



EAST WEST UNIVERSITY

Course Code: CSE302

Project Report

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Story: If a customer wants to create a bank account, he/she needs to provide basic information like name, address details, phone number date of birth and age after that the bank will provide a customer id all this data will be stored in Customer table. There will be Employee table where we will store employee id, name, salary, address, blood group, phone number, email, date of birth, age. Then there will a table named Branch where will be branch name, address, and its assets. Also, we will have a table name Account where we will have account name from account table, customer id from customer table, branch name and account balance. There will be a Depositor table which will contain customer id and account number. If a customer wants to take loan there will be a table named Loan where we will store the loan number, branch name and amount. And after that there will be a Borrower which will hold borrower number, customer id from customer table and the loan number from loan table. And lastly there will be a Customer_Employee table which will hold the customer id from customer table and employee id from employee table just to see which employee handling which customer.

Actual Data Objects:

Customer: CustomerID, first_name, last_name, address, phone_Number, email, date_of_birth, age.

Branch: name, address, asset.

Loan: loan_Number, branch_name, amount.

Borrower: Borrower_No, customer_id, Loan_Number.

Account: acc_Number, customer_id, Branch_Name, Balance.

Depositor: customer_id, acc_Number.

Employee: employee_Id, first_name, last_name, salary, address, blood_group, phone_number, email, date_of_birth, age.

Customer_Employee: Customer_id, Employee_Id.

Relationship among data objects:





Schema Table:

Key: AI: Auto Incremented ID

Table 1: Schema table for Customer

Customer		
Attributes	Types	Size
customer_id	number	AI
first_name	varchar	250
last_name	varchar	250
address	varchar	250
Phone_Number	number	11
email	varchar	250
Date_of_birth	Date-time	
age	number	3

Table 2: Schema table for Branch

Branch		
Attributes	Types	Size
name	varchar	250
address	varchar	250
asset	number	AI

Table 3: Schema table for Loan

Loan		
Attributes	Types	Size
loan_Number	number	6
branch_name	varchar	250
amount	number	AI

Table 4: Schema table for Borrower

Borrower		
Attributes	Types	Size
Borrower_No	number	AI
customer_id	number	AI
loan_Number	number	6

Table 5: Schema table for Account

Account		
Attributes	Types	Size
customer_id	number	AI
acc_number	number	AI
Branch_Name	varchar	250
balance	number	AI

Table 6: Schema table for Depositor

Depositor		
Attributes	Types	Size
customer_id	number	AI
acc_Number	number	AI

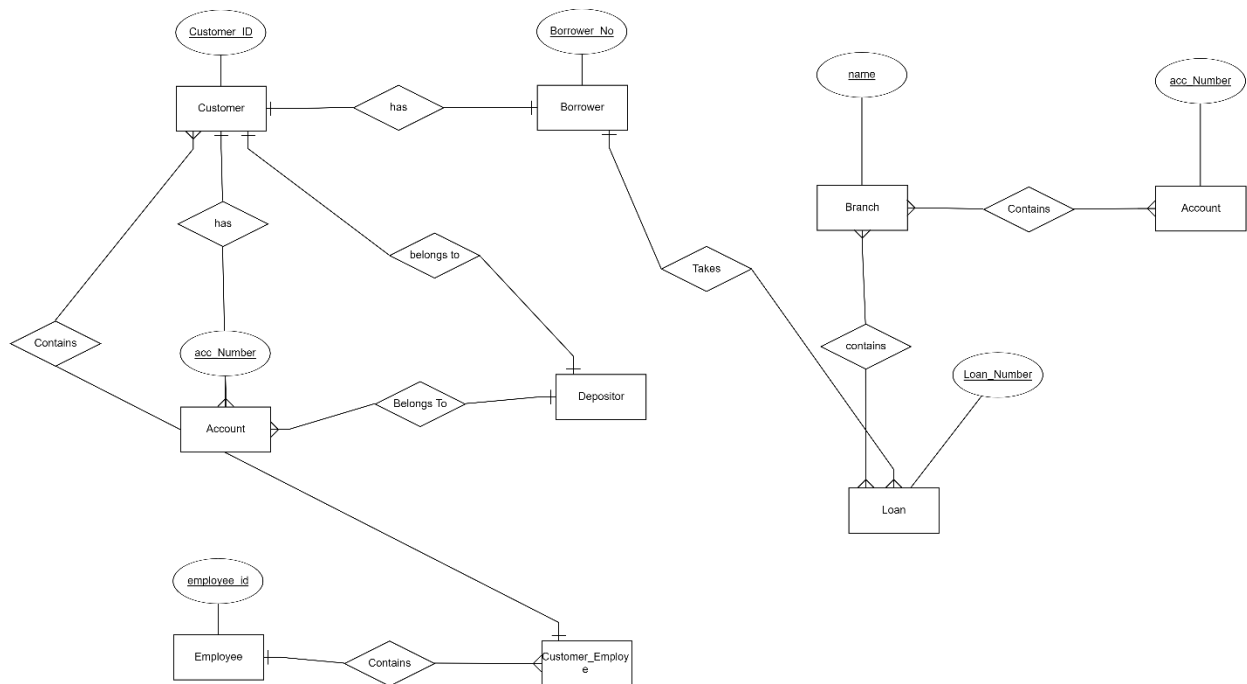
Table 7: Schema table for Employee

Employee		
Attributes	Types	Size
employee_id	number	AI
first_name	varchar	250
last_name	varchar	250
salary	number	10
address	varchar	250
blood_group	varchar	250
phone_Number	number	11
email	varchar	250
Date_of_birth	Date-time	
age	number	3

Table 8: Schema table for Customer_Employee

Depositor		
Attributes	Types	Size
customer_id	number	AI
Employee_ID	number	AI

Entity Relation:



Creating the database **Banking_management** and creating the tables from given ER diagram:

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> account		6	InnoDB	utf8mb4_general_ci	48.0 K1B	-
<input type="checkbox"/> borrower		5	InnoDB	utf8mb4_general_ci	48.0 K1B	-
<input type="checkbox"/> branch		5	InnoDB	utf8mb4_general_ci	16.0 K1B	-
<input type="checkbox"/> customer		5	InnoDB	utf8mb4_general_ci	16.0 K1B	-
<input type="checkbox"/> customer_employee		5	InnoDB	utf8mb4_general_ci	48.0 K1B	-
<input type="checkbox"/> depositor		6	InnoDB	utf8mb4_general_ci	48.0 K1B	-
<input type="checkbox"/> employee		5	InnoDB	utf8mb4_general_ci	32.0 K1B	-
<input type="checkbox"/> loan		7	InnoDB	utf8mb4_general_ci	32.0 K1B	-
8 tables	Sum	44	InnoDB	utf8mb4_general_ci	288.0 K1B	0 B

Adding the attributes in table **account** which have four attributes, one primary key and two foreign key:

Primary key(acc_number),foreign key(Customer_id,branch_Name)

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/> 1	acc_Number	int(11)			No	None			
<input type="checkbox"/> 2	Customer_ID	int(11)			No	None			
<input type="checkbox"/> 3	branch_Name	varchar(250)	utf8mb4_general_ci		No	None			
<input type="checkbox"/> 4	balance	int(11)			No	None			

Adding the attributes in table **borrower** which have three attributes one primary key and two foreign key: Primary key(Borrower_No), Foreign Key(Customer_id,loan_Number)

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/> 1	Borrower_No	int(11)			No	None			
<input type="checkbox"/> 2	Customer_ID	int(11)			No	None			
<input type="checkbox"/> 3	loan_Number	int(6)			No	None			

Adding the attributes in table **branch** which have three attributes one primary key:

Primary key(name)

Server: 127.0.0.1 » Database: banking_management » Table: branch

Table structure

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	name	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
2	address	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
3	asset	int(11)			No	None			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Spatial Full

Adding the attributes in table **customer** which have eight attributes one primary key:

Primary key(customer_ID)

Server: 127.0.0.1 » Database: banking_management » Table: customer

Table structure

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	Customer_ID	int(11)			No	None			Change Drop More
2	first_name	varchar(250)	utf8mb4_general_ci		Yes	NULL			Change Drop More
3	last_name	varchar(250)	utf8mb4_general_ci		Yes	NULL			Change Drop More
4	address	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
5	Phone_Number	int(11)			No	None			Change Drop More
6	email	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
7	Date_of_birth	date			No	None			Change Drop More
8	age	int(3)			No	None			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Spatial Full

Remove from central columns

Adding the attributes in table **customer_employee** which have two attributes and both are foreign key:

Foreign key(customer_ID,employee_id)

Server: 127.0.0.1 » Database: banking_management » Table: customer_employee

Table structure

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	Customer_ID	int(11)			No	None			Change Drop More
2	employee_id	int(11)			No	None			Change Drop More

Check all With selected: Browse Change Drop Primary Unique Index Spatial Full

Adding the attributes in table **depositor** which have two attributes and both are foreign key:

Foreign key(customer_ID,acc_Number)

Server: 127.0.0.1 » Database: banking_management » Table: depositor

Table structure

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 Customer_ID	int(11)			No	None			Change Drop More
<input type="checkbox"/>	2 acc_Number	int(11)			No	None			Change Drop More

Adding the attributes in table **employee** which have ten attributes one primary key:

Primary key(employee_ID)

Server: 127.0.0.1 » Database: banking_management » Table: employee

Table structure

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 employee_id	int(11)			No	None			Change Drop More
<input type="checkbox"/>	2 first_name	varchar(250)	utf8mb4_general_ci		Yes	NULL			Change Drop More
<input type="checkbox"/>	3 last_name	varchar(250)	utf8mb4_general_ci		Yes	NULL			Change Drop More
<input type="checkbox"/>	4 salary	int(10)			No	None			Change Drop More
<input type="checkbox"/>	5 address	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	6 blood_group	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	7 phone_number	int(11)			No	None			Change Drop More
<input type="checkbox"/>	8 email	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	9 date_of_birth	date			No	None			Change Drop More
<input type="checkbox"/>	10 age	int(3)			No	None			Change Drop More

☐ Check all With selected: Browse Change Drop Primary Unique Index Spatial Fulltext Remove from central columns

Adding the attributes in table **loan** which have three attributes one primary key and one foreign key:

Primary key(loan_Number), Foreign key(branch_name)

Server: 127.0.0.1 » Database: banking_management » Table: loan

Table structure

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 loan_Number	int(6)			No	None			Change Drop More
<input type="checkbox"/>	2 branch_name	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3 amount	int(11)			No	None			Change Drop More

☐ Check all With selected: Browse Change Drop Primary Unique Index Spatial

Inserting the values into table **account**:

Server: 127.0.0.1 » Database: banking_management » Table: account

Showing rows 0 - 5 (6 total, Query took 0.0008 seconds.)

`SELECT * FROM `account``

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

				acc_Number	Customer_ID	branch_Name	balance
<input type="checkbox"/>	Edit	Copy	Delete	7070	2020	One Eight Bank B-1	50000
<input type="checkbox"/>	Edit	Copy	Delete	7071	2020	One Eight Bank B-2	60000
<input type="checkbox"/>	Edit	Copy	Delete	7072	2021	One Eight Bank B-1	70000
<input type="checkbox"/>	Edit	Copy	Delete	7073	2024	One Eight Bank B-3	3000000
<input type="checkbox"/>	Edit	Copy	Delete	7074	2022	One Eight Bank B-2	150000
<input type="checkbox"/>	Edit	Copy	Delete	7075	2023	One Eight Bank B-4	26000

Check all | With selected: Edit Copy Delete Export

Inserting the values into table **borrower**:

Server: 127.0.0.1 » Database: banking_management » Table: borrower

Showing rows 0 - 4 (5 total, Query took 0.0010 seconds.)

`SELECT * FROM `borrower``

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

				Borrower_No	Customer_ID	loan_Number
<input type="checkbox"/>	Edit	Copy	Delete	5050	2020	8080
<input type="checkbox"/>	Edit	Copy	Delete	5051	2021	8081
<input type="checkbox"/>	Edit	Copy	Delete	5052	2021	8083
<input type="checkbox"/>	Edit	Copy	Delete	5053	2022	8082
<input type="checkbox"/>	Edit	Copy	Delete	5054	2024	8084

Check all | With selected: Edit Copy Delete Export

Inserting the values into table **branch**:

Server: 127.0.0.1 » Database: banking_management » Table: branch

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 4 (5 total, Query took 0.0008 seconds.)

`SELECT * FROM `branch``

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

		name	address	asset
<input type="checkbox"/>	Edit Copy Delete	One Eigt Bank B-1	825 Redwood St. Portland, ME 04103	5
<input type="checkbox"/>	Edit Copy Delete	One Eigt Bank B-2	25 Madison Road Metairie, LA 70001	7
<input type="checkbox"/>	Edit Copy Delete	One Eigt Bank B-3	53 Mill St. Springfield, PA 19064	10
<input type="checkbox"/>	Edit Copy Delete	One Eigt Bank B-4	18 Annadale Lane New City, NY 10956	1
<input type="checkbox"/>	Edit Copy Delete	One Eigt Bank B-5	80 Peninsula St. Kokomo, IN 46901	3

Check all | With selected: Edit Copy Delete Export

Inserting the values into table **customer**:

Server: 127.0.0.1 » Database: banking_management » Table: customer

Browse Structure SQL Search Insert Export Import Privileges Operations Tracking Triggers

Showing rows 0 - 4 (5 total, Query took 0.0014 seconds.)

`SELECT * FROM `customer``

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

		Customer_ID	first_name	last_name	address	Phone_Number	email	Date_of_birth	age
<input type="checkbox"/>	Edit Copy Delete	2020	Jessie	Lynn	41 Arrowhead Dr. Clayton, NC 27520	2764014	jessie@gmail.com	2001-12-09	22
<input type="checkbox"/>	Edit Copy Delete	2021	Mayra	Lawrence	460 Cobblestone Ave. Elkton, MD 21921	2587527	mayra@gmail.com	2000-09-11	23
<input type="checkbox"/>	Edit Copy Delete	2022	Cindy	Walter	161 South Buttonwood Ave. Stone Mountain, GA 3008...	177784654	cindy@gmail.com	2000-01-11	22
<input type="checkbox"/>	Edit Copy Delete	2023	Serenity	Wilkinson	44 Taylor Court Beckley, WV 25801	18436744	serenity@gmail.com	1986-01-05	35
<input type="checkbox"/>	Edit Copy Delete	2024	Dylan	Lara	7671 St Paul Drive New Kensington, PA 15068	2498754	dylan@gmail.com	1985-06-06	35

Check all | With selected: Edit Copy Delete Export

Inserting the values into table **customer_employee**:

Server: 127.0.0.1 » Database: banking_management » Table: customer_employee

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#) [Import](#) [Privileges](#) [Operations](#) [Tracking](#)

⚠ Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

✓ Showing rows 0 - 4 (5 total, Query took 0.0008 seconds.)

```
SELECT * FROM `customer_employee`
```

☐ Profiling [\[Edit inline \]](#) [\[Edit \]](#) [\[Explain SQL \]](#) [\[Create PHP code \]](#) [\[Refresh \]](#)

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

Customer_ID	employee_id
2020	1010
2021	1011
2022	1012
2023	1013
2024	1515

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Inserting the values into table **depositor**:

Server: 127.0.0.1 » Database: banking_management » Table: depositor

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#) [Import](#) [Privileges](#) [Operations](#)

⚠ Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

✓ Showing rows 0 - 5 (6 total, Query took 0.0006 seconds.)

```
SELECT * FROM `depositor`
```

☐ Profiling [\[Edit inline \]](#) [\[Edit \]](#) [\[Explain SQL \]](#) [\[Create PHP code \]](#) [\[Refresh \]](#)

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

Customer_ID	acc_Number
2020	7070
2020	7071
2021	7072
2024	7073
2022	7074
2023	7075

Inserting the values into table **employee**:

Server: 127.0.0.1 » Database: banking_management » Table: employee

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#) [Import](#) [Privileges](#) [Operations](#) [Tracking](#) [Triggers](#)

Showing rows 0 - 4 (5 total. Query took 0.0008 seconds.)

`SELECT * FROM `employee``

☐ Profiling [\[Edit inline \]](#) [\[Edit \]](#) [\[Explain SQL \]](#) [\[Create PHP code \]](#) [\[Refresh \]](#)

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

				employee_id	first_name	last_name	salary	address	blood_group	phone_number	email	date_of_birth	age
<input type="checkbox"/>				1010	Kimberly	Roy	600000	7657 Blue Spring St. Bronx, NY 10451	B+	2888872	Kimberly@gmail.com	1986-02-08	35
<input type="checkbox"/>				1011	Heidy	Kelly	700000	937 Pearl Street Oconomowoc, WI 53066	B-	18954572	heidy@gmail.com	1985-05-15	36
<input type="checkbox"/>				1012	Sadie	Skinner	800000	213 Lyme Lane Evanston, IL 60201	A+	1865872	sadie@gmail.com	1980-02-08	42
<input type="checkbox"/>				1013	Juliana	Mack	500000	303 W. Rose Court Muskegon, MI 49441	O+	26947872	mack@gmail.com	1983-10-09	37
<input type="checkbox"/>				1515	Kirsten	Lutz	900000	7399 NW. Princeton St. Wilmette, IL 60091	O-	2856442	lutz@gmail.com	1980-12-12	40

☐ Check all | With selected:

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Query results overview

Inserting the values into table **loan**:

Server: 127.0.0.1 » Database: banking_management » Table: loan

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#) [Import](#)

✓ Showing rows 0 - 6 (7 total, Query took 0.0007 seconds.)

```
SELECT * FROM `loan`
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all | Number of rows: 25 | Filter rows: | Sort by key: N

+ Options

				loan_Number	branch_name	amount
<input type="checkbox"/>				8080	One Eigt Bank B-1	100000
<input type="checkbox"/>				8081	One Eigt Bank B-1	600000
<input type="checkbox"/>				8082	One Eigt Bank B-3	300000
<input type="checkbox"/>				8083	One Eigt Bank B-4	800000
<input type="checkbox"/>				8084	One Eigt Bank B-2	700000
<input type="checkbox"/>				8085	One Eigt Bank B-2	200000
<input type="checkbox"/>				8086	One Eigt Bank B-5	100000

☐ Check all | With selected: Edit Copy Delete Export