

Practical-1: Create a table and apply Integrity Constraints

1. Create Database:

Bank_System_{RollNo}

2. Create following tables;

1.) Table Name: Bank_Master

Sr. No.	Column Name	Datatype(size)	Constraint
1	Bank_Id	int	PK
2	Bank_Name	varchar(40)	
3	Bank_ShortName	varchar(10)	

2.) Table Name: Branch_Master

Sr. No.	Column Name	Datatype(size)	Constraint
1	Branch_Id	int	PK
2	Branch_Name	varchar(30)	
3	Branch_IFSC	varchar(11)	UNIQUE
4	Bank_Id	int	FK (Bank_Master → Bank_Id)

3.) Table Name: Employee_Master

Sr. No.	Column Name	Datatype(size)	Constraint
1	Emp_No	int	PK
2	Branch_IFSC	varchar(11)	FK (Branch_Master → Branch_IFSC)
3	Emp_FullName	varchar(30)	
4	Emp_Designation	varchar(25)	
5	Emp_Manager_No	bigint	
6	Emp_Salary	float	

4.) Table Name: Customer_Master

Sr. No.	Column Name	Datatype(size)	Constraint
1	Cust_Id	int	PK
2	Cust_FullName	varchar(30)	
3	Cust_DOB	date	
4	Cust_Address	varchar(80)	
5	Cust_MobileNo	bigint	
6	Cust_EmailID	varchar(30)	
7	Cust_City	varchar(20)	

5.) Table Name: Account_Master

Sr. No.	Column Name	Datatype(size)	Constraint
1	Acc_No	bigint	PK
2	Cust_Id	int	FK (Customer_Master → Cust_Id)

3	Acc_Type	varchar(7)	CHECK (SB -> Saving, CR -> Current)
4	Branch_IFSC	varchar(11)	FK (Branch_Master → Branch_IFSC)

6.) Table Name: Transaction_Master

Sr. No.	Column Name	Datatype(size)	Constraint
1	Tran_Id	int	PK
2	Tran_Acc_No	bigint	FK (Account_Master → Acc_No)
3	Tran_Date	datetime	
4	Tran_Type	varchar(7)	CHECK (CH -> Cash, CQ -> Cheque, OL -> Online, RG -> RTGS)
5	Tran_Amount_Debit_Credit	varchar(6)	CHECK (D -> Debit, C -> Credit)
6	Tran_Amount	FLOAT	

3. Insert the following records in tables which are created during the Practical No. 1
1.) Bank_Master

Bank_Id	Bank_Name	Bank_ShortName
101	State Bank of India	SBI
102	Bank of India	BOI
103	Bank of Baroda	BOB
104	Punjab National Bank	PNB
105	Central Bank of India	CBI

2.) Branch_Master

Branch_Id	Branch_Name	Branch_IFSC	Bank_Id
201	Green Chowk, Morbi	SBI101MB201	101
202	Lati Plot, Morbi	CBI105MB202	105
203	Ravapar Road, Morbi	BOI102MB203	102
204	Kalawad Road, Rajkot	PNB104RJ204	104
205	Nanavati Chowk, Rajkot	BOB103RJ205	103

206	Lal Darwaja, Ahemdabad	BOB103AM206	103
207	Zanjar Cinema Road, Wankaner	PNB104WK207	104
208	AksharDham Road, Ahemdabad	CBI105AM208	105
209	Maharana Pratap Circle, Morbi	PNB104MB209	104
210	Race Course Ring Road, Rajkot	SBI101RJ210	101

3.) Employee_Master

Emp_No	Branch_IFSC	Emp_FullName	Emp_Designation	Emp_Manager_No	Emp_Salary
301	SBI101MB201	Shashikant Das	Bank Manager	9876543210	250000
302	BOI102MB203	Dinesh Khara	Bank Manager	8765432109	45000
303	BOB103AM206	Nirav Modi	Loan Officer	7654321098	36500
304	CBI105AM208	Lalit Modi	Loan Officer	6543210987	70000
305	PNB104MB209	P.V. Sindhu	Credit Analyst	5432109876	65300
306	SBI101RJ210	Shikha Sharma	Credit Analyst	4321098765	56700
307	CBI105AM208	Archana Bhargav	Audit Officer	3210987654	60000
308	BOB103AM206	Arundhati Bhatt	Audit Officer	2109876543	55000
309	SBI101RJ210	kalpana Moria	Finance Manager	1098765432	62500
310	CBI105AM208	Atul Goel	Finance Manager	9876543201	54000

4.) Customer_Master

Cust_Id	Cust_FullName	Cust_DOB	Cust_Address	Cust_MobileNo	Cust_EmailID	Cust_City
401	C N Kanani	1985-08-20	Milap Nagar, University Road	2134567890	cnk@gmail.com	Gandhinagar
402	A N Siddhpura	1987-10-15	Royal Park, Ravapar road	1243567890	ans@gmail.com	Ahemdabad
403	V K Makwana	1987-07-04	150 Feet Ring Road	1234567890	vkm@gmail.com	Ahemdabad
404	H K Vyas	1990-12-10	Madhapar Circle	1234567809	hkv@gmail.com	Rajkot
405	K B Bhalodia	1996-03-25	Nanavati Chowk	1234568790	kbb@gmail.com	Rajkot
406	N H Patel	1990-06-13	Ayodhya Chwok	1234567980	nhp@gmail.com	Baroda
407	T D Solanki	1996-10-25	Bhaktinagar Circle	9314567820	tds@gmail.com	Baroda
408	N H Ahuja	1994-09-15	Seth Nagar Road	1234567089	nha@gmail.com	Jamnagar
409	B K Chattrala	1995-07-02	Trikon Baug	1234568710	bkc@gmail.com	Jamnagar
410	A B Pandya	2000-08-20	Sanala Road	1432567890	abp@gmail.com	Morbi

5.) Account_Master

Acc_No	Cust_Id	Acc_Type	Branch_IFSC
501	401	SB	CBI105AM208
502	402	SB	CBI105AM208
503	403	SB	BOB103AM206
504	404	CR	BOB103RJ205
505	405	SB	SBI101RJ210
506	406	CR	BOB103AM206
507	407	CR	BOB103AM206
508	408	SB	PNB104RJ204
509	409	CR	SBI101RJ210
510	410	SB	SBI101MB201

6.) Transaction_Master

Tran_Id	Tran_Acc_No	Tran_Date	Tran_Type	Tran_Amount_Debit_Credit	Tran_Amount
601	501	2022-11-22 00:00:00.000	CH	C	500000
602	503	2018-10-15 00:00:00.000	CQ	D	25020
603	506	2017-12-01 00:00:00.000	OL	C	200000

604	510	2021-03-03 00:00:00.000	RG	D	25000
605	504	2021-11-10 00:00:00.000	CH	C	65000
606	502	2022-05-15 00:00:00.000	CQ	C	24571
607	509	2020-01-26 00:00:00.000	OL	C	69704
608	507	2009-07-04 00:00:00.000	RG	D	30000
609	508	2015-10-16 00:00:00.000	CH	D	70050
610	505	2022-08-20 00:00:00.000	CQ	C	26320

Practical-2: Implement the concept of join and subquery

1. Display Employee number, name and branch name. (A)
2. Display Account number, customer id, name and branch IFSC code using join. (A)
3. Display Transaction ID, amount, account number, account type whose transaction type is Online. (A)
4. Display Account number, type, transaction account number and amount using left outer join. (A)
5. Display Account number, type, transaction account number and amount using right outer join. (A)
6. Display customer name, mobile number who has highest transaction amount. (A)
7. Display Branch name, IFSC and Bank ID who has lowest paying amount employee. (A)
8. Display the count of total designation of an employees. (A)
9. Display the count of how many customers have saving account. (A)
10. Display details of branch master branch name wise in descending order. (A)