

TERM PROJECT 1



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1. COMPANY DESCRIPTION

1.1 Company Name: **ELIXIR JUICERS PRIVATE LTD.**

1.2 COMPANY OVERVIEW

Elixir Juicers was established by renowned entrepreneur and business tycoon Deep Parekh in 2020. The year witnessed the greatest pandemic of the century and as an after effect of the event, the health-conscious community was growing at a pace never seen before. To meet the demand of ever-growing diet conscious people, Elixir Juicers launched variety of top-end juicers at a pocket friendly rate.

Over the decade, the company gained the trust of its customers and is now dominating the juicer market with its world-class products. The company delivers juicer machines for home and personal use as well as for commercial juice pump outlets across the country. The after service offered by the company is much appreciated by its loyal customers. Easy-to-use and low-maintenance juicers have already marked their place in the kitchens of the healthy-eating individuals. The motto of the company is to deliver easy and quick juicer machines at a reasonable price so that every person can lead a healthy lifestyle.

1.3 PRODUCT: JUICER MACHINE

1.4 PRODUCT ATTRIBUTE

Attributes	Sample Data
ProductID	EJ10789H
Brand	Kuvings
Product Dimensions	27.2 x 22.9 x 33.8 cm
Weight	3.88 kilograms
Speed Options	2 speed control
Pulp Container	3 liters
Collector Capacity	2 liters
Model	Cold Press
Motor Power	800W
Body Material	SS Chrome Finish
Decibel Level	80-90dB
MRP	2500 INR
Color	Silver
Warranty	1 year

2. CUSTOMER SALES INVOICE

Elixir Juicers Private Ltd.

SOUTH KOREA, 280,
NOWONRO, BUKGU,
DAEGU, KOREA, 702-858

Customer ID: 457

Order ID: ZE1098

Customer Name: Franklin Samson

Order Date: 22.03.2020

Customer Address: 51, La Casa Street

Associate ID: 236

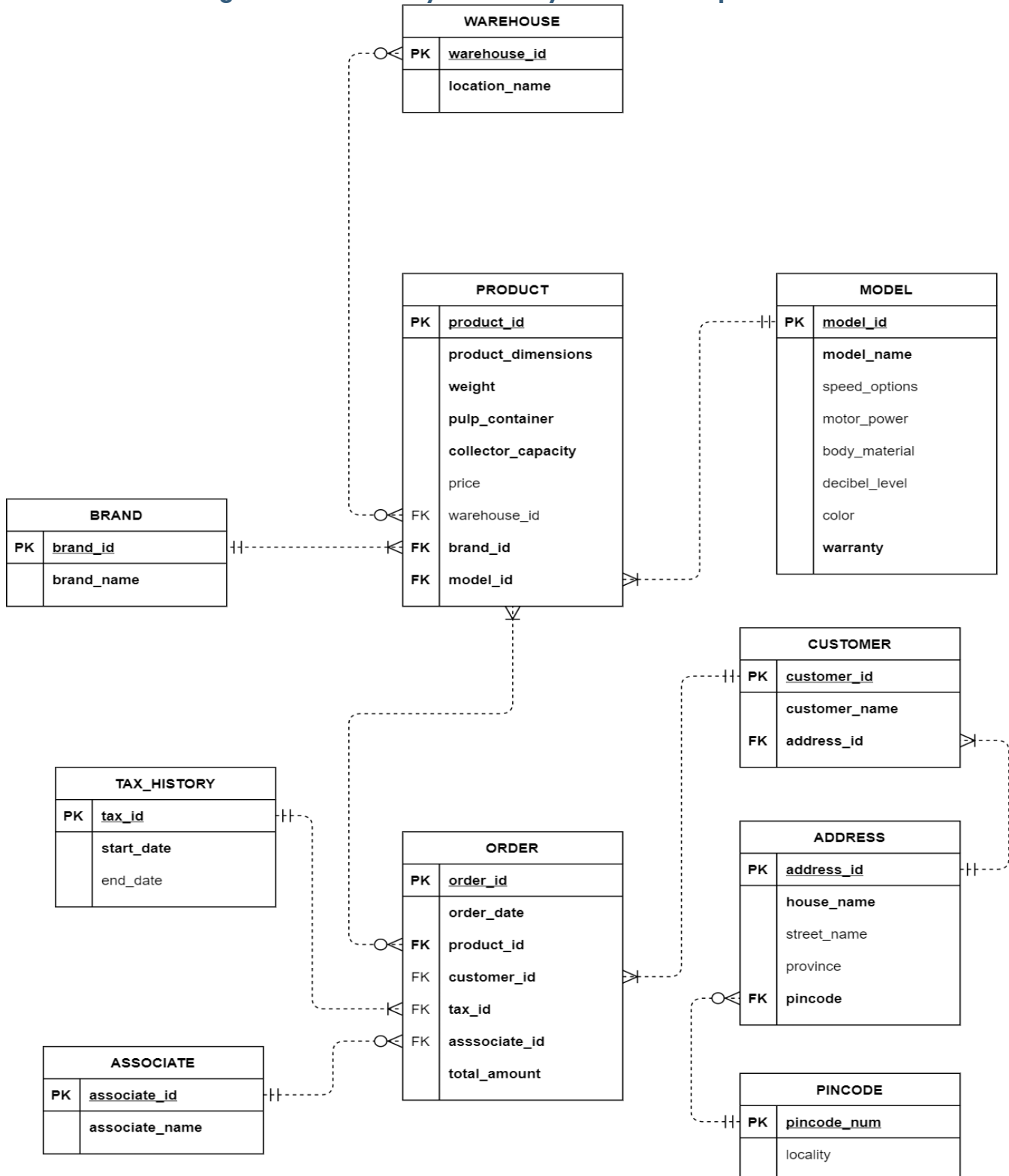
Robinvale, Mumbai - 42211

Associate Name: Dave Smith

Sr No.	Product ID	Model	Brand	Capacity	Qty	Unit Price	Extended Price
1.	EJ10789H	Cold Press	Kuvings	2 liters	3	2500	7500
2.	ZE266C	Manual	Bajaj	1 liter	2	1200	2400
3.	CO389D	Centrifugal	Kent	10 liters	1	15000	15000
4.	EB1593V	Automatic	Boss	1.5 liters	2	1800	3600
5.	JY369S	Slow Juicer	Rico	0.5 liter	5	700	3500
						Subtotal	32000
						Tax	1600
						Invoice Total	33600

3. ENTITY RELATIONSHIP DIAGRAMS

3.1 ER Diagram with many-to-many relationship



Each PRODUCT must have one and only one BRAND.
Each BRAND must have one or more PRODUCTS.

Each PRODUCT must have one and only one MODEL.
Each MODEL must have one or more PRODUCTS.

Each PRODUCT may be stored at zero, one or more WAREHOUSE.
Each WAREHOUSE may store zero, one or more PRODUCTS.

Each ORDER must have one or more PRODUCTS.
Each PRODUCT may have zero, one or more ORDERS.

Each ORDER must have one and only one CUSTOMER.
Each CUSTOMER must have one or more ORDERS.

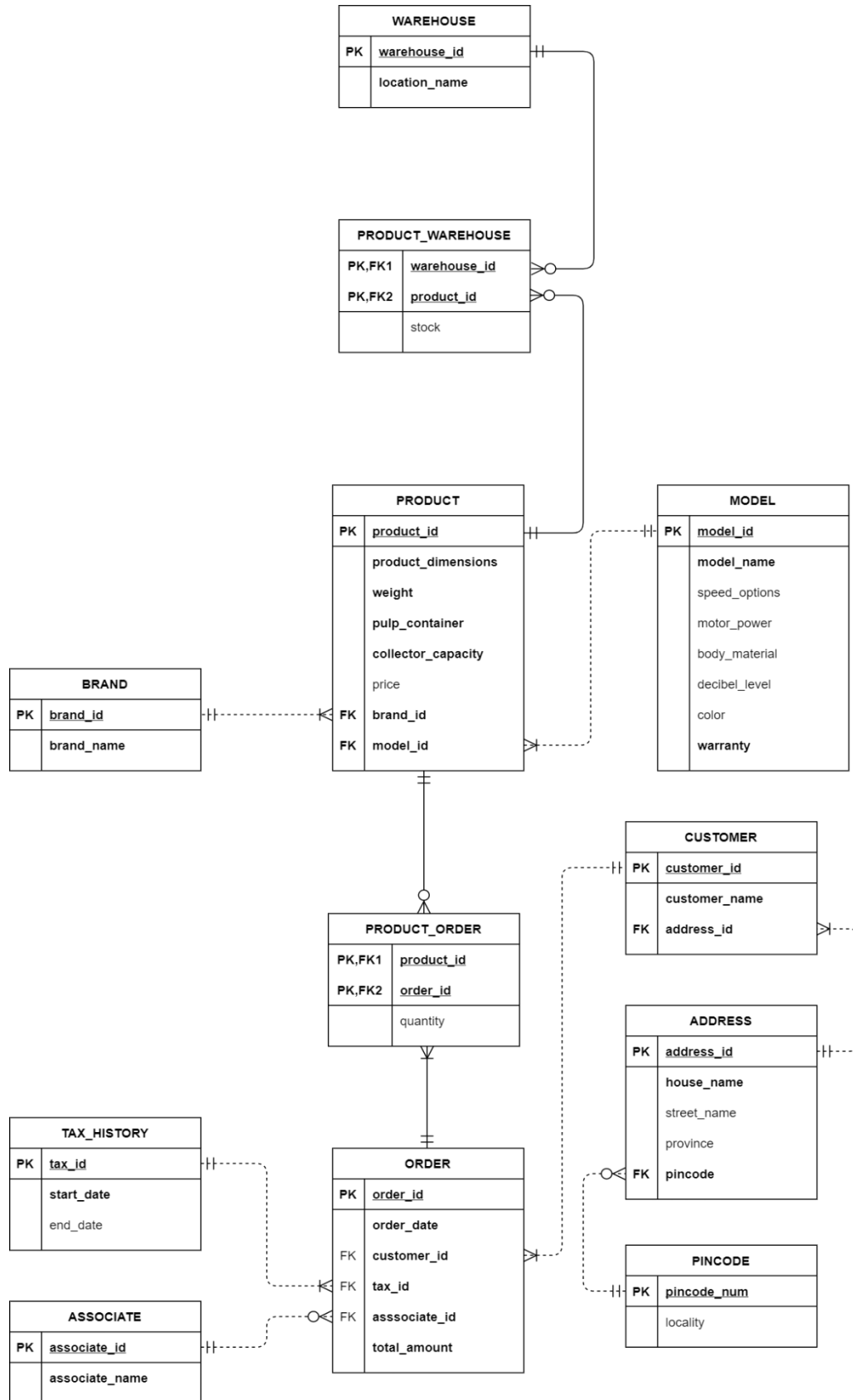
Each ORDER must have one and only one TAX_HISTORY
Each TAX_HISTORY must have one or more ORDERS.

Each ORDER must have one and only one ASSOCIATE.
Each ASSOCIATE may have zero, one or more ORDERS.

Each CUSTOMER must have one and only one ADDRESS.
Each ADDRESS must have one or more CUSTOMERS.

Each ADDRESS must have one and only one PINCODE.
Each PINCODE may have zero, one or more ADDRESSs.

3.2 ER Diagram with resolved many-to-many relationship



Each PRODUCT must have one and only one BRAND.

Each BRAND must have one or more PRODUCTS.

Each PRODUCT must have one and only one MODEL.

Each MODEL must have one or more PRODUCTS.

Each WAREHOUSE may have zero, one or more PRODUCT_WAREHOUSE.

Each PRODUCT_WAREHOUSE must have one and only one WAREHOUSE.

Each PRODUCT may have zero, one or more PRODUCT_WAREHOUSE.

Each PRODUCT_WAREHOUSE must have one and one PRODUCT.

Each PRODUCT may have zero, one or more PRODUCT_ORDER.

Each PRODUCT_ORDER must have one and only one PRODUCT.

Each ORDER must have one or more PRODUCT_ORDER.

Each PRODUCT_ORDER must have one and only one ORDER.

Each ORDER must have one and only one CUSTOMER.

Each CUSTOMER must have one or more ORDERS.

Each ORDER must have one and only one TAX_HISTORY.

Each TAX_HISTORY must have one or more ORDERS.

Each ORDER must have one and only one ASSOCIATE.

Each ASSOCIATE may have zero, one or more ORDERS.

Each CUSTOMER must have one and only one ADDRESS.

Each ADDRESS must have one or more CUSTOMERS.

Each ADDRESS must have one and only one PINCODE.

Each PINCODE may have zero, one or more ADDRESSs.

4. RELATIONAL MODEL

WAREHOUSE				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	warehouse_id	numeric	2, 0
	*	location_name	varchar	40

PRODUCT_WAREHOUSE				
Key Type	Optionality	Column Name	Data Type	Length
pk/fk	*	warehouse_id	numeric	2,0
pk/fk	*	product_id	varchar	20
	*	stock	numeric	6,0

PRODUCT				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	product_id	varchar	20
	*	product_dimensions	varchar	20
	*	weight	varchar	20
	*	pulp_container	varchar	10
	*	collector_capacity	varchar	10
	0	price	decimal	8,2
fk	*	brand_id	numeric	3,0
fk	*	model_id	numeric	5,0

BRAND				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	brand_id	numeric	3, 0
uk	*	brand_name	varchar	30

MODEL				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	model_id	numeric	5,0
uk	*	model_name	varchar	30
	0	speed_options	numeric	2,0
	0	motor_power	numeric	3,0
	0	body_material	varchar	30
	0	decibel_level	decimal	4,1
	0	color	varchar	15
	*	warranty	varchar	15

ORDER				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	order_id	varchar	10
	*	order_date	date	10
fk	*	customer_id	numeric	5,0
fk	*	tax_id	numeric	4,0
fk	*	associate_id	numeric	3,0
	*	total_amount	numeric	10,2

PRODUCT_ORDER				
Key Type	Optionality	Column Name	Data Type	Length
pk/fk	*	order_id	varchar	10
pk/fk	*	product_id	varchar	20
	*	quantity	numeric	5,0

TAX_HISTORY				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	tax_id	numeric	4, 0
	*	start_date	date	10
	0	end_date	date	10

ASSOCIATE				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	associate_id	numeric	3, 0
	*	associate_name	varchar	50

CUSTOMER				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	customer_id	decimal	5,0
	*	customer_name	varchar	50
fk	*	address_id	decimal	5,2

ADDRESS				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	address_id	decimal	5,2
	0	house_name	varchar	20
	*	street_name	varchar	30
	0	province	varchar	20
fk	*	pincode	varchar	10

PINCODE				
Key Type	Optionality	Column Name	Data Type	Length
pk	*	pincode	varchar	10
	0	locality	varchar	30

5. BUSINESS RULES

WAREHOUSE		
Column Name	Data Type	Business Rule
warehouse_id	numeric	pk NOT NULL
location_name	varchar	NOT NULL

PRODUCT_WAREHOUSE		
Column Name	Data Type	Business Rule
warehouse_id	numeric	pk/fk NOT NULL
product_id	varchar	pk/fk NOT NULL
stock	numeric	check stock >= 0

PRODUCT		
Column Name	Data Type	Business Rule
product_id	varchar	pk NOT NULL
product_dimensions	varchar	NOT NULL
weight	varchar	NOT NULL
pulp_container	varchar	NOT NULL
collector_capacity	varchar	NOT NULL
price	decimal	NULL Capable
brand_id	numeric	fk NOT NULL
model_id	numeric	fk NOT NULL

BRAND		
Column Name	Data Type	Business Rule
brand_id	numeric	pk NOT NULL
brand_name	varchar	Uk NOT NULL

MODEL		
Column Name	Data Type	Business Rule
model_id	numeric	pk NOT NULL
model_name	varchar	Uk NOT NULL
speed_options	numeric	Null Capable Check speed_options between 1 and 5
motor_power	numeric	Null Capable
body_material	varchar	Null Capable
decibel_level	decimal	Null Capable
color	varchar	Null Capable
warranty	varchar	NOT NULL

ASSOCIATE		
Column Name	Data Type	Business Rule
associate_id	numeric	pk NOT NULL
associate_name	varchar	NOT NULL

PRODUCT_ORDER		
Column Name	Data Type	Business Rule
order_id	varchar	pk/fk NOT NULL
product_id	varchar	pk/fk NOT NULL
quantity	numeric	NOT NULL Default 1 Check quantity >=1

TAX_HISTORY		
Column Name	Data Type	Business Rule
tax_id	numeric	pk NOT NULL
start_date	date	NOT NULL
end_date	date	Null Capable

ORDER		
Column Name	Data Type	Business Rule
order_id	varchar	pk NOT NULL
order_date	date	NOT NULL Default current date
customer_id	numeric	fk NOT NULL
tax_id	numeric	fk NOT NULL
associate_id	numeric	fk NOT NULL
total_amount	numeric	NOT NULL Check total_amount >= 100

CUSTOMER		
Column Name	Data Type	Business Rule
customer_id	decimal	pk NOT NULL
customer_name	varchar	NOT NULL
address_id	decimal	fk NOT NULL

ADDRESS		
Column Name	Data Type	Business Rule
address_id	decimal	pk NOT NULL
house_name	varchar	Null Capable
street_name	varchar	NOT NULL
city	varchar	NOT NULL
province	varchar	Null Capable
pincode	varchar	fk NOT NULL

PINCODE		
Column Name	Data Type	Business Rule
pincode	varchar	pk NOT NULL
locality	varchar	Null Capable