIATE**
Each **ASSOCIATE** may have zero, one or multiple **ORDER**s

Entity Relationship Diagrams

3.2 ER Diagram (Without M:M):

WAREHOUSE

PK	warehouse_id
	address

PRODUCT_WAREHOUSE

PK,FK1	warehouse_id
PK,FK2	product_id

PRODUCT_ORDER

PK,FK1	product_id
PK,FK2	order_id

BRAND

PK	brand_id
UK	brand_name

PRODUCT

PK	product_id
	product_name
FK	brand_id
FK	model_id
FK	color_id

ORDER

PK	order_id
	order_date
	total_price
	delivery_method
	delivery_address
FK	associate_id
FK	customer_id

PRODUCT_COLOR

PK,FK1	product_id
PK,FK2	color_id

MODEL

PK	model_id
UK	model_name
	reg_price
	sale_price
	dimension
	warranty

COLOR

PK	color_id
UK	color_name

CUSTOMER

PK	customer_id
	name
	joining_date
UK	email
UK	mobile_number
	address

ASSOCIATE

PK	associate_id
	name
	joining_date
UK	email
UK	mobile_number

Each **PRODUCT** may have zero or one **BRAND**
Each **BRAND** may have zero, one or multiple **PRODUCT**s

Each **PRODUCT** must have one and only one **MODEL**
Each **MODEL** may have zero, one or multiple **PRODUCT**s

Each **PRODUCT** may be stocked in zero, one or multiple **PRODUCT_WAREHOUSE**
Each **PRODUCT_WAREHOUSE** must stock one and only one **PRODUCT**

Each **WAREHOUSE** may stock zero, one or multiple **PRODUCT_WAREHOUSE**
Each **PRODUCT_WAREHOUSE** must be in one and only one **WAREHOUSE**

Each **PRODUCT** may have zero, one or multiple **PRODUCT_COLOR**
Each **PRODUCT_COLOR** must be in one and only one **PRODUCT**

Each **COLOR** may have zero, one or multiple **PRODUCT_COLOR**
Each **PRODUCT_COLOR** must be in one and only one **COLOR**

Each **PRODUCT** may have one or multiple **PRODUCT_ORDER**s
Each **PRODUCT_ORDER** must have one and only one **PRODUCT**

Each **ORDER** may have zero, one or multiple **PRODUCT_ORDER**s
Each **PRODUCT_ORDER** must have one and only one **ORDER**

Each **CUSTOMER** may have zero, one or multiple **ORDER**s
Each **ORDER** must be ordered by one and only one **CUSTOMER**

Each **ORDER** must have one and only one **ASSOCIATE**
Each **ASSOCIATE** may have zero, one or multiple **ORDER**s

Un-identifying Relation ----------
Identifying Relation ————

PRODUCT

Key Type	Optionality	Column Name	Datatype	Length
PK	*	product_id	INTEGER	
	*	product_name	VARCHAR	30
FK	*	brand_id	INTEGER	
FK	*	model_id	INTEGER	
FK	*	color_id	INTEGER	

MODEL

Key Type	Optionality	Column Name	Datatype	Length
PK	*	model_id	INTEGER	
UK	*	model_name	VARCHAR	30
	*	reg_price	DECIMAL	5,2
	0	sale_price	DECIMAL	5,2
	*	dimension	VARCHAR	50
	*	warranty	INTEGER	

ORDER

Key Type	Optionality	Column Name	Datatype	Length
PK	*	order_id	INTEGER	
	*	order_date	DATE	
FK	*	total_price	DECIMAL	5,2
	*	delivery_method	VARCHAR	30
	*	deliver_address	VARCHAR	150
FK	*	associate_id	INTEGER	
FK	*	customer_id	INTEGER	

CUSTOMER

Key Type	Optionality	Column Name	Datatype	Length
PK	*	customer_id	INTEGER	
	*	name	VARCHAR	30
FK	0	joining_date	DATE	
UK	0	email	VARCHAR	50
UK	*	mobile_number	VARCHAR	10
	*	address	VARCHAR	150

ASSOCIATE

Key Type	Optionality	Column Name	Datatype	Length
PK	*	associate_id	INTEGER	
	*	name	VARCHAR	30
FK	0	joining_date	DATE	
UK	0	Email	VARCHAR	30
UK	*	mobile_num	VARCHAR	10

WAREHOUSE

Key Type	Optionality	Column Name	Datatype	Length
PK	*	warehouse_id	INTEGER	
	*	address	VARCHAR	150

PRODUCT_WAREHOUSE

Key Type	Optionality	Column Name	Datatype	Length
PK,FK	*	warehouse_id	INTEGER	
PK,FK	*	product_id	INTEGER	

PRODUCT_ORDER

Key Type	Optionality	Column Name	Datatype	Length
PK,FK	*	project_id	INTEGER	
PK,FK	*	order_id	INTEGER	

BRAND

Key Type	Optionality	Column Name	Datatype	Length
PK	*	brand_id	INTEGER	
UK	*	brand_name	VARCHAR	30

COLOR

Key Type	Optionality	Column Name	Datatype	Length
PK	*	color_id	INTEGER	
UK	*	color_name	VARCHAR	30

PRODUCT_COLOR

Key Type	Optionality	Column Name	Datatype	Length
PK,FK	*	product_id	INTEGER	
PK,FK	*	color_id	INTEGER	30