Team Details (ID, Name, Class DS1, CASE2, AP3)

Student ID & Class:	19353946 CA218
Student Name:	Ciara Lynch
Student ID & Class:	19452724 CA218
Student Name:	Katie Clancy

PASTE the JOIN table HERE:

Cinema_ID	Customer_ID	Branch	Movie_ID	Manager	CustomerName	Avg Customer
1	705	Swords	507	Kevin Lynch	Troy Montez	400
2	2903	Navan	329	Rachel Glynn	Gabriella Bolton	200
3	1409	Galway City	914	Amy Clancy	Pauline Little	300
4	2212	Tralee	1222	Robert Clarke	Pria McGarry	100
5	511	Castlebar	1105	Paula Byrne	Ned Jonas	40
6	2408	Ennis	824	Michael Cahill	Beth O'Connor	80
7	410	Cork City	1014	Laura Dent	George Balmer	70
8	1910	Ashbourne	1019	Declan Riordan	Katie Tighe	150
9	2707	Drogheda	727	Dean Conroy	Fred O'Neill	250
10	106	Bray	601	Ella Conway	Lauren Bowler	300

Question 1.

Question 1A

using the algorithm we have selected the following six potential functional dependencies,

1. **Cinema_ID → Customer_ID, Branch, Movie_ID, Manger**

2. **Branch → Manager**
3. **Cinema_ID , Cusomer_Id → Movie_ID**
4. **Customer_ID → Avg Customer**
5. **CustomerName → Customer_ID**
6. **Branch → Cinema_ID**

Question 1B

These are the three functional dependencies we have chosen from our table.

1. **Cinema_ID → Customer_ID, Branch, Movie_ID, Manger**
2. **Branch → Cinema_ID**
3. **Branch → Manager**

Question 2.

Question 2A

Our Table is an example of a **1NF** First Normal Form, as it contains atomic values. The table also only contains single valued attributes as if it held multivariate values it would disallow **1NF.** the table also holds a primary key

Question 2B

The two partial dependencies of our table are the ones selected below, they are partial dependencies as they are not key attributes yet they are dependent on each other. To resolve a partial dependency we can divide the table or also remove the attribute causing the partial dependency

1. **Cinema_ID, Movie_ID → Customer_ID**
2. **Manager → Branch, Avg Customer**

Question 2C

Our transitive dependency is the one listed below as. The branch depends on the cinema ID, Average customers depend on the branch so therefore cinema ID must determine branch. To resolve a transitive dependency we decompose our joint table and create a new one and ensure they contain a branch(primary key) but however will become the foreign key in the join table and also it would take the average customer as an attribute to our new table.

1. **Cinema ID, → branch → Avg customers**

Question 3.

Our workload was split down as follows 60(Ciara) 40(Katie) , to ensure this we made a collaborative workspace on google drive which also contained our work from the last project. For part one Katie made the table and Ciara worked on the theory based question. For part two Katie worked on A Ciara took B & C. Finally Katie also did part 3.