

SQL BASED DATA ARCHITECTURES II

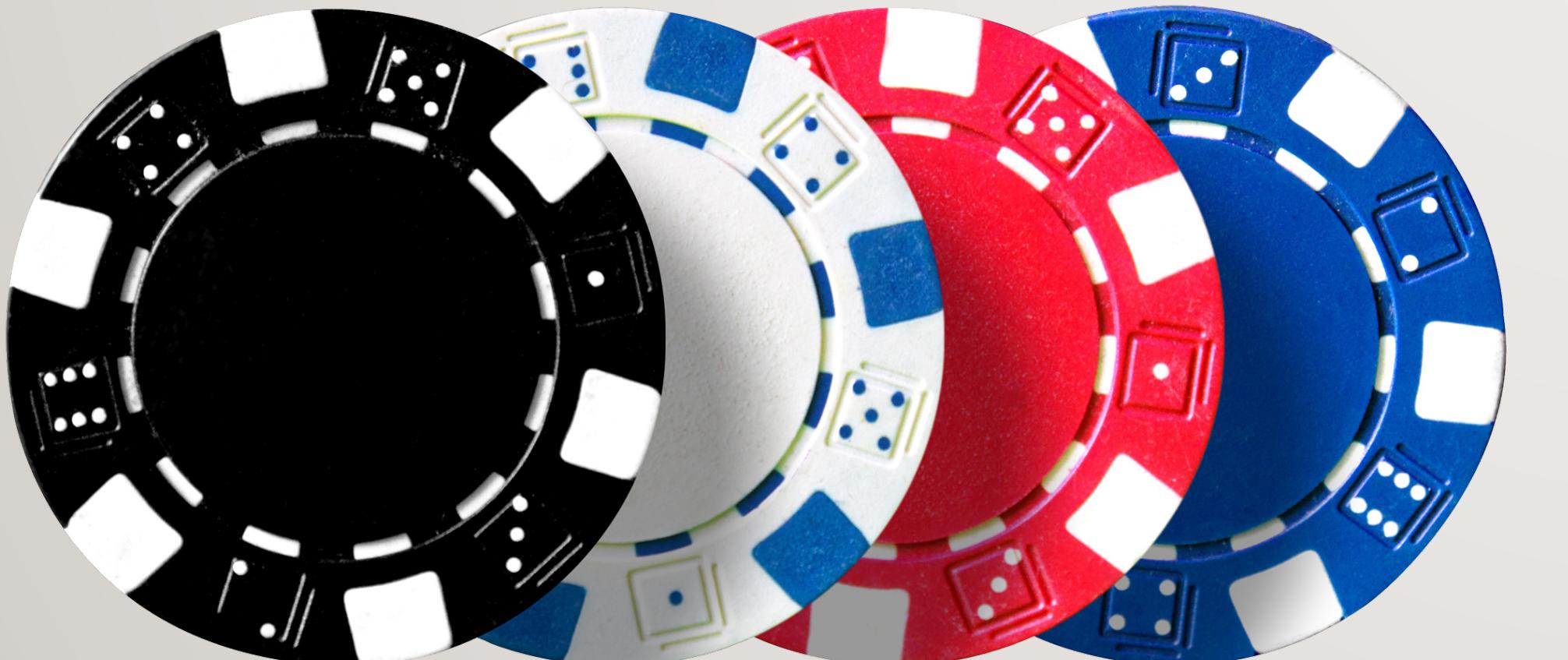
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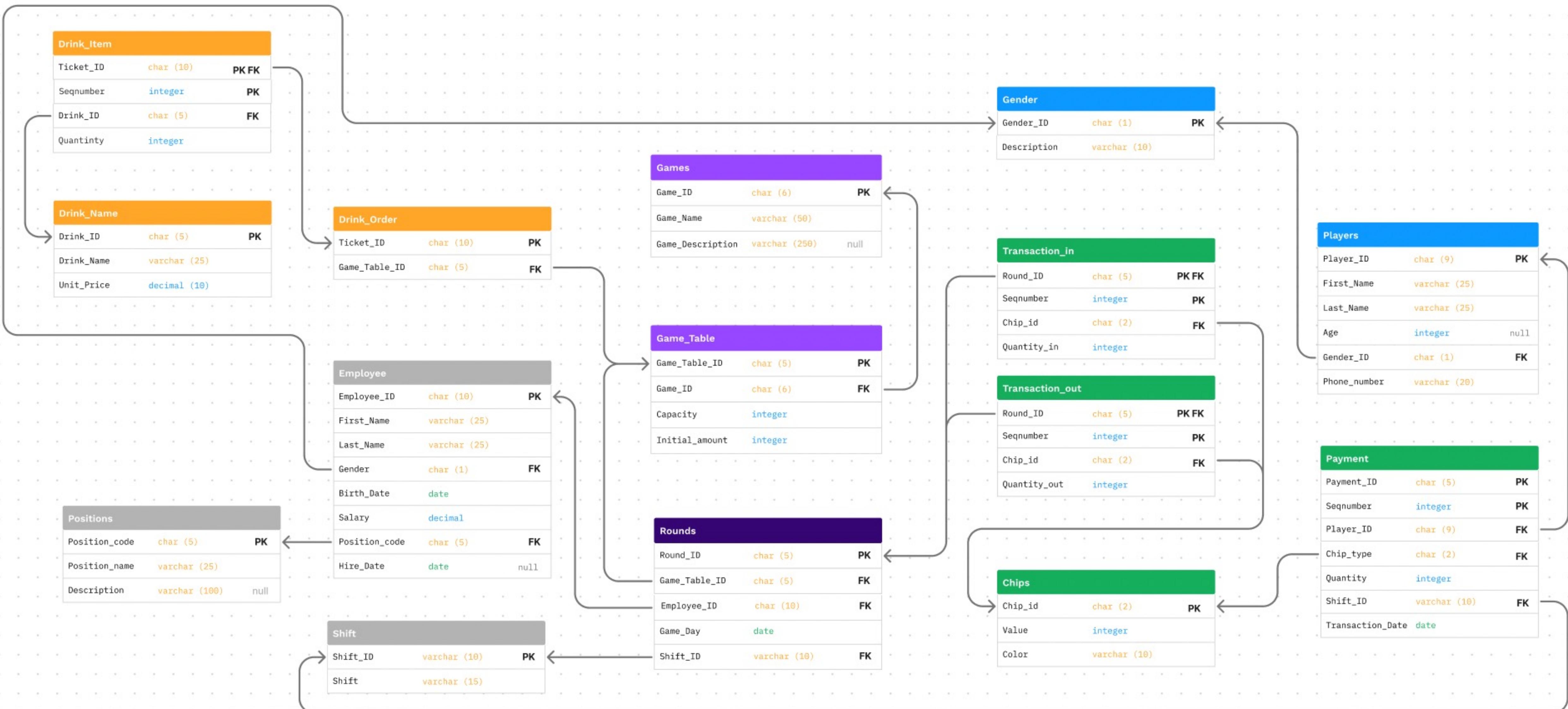
CASINO EXPLANATION

Our model has a total of 15 tables. It represents a Casino (the only casino we own) that can only be paid by cash.

The casino has staff divided into different job positions.
Players buy chips that they will use to play the games. For each round, the player will make the bets, it will have two outcomes: win or loose.

For every round we compute how many chips people bet and how much money the casino gives to the winners.

SCRATCH TABLE MODEL



SQL MODEL

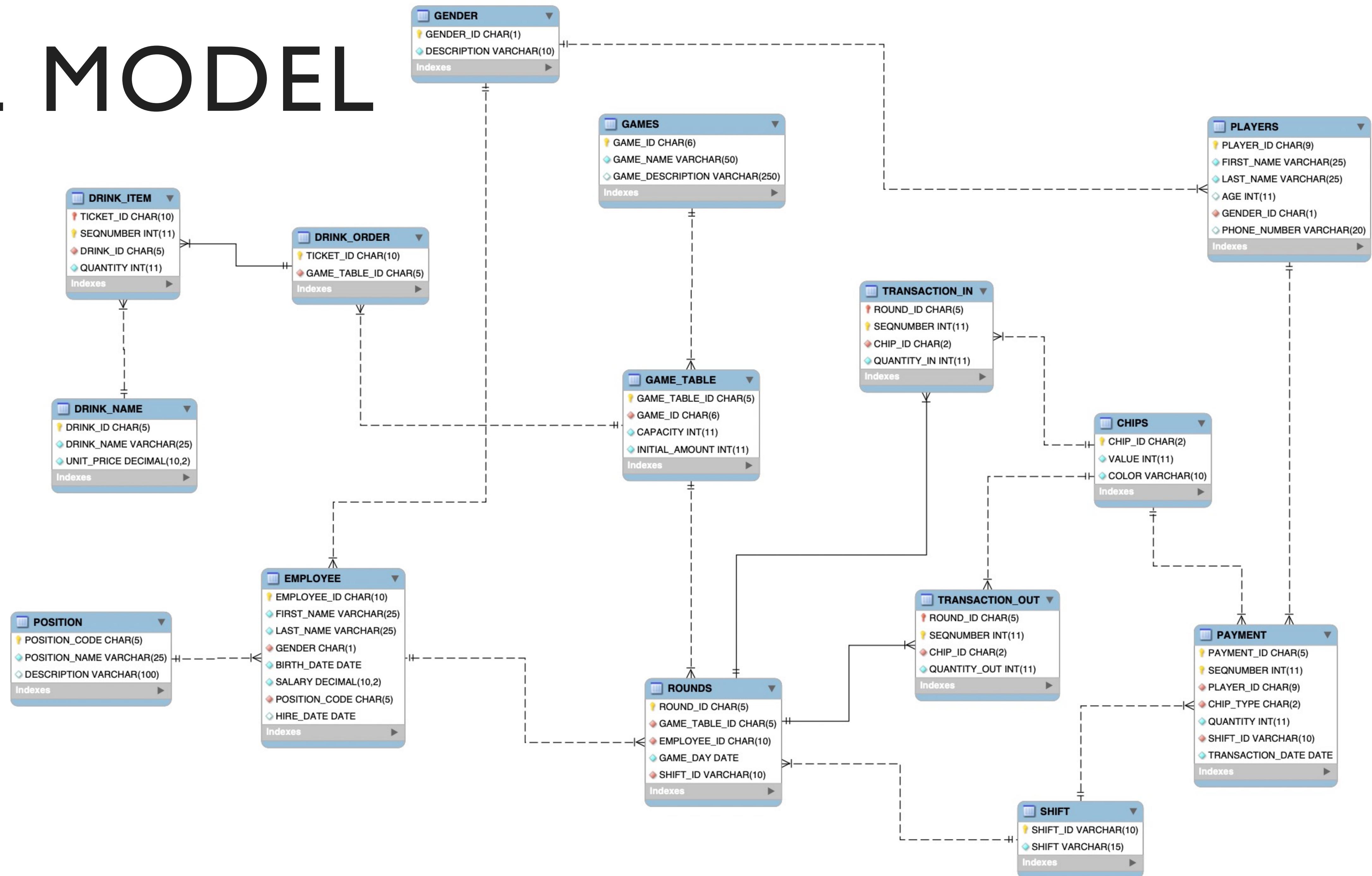


TABLE CONTENT EXPLANATION

GAME RELATED TABLES

ROUND_ID	The number of the round, it is a unique value
GAME_TABLE_ID	The ID of the game table
GAME_ID	The ID of the game, before it is split into tables
GAME_NAME	The name of the game
GAME_DESCRIPTION	A brief description explaining what the game is about
CAPACITY	The capacity of people each table has
INITIAL_AMOUNT	The amount of chips that each table starts with

EMPLOYEE RELATED TABLES

EMPLOYEE_ID	A unique number that identifies each employee
POSITION_CODE	A unique value that identifies each position, more than one employee can have the same position.
SHIFT_ID	A unique number that identifies each shift
SHIFT	The shifts the casino has: morning - afternoon and night

TABLE CONTENT EXPLANATION

PLAYER RELATED TABLES

PLAYER_ID	The player_id is a unique ID that will be registered each time that the player buys chips. It is unique for each player.
PAYMENT_ID	The initial transaction the players do when they buy chips. The casino only accepts payments in cash.

TRANSACTION RELATED TABLES

CHIP_ID & CHIP_TYPE	A unique code each chip type has. Chip types are represented by their value / color
QUANTITY_IN	The sum of the chips (quantity and price) that ALL the players combined in one round give to the dealer
QUANTITY_OUT	The sum of the chips (quantity and price) that the dealer in one round returns to ALL the players combined

DRINK RELATED TABLES

TICKET_ID	Unique number that is generated each time a player buys one or more drinks
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RELATIONSHIP TYPES



PAYMENT	Many to One	PLAYERS	Various payments can be made by one player
PAYMENT	Many to One	CHIPS	Each payment can have many different chips
PAYMENT	Many to One	SHIFT	Several payments can be done in one single shift
ROUNDS	Many to One	SHIFT	Several rounds can be played on one single shift
ROUNDS	Many to One	EMPLOYEE	Several rounds can be managed by the same dealer
ROUNDS	Many to One	GAMES_TABLE	Several rounds can be played in one single game table
TRANS_OUT	Many to One	ROUNDS	Several transactions can be made on one single round
PLAYERS	Many to One	GENDER	All the players can have one single gender each
DRINK_ORDER	Many to One	GAME_TABLE	Several drink orders can be done in one single game table

RELATIONSHIP TYPES



GAME_TABLE	Many to One	GAMES	Various game tables can contain one single game each
TRANS_IN	Many to One	ROUNDS	Several transactions can be made on one single round
TRANS_IN	Many to One	CHIPS	Each transaction can have many different chips
TRANS_OUT	Many to One	CHIPS	Each transaction can have many different chips
DRINK_ITEM	Many to One	DRINK_ORDER	Many drinks can be made in one single order
DRINK_ITEM	Many to One	DRINK_NAME	Many drink items can have the same unique name
EMPLOYEE	Many to One	GENDER	Different employees can have the same gender, but one
EMPLOYEE	Many to One	POSITION	Different employees can have the same position, but one

QUERIES

Which are the top 3 demanding casino games?



```
SELECT g.GAME_NAME, COUNT(r.ROUND_ID) AS NUM_ROUNDS  
FROM GAMES g INNER JOIN GAME_TABLE t ON  
(g.GAME_ID=t.GAME_ID)  
INNER JOIN ROUNDS r ON (t.GAME_TABLE_ID=r.GAME_TABLE_ID)  
GROUP BY g.GAME_ID  
ORDER BY COUNT(r.ROUND_ID) DESC  
LIMIT 3;
```

	GAME_NAME	NUM_ROUNDS
▶	Poker	18
	Baccarat	15
	Roulette	13

QUERIES

Show the average number of chips per type of game and per day.

```
SELECT g.GAME_NAME, r.GAME_DAY,  
((SELECT SUM(CHIP_ID) FROM TRANSACTION_IN)/(SELECT COUNT(GAME_DAY) ROUNDS)) AS AVERAGE  
FROM GAMES g INNER JOIN GAME_TABLE t ON (g.GAME_ID=t.GAME_ID)  
INNER JOIN ROUNDS r ON (t.GAME_TABLE_ID=r.GAME_TABLE_ID)  
INNER JOIN TRANSACTION_IN a ON (r.ROUND_ID=a.ROUND_ID)  
GROUP BY g.GAME_ID, r.GAME_DAY;
```



	GAME_NAME	GAME_DAY	AVERAGE
▶	Baccarat	2022-03-04	50
	Baccarat	2022-03-05	75
	Baccarat	2022-03-02	50
	Baccarat	2022-03-06	50
	Baccarat	2022-03-03	75
	Baccarat	2022-03-07	150
	Baccarat	2022-03-01	150
	Blackjack	2022-03-02	75
	Blackjack	2022-03-03	150
	Blackjack	2022-03-07	150
	Roulette	2022-03-03	37.5
	Roulette	2022-03-02	75
	Roulette	2022-03-04	150
	Roulette	2022-03-05	75
	Roulette	2022-03-01	150
	Roulette	2022-03-06	75
	Roulette	2022-03-07	150
	Poker	2022-03-07	37.5
	Poker	2022-03-02	37.5
	Poker	2022-03-01	75
	Poker	2022-03-05	150
	Poker	2022-03-04	25
	Poker	2022-03-03	150

QUERIES



Which games favors purchasing drinks?

```
SELECT GAME_NAME, COUNT(d.QUANTITY) AS DRINKS_SOLD  
FROM GAMES g INNER JOIN GAME_TABLE t ON (g.GAME_ID=t.GAME_ID)  
INNER JOIN DRINK_ORDER o ON (t.GAME_TABLE_ID=o.GAME_TABLE_ID)  
INNER JOIN DRINK_ITEM d ON (o.TICKET_ID=d.TICKET_ID)  
GROUP BY g.GAME_ID  
ORDER BY COUNT(d.QUANTITY) DESC;
```

	GAME_NAME	DRINKS_SOLD
▶	Poker	21
	Blackjack	7
	Roulette	7
	Baccarat	5

QUERIES

What is the easiest game to win money and at which table? Let's suppose that each table begins each day with an amount of chips.

```
SELECT g.GAME_NAME, t.GAME_TABLE_ID, ROUND((SUM(b.CHIP_ID * b.QUANTITY_OUT * c.VALUE)/(COUNT(b.ROUND_ID))), 2) AS AMOUNT_WON_PER_ROUND  
FROM GAMES g INNER JOIN GAME_TABLE t ON (g.GAME_ID=t.GAME_ID)  
INNER JOIN ROUNDS r ON (t.GAME_TABLE_ID=r.GAME_TABLE_ID)  
INNER JOIN TRANSACTION_OUT b ON (r.ROUND_ID=b.ROUND_ID)  
INNER JOIN CHIPS c ON (b.CHIP_ID=c.CHIP_ID)  
GROUP BY t.GAME_TABLE_ID  
ORDER BY ROUND((SUM(b.CHIP_ID * b.QUANTITY_OUT * c.VALUE)/(COUNT(b.ROUND_ID))), 2) DESC;
```

GAME_NAME	GAME_TABLE_ID	AMOUNT_WON_PER_ROUND
Baccarat	T0001	4377.97
Poker	T0005	3716.76
Poker	T0006	3532.69
Blackjack	T0002	3249.4
Roulette	T0003	3204.68
Roulette	T0004	2250.87



QUERIES



Business question #1: who are the Top 3 dealers in our Casino?
(Considering the best dealer is the one that manages more money per round)

```
SELECT e.FIRST_NAME, e.LAST_NAME, ROUND((SUM(a.CHIP_ID *  
a.QUANTITY_IN * c.VALUE)/  
(COUNT(a.ROUND_ID))), 2) AS AMOUNT_PLAYED_PER_ROUND  
FROM EMPLOYEE e INNER JOIN ROUNDS r ON  
(e.EMPLOYEE_ID=r.EMPLOYEE_ID)  
INNER JOIN TRANSACTION_IN a ON (r.ROUND_ID=a.ROUND_ID)  
INNER JOIN CHIPS c ON (a.CHIP_ID=c.CHIP_ID)  
GROUP BY e.EMPLOYEE_ID  
ORDER BY ROUND((SUM(a.CHIP_ID * a.QUANTITY_IN *  
c.VALUE)/(COUNT(a.ROUND_ID))), 2) DESC  
LIMIT 3;
```

	FIRST_NAME	LAST_NAME	AMOUNT_PLAYED_PER_ROUND
►	Javier	Gonzalez	7013.78
	Carmen	Garcia	6676.24
	Eva	Lara	6059.14

QUERIES

Business question #2: which are the games where people bet more money per round?

```
SELECT g.GAME_NAME,  
ROUND(SUM(a.CHIP_ID * a.QUANTITY_IN * c.VALUE)/COUNT(a.ROUND_ID), 2) AS AVG_AMOUNT_PER_ROUND  
FROM GAMES g INNER JOIN GAME_TABLE t ON (g.GAME_ID=t.GAME_ID)  
INNER JOIN ROUNDS r ON (t.GAME_TABLE_ID=r.GAME_TABLE_ID)  
INNER JOIN TRANSACTION_IN a ON (r.ROUND_ID=a.ROUND_ID)  
INNER JOIN CHIPS c ON (a.CHIP_ID=c.CHIP_ID)  
GROUP BY g.GAME_NAME  
ORDER BY ROUND(SUM(a.CHIP_ID * a.QUANTITY_IN * c.VALUE)/COUNT(a.ROUND_ID), 2) DESC;
```

GAME_NAME	AVG_AMOUNT_PER_ROUND
Roulette	6569.74
Baccarat	5816.85
Poker	5695.59
Blackjack	5006.3



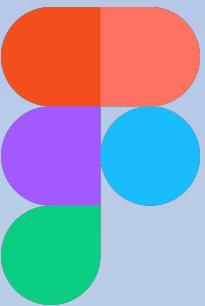
WE KINDLY INVITE YOU TO VIEW

OUR FULL PROCESS

Following this link you will have Access to our working schema and also to the DDL and DML of our project to be able to understand better what we did.

If you have any issues logging in, please contact any member of Group B

MADE WITH FIGMA:





**¡THANK YOU
VERY MUCH!**

-GROUP B -