

1. CREATE TABLE Member (

```
Member_Id    NUMBER(5),
Member_Name   VARCHAR2(30),
Member_Address VARCHAR2(50),
Acc_Open_Date DATE,
Membership_Type VARCHAR2(20),
Fees_Paid     NUMBER(4),
Max_Books_Allowed NUMBER(2),
Penalty_Amount NUMBER(7,2)
);
```

CREATE TABLE Books (

```
Book_No    NUMBER(6),
Book_Name   VARCHAR2(30),
Author_Name VARCHAR2(30),
Cost        NUMBER(7,2),
Category    CHAR(10)
);
```

CREATE TABLE Issue (

```
Lib_Issue_Id NUMBER(10),
Book_No       NUMBER(6),
Member_Id     NUMBER(5),
Issue_Date    DATE,
Return_Date   DATE
);
```

2. desc member;

Name	Null?	Type
MEMBER_ID		NUMBER(5)
MEMBER_NAME		VARCHAR2(30)
MEMBER_ADDRESS		VARCHAR2(50)
ACC_OPEN_DATE		DATE
MEMBERSHIP_TYPE		VARCHAR2(20)
FEES_PAID		NUMBER(4)
MAX_BOOKS_ALLOWED		NUMBER(2)
PENALTY_AMOUNT		NUMBER(7,2)

desc books;

SQL> desc books

Name	Null?	Type
BOOK_NO		NUMBER(6)
BOOK_NAME		VARCHAR2(30)
AUTHOR_NAME		VARCHAR2(30)
COST		NUMBER(7,2)
CATEGORY		CHAR(10)

desc issue;

```
SQL> desc issue
```

Name	Null?	Type
LIB_ISSUE_ID		NUMBER(10)
BOOK_NO		NUMBER(6)
MEMBER_ID		NUMBER(5)
ISSUE_DATE		DATE
RETURN_DATE		DATE

3. DROP TABLE MEMBER;

```
SQL> DROP TABLE MEMBER
```

Table MEMBER dropped.

4. CREATE TABLE Member (

```
    Member_Id          NUMBER(5) PRIMARY KEY,
    Member_Name         VARCHAR2(30),
    Member_Address      VARCHAR2(50),
    Acc_Open_Date       DATE,
    Membership_Type     VARCHAR2(20) CHECK (Membership_Type IN
('LIFETIME', 'ANNUAL', 'HALF YEARLY', 'QUARTERLY')),
    Fees_Paid           NUMBER(4),
    Max_Books_Allowed  NUMBER(2),
    Penalty_Amount      NUMBER(7,2)
);
```

5. ALTER TABLE MEMBER MODIFY MEMBER_NAME VARCHAR(50);

6. ALTER TABLE ISSUE ADD REFERENCE CHAR(30);

7. ALTER TABLE ISSUE DROP COLUMN REFERENCE;

8. RENAME ISSUE TO LIB_ISSUE;

9. INSERT INTO MEMBER VALUES (1, 'RICHA SHARMA', 'PUNE', '10-DEC-05', 'LIFETIME', 25000, 5, 50);

INSERT INTO MEMBER VALUES (2, 'GARIMA SEN', 'PUNE', SYSDATE, 'ANNUAL', 1000, 3, NULL);

	MEMBER_ID	MEMBER_NAME	MEMBER_ADDRESS	ACC_OPEN_DATE	MEMBERSHIP_TYPE	FEES_PAID	MAX_BOOKS_ALLO	PENALTY_AMOUNT
1	1	RICHA SHARMA	PUNE	12/10/2005, 12:00:00	LIFETIME	25000	5	50
2	2	GARIMA SEN	PUNE	8/26/2025, 9:45:44	ANNUAL	1000	3	(null)

10. INSERT INTO MEMBER (Member_Id, Member_Name, Member_address, Acc_Open_Date, Membership_Type, Fees_paid, Max_Books_Allowed, Penalty_Amount)

VALUES (3, 'Amit Kumar', 'Mumbai', TO_DATE('2005-07-01', 'YYYY-MM-DD'), 'HALF YEARLY', 5000, 4, 20);

```

INSERT INTO MEMBER (Member_Id, Member_Name, Member_address, Acc_Open_Date,
Membership_Type, Fees_paid, Max_Books_Allowed, Penalty_Amount)
VALUES (4, 'Sonia Gupta', 'Delhi', TO_DATE('2006-05-12', 'YYYY-MM-DD'),
'QUARTERLY', 1500, 2, 10);

INSERT INTO MEMBER (Member_Id, Member_Name, Member_address, Acc_Open_Date,
Membership_Type, Fees_paid, Max_Books_Allowed, Penalty_Amount)
VALUES (5, 'Rajesh Kumar', 'Chennai', TO_DATE('2006-01-25', 'YYYY-MM-DD'),
'ANNUAL', 3000, 6, 15);

INSERT INTO MEMBER (Member_Id, Member_Name, Member_address, Acc_Open_Date,
Membership_Type, Fees_paid, Max_Books_Allowed, Penalty_Amount)
VALUES (6, 'Neha Verma', 'Kolkata', TO_DATE('2005-11-05', 'YYYY-MM-DD'),
'LIFETIME', 25000, 5, 25);

INSERT INTO MEMBER (Member_Id, Member_Name, Member_address, Acc_Open_Date,
Membership_Type, Fees_paid, Max_Books_Allowed, Penalty_Amount)
VALUES (7, 'Vikas Jain', 'Bangalore', TO_DATE('2005-09-15', 'YYYY-MM-DD'), 'HALF
YEARLY', 3500, 3, 30);

INSERT INTO BOOKS (Book_No, Book_Name, Author_name, Cost, Category)
VALUES (101, 'The Alchemist', 'Paulo Coelho', 399.99, 'Fiction');
INSERT INTO BOOKS (Book_No, Book_Name, Author_name, Cost, Category)
VALUES (102, 'The Da Vinci Code', 'Dan Brown', 499.50, 'Mystery');
INSERT INTO BOOKS (Book_No, Book_Name, Author_name, Cost, Category)
VALUES (103, 'Atomic Habits', 'James Clear', 299.75, 'Self-Help');
INSERT INTO BOOKS (Book_No, Book_Name, Author_name, Cost, Category)
VALUES (104, 'The Power of Now', 'Eckhart Tolle', 450.00, 'Spirit');
INSERT INTO BOOKS (Book_No, Book_Name, Author_name, Cost, Category)
VALUES (105, 'The Silent Patient', 'Alex Michaelides', 399.00, 'Thriller');

INSERT INTO LIB_ISSUE (Lib_Issue_Id, Book_No, Member_Id, Issue_Date, Return_Date)
VALUES (1, 101, 1, TO_DATE('2005-12-10', 'YYYY-MM-DD'), TO_DATE('2006-12-24',
'YYYY-MM-DD'));
INSERT INTO LIB_ISSUE (Lib_Issue_Id, Book_No, Member_Id, Issue_Date, Return_Date)
VALUES (2, 102, 2, TO_DATE('2005-01-15', sysdate, 'YYYY-MM-DD'));
INSERT INTO LIB_ISSUE (Lib_Issue_Id, Book_No, Member_Id, Issue_Date, Return_Date)
VALUES (3, 103, 3, TO_DATE('2006-07-01', 'YYYY-MM-DD'), TO_DATE('2007-07-14',
'YYYY-MM-DD'));
INSERT INTO LIB_ISSUE (Lib_Issue_Id, Book_No, Member_Id, Issue_Date, Return_Date)
VALUES (4, 104, 4, TO_DATE('2022-05-12', 'YYYY-MM-DD'), TO_DATE('2023-05-26',
'YYYY-MM-DD'));
INSERT INTO LIB_ISSUE (Lib_Issue_Id, Book_No, Member_Id, Issue_Date, Return_Date)
VALUES (5, 105, 5, TO_DATE('2006-01-25', 'YYYY-MM-DD'), TO_DATE('2010-02-08',
'YYYY-MM-DD'));

```

11. ALTER TABLE MEMBER MODIFY MEMBER_NAME VARCHAR2(20);

If the length is lesser than 20 we can modify otherwise it wont get modified.

12. INSERT INTO MEMBER (Member_Id, Member_Name, Member_address, Acc_Open_Date, Membership_Type, Fees_paid, Max_Books_Allowed, Penalty_Amount)

```
VALUES (8, 'Ram', 'Chennai', TO_DATE('2005-09-15', 'YYYY-MM-DD'), 'HALF YEARLY',
3500, 110, 30);
```

```
SQL> INSERT INTO MEMBER (Member_Id, Member_Name, Member_address, Acc_Open_Date, Membership_Type, Fees_paid, Max_Books_Allowed, Penalty_Amount)
VALUES (8, 'Ram', 'Chennai', TO_DATE('2005-09-15', 'YYYY-MM-DD'), 'HALF YEARLY', 3500, 110, 30)
```

ORA-01438: value 110 greater than specified precision (2, 0) for column

<https://docs.oracle.com/error-help/db/ora-01438/>
Error at Line: 4 Column: 8

13. CREATE TABLE MEMBER101 AS SELECT * FROM MEMBER;

14. ALTER TABLE MEMBER ADD CONSTRAINT MBA CHECK(Max_Books_Allowed<100);

ALTER TABLE MEMBER ADD CONSTRAINT PA CHECK(Penalty_Amount<=1000);

15. DROP TABLE BOOKS;

16. CREATE TABLE Books (
Book_No NUMBER(6) PRIMARY KEY,
Book_Name VARCHAR2(30) NOT NULL,
Author_Name VARCHAR2(30),
Cost NUMBER(7,2),
Category CHAR(10) CHECK(CATEGORY
IN('SCIENCE','FICTION','DATABASE','RDBMS','OTHERS'))
);

17. INSERT INTO BOOKS VALUES(101,'LET US C','DENIS RITCHIE',450,'SCIENCE')

INSERT INTO BOOKS VALUES(102,'ORACLE COM REF','LONI',550,'DATABASE')

INSERT INTO BOOKS VALUES(103,'MASTERING SQL','LONI',250,'DATABASE')

INSERT INTO BOOKS VALUES(104,'PLSQL REF','SCOT URMAN',750,'DATABASE')

18. INSERT INTO BOOKS
VALUES(&BOOK_NO, '&BOOK_NAME', '&AUTHOR_NAME', &COST, '&CATEGORY');

19. CREATE TABLE Book101 AS SELECT * FROM Books WHERE 1=2;

20. INSERT INTO BOOK101 SELECT * FROM BOOKS;

21. COMMIT;

22. SELECT * FROM MEMBER;

	MEMBER_ID	MEMBER_NAME	MEMBER_ADDRESS	ACC_OPEN_DATE	MEMBERSHIP_TYPE	FEES_PAID	MAX_BOOKS_ALLO	PENALTY_AMOUNT
1	1	RICHA SHARMA	PUNE	12/10/2005, 12:00:00	LIFETIME	25000	5	50
2	3	Amit Kumar	Mumbai	7/1/2005, 12:00:00	HALF YEARLY	5000	4	20
3	4	Sonia Gupta	Delhi	5/12/2006, 12:00:00	QUARTERLY	1500	2	10
4	5	Rajesh Kumar	Chennai	1/25/2006, 12:00:00	ANNUAL	3000	6	15
5	6	Neha Verma	Kolkata	11/5/2005, 12:00:00	LIFETIME	25000	5	25
6	7	Vikas Jain	Bangalore	9/15/2005, 12:00:00	HALF YEARLY	3500	3	30
7	2	GARIMA SEN	PUNE	8/26/2025, 9:45:44	ANNUAL	1000	3	(null)

SELECT * FROM BOOKS;

	BOOK_NO	BOOK_NAME	AUTHOR_NAME	COST	CATEGORY
1	101	LET US C	DENIS RITCHIE	450	SCIENCE
2	102	ORACLE COM REF	LONI	550	DATABASE
3	103	MASTERING SQL	LONI	250	DATABASE
4	104	PLSQL REF	SCOT URMAN	750	DATABASE

SELECT * FROM lib_issue;

	LIB_ISSUE_ID	BOOK_NO	MEMBER_ID	ISSUE_DATE	RETURN_DATE
1	1	101	1	12/10/2005, 12:00:00	12/24/2006, 12:00:00
2	3	103	3	7/1/2006, 12:00:00	7/14/2007, 12:00:00
3	4	104	4	5/12/2022, 12:00:00	5/26/2023, 12:00:00
4	5	105	5	1/25/2006, 12:00:00	2/8/2010, 12:00:00

SELECT * FROM BOOK101;

	BOOK_NO	BOOK_NAME	AUTHOR_NAME	COST	CATEGORY
1	101	LET US C	DENIS RITCHIE	450	SCIENCE
2	102	ORACLE COM REF	LONI	550	DATABASE
3	103	MASTERING SQL	LONI	250	DATABASE
4	104	PLSQL REF	SCOT URMAN	750	DATABASE

SELECT * FROM MEMBER101;

	MEMBER_ID	MEMBER_NAME	MEMBER_ADDRESS	ACC_OPEN_DATE	MEMBERSHIP_TYPE	FEES_PAID	MAX_BOOKS_ALLO	PENALTY_AMOUNT
1	1	RICHA SHARMA	PUNE	12/10/2005, 12:00:00	LIFETIME	25000	5	50
2	3	Amit Kumar	Mumbai	7/1/2005, 12:00:00	HALF YEARLY	5000	4	20
3	4	Sonia Gupta	Delhi	5/12/2006, 12:00:00	QUARTERLY	1500	2	10
4	5	Rajesh Kumar	Chennai	1/25/2006, 12:00:00	ANNUAL	3000	6	15
5	6	Neha Verma	Kolkata	11/5/2005, 12:00:00	LIFETIME	25000	5	25
6	7	Vikas Jain	Bangalore	9/15/2005, 12:00:00	HALF YEARLY	3500	3	30
7	2	GARIMA SEN	PUNE	8/26/2025, 9:45:44	ANNUAL	1000	3	(null)

23. INSERT INTO BOOKS VALUES(105,'NATIONAL GEOGRAPHIC','ADIS SCOT',1000,'SCIENCE');

24. ROLLBACK;

25. UPDATE BOOKS SET COST=300 AND CATEGORY='RDBMS' WHERE BOOK_NO=103;

26. RENAME LIB_ISSUE TO ISSUE;

27. DROP TABLE ISSUE;

28. CREATE TABLE Issue (

```

Lib_Issue_Id NUMBER(10) PRIMARY KEY,
Book_No      NUMBER(6) REFERENCES BOOKS(BOOK_NO),
Member_Id    NUMBER(5) REFERENCES MEMBER(MEMBER_ID),
Issue_Date   DATE,

```

```
Return_Date DATE,  
CONSTRAINT C2 CHECK(Issue_Date<Return_Date)  
);
```

29. INSERT INTO Issue (Lib_Issue_Id, Book_No, Member_Id, Issue_Date, Return_Date)

```
VALUES (7001, 101, 1, TO_DATE('10-Dec-2006','DD-Mon-YYYY'), NULL);
```

```
INSERT INTO Issue (Lib_Issue_Id, Book_No, Member_Id, Issue_Date, Return_Date)
```

```
VALUES (7002, 102, 2, TO_DATE('25-Dec-2006','DD-Mon-YYYY'), NULL);
```

```
INSERT INTO Issue (Lib_Issue_Id, Book_No, Member_Id, Issue_Date, Return_Date)
```

```
VALUES (7003, 104, 1, TO_DATE('15-Jan-2006','DD-Mon-YYYY'), NULL);
```

```
INSERT INTO Issue (Lib_Issue_Id, Book_No, Member_Id, Issue_Date, Return_Date)
```

```
VALUES (7004, 101, 1, TO_DATE('04-Jul-2006','DD-Mon-YYYY'), NULL);
```

```
INSERT INTO Issue (Lib_Issue_Id, Book_No, Member_Id, Issue_Date, Return_Date)
```

```
VALUES (7005, 104, 2, TO_DATE('15-Nov-2006','DD-Mon-YYYY'), NULL);
```

```
INSERT INTO Issue (Lib_Issue_Id, Book_No, Member_Id, Issue_Date, Return_Date)
```

```
VALUES (7006, 101, 3, TO_DATE('18-Feb-2006','DD-Mon-YYYY'), NULL);
```

30. COMMIT;

31. ALTER TABLE Issue DISABLE PRIMARY KEY;

```
ALTER TABLE Issue DISABLE CONSTRAINT C2;
```

```
ALTER TABLE Issue DISABLE CONSTRAINT SYS_C003234837;
```

```
ALTER TABLE Issue DISABLE CONSTRAINT SYS_C003234836;
```

32. INSERT INTO Issue (Lib_Issue_Id, Book_No, Member_Id, Issue_Date, Return_Date)

```
VALUES (7009, 106, 9, TO_DATE('18-Feb-2006','DD-Mon-YYYY'), NULL);
```

33.Parent keys are not found .

34. DELETE ISSUE WHERE MEMBER_ID=9;

```
ALTER TABLE Issue ENABLE CONSTRAINT SYS_C003234837;
```

```
ALTER TABLE Issue ENABLE CONSTRAINT SYS_C003234836;
```

After deleting the row, the foreign key constraint gets enabled.

35. DELETE FROM MEMBER WHERE MEMBER_ID=1;

```
SQL> DELETE FROM MEMBER WHERE MEMBER_ID=1
```

ORA-02292: integrity constraint (SQL_BVGFG8Z66BWPMB9PS7WB3PMJDL.SYS_C003234837) violated - child record found

36. UPDATE ISSUE SET Return_Date=ISSUE_DATE+15 WHERE Lib_Issue_Id IN(7004,7005);

	LIB_ISSUE_ID	BOOK_NO	MEMBER_ID	ISSUE_DATE	RETURN_DATE
1	7001	101	1	12/10/2006, 12:00:00 (null)	
2	7002	102	2	12/25/2006, 12:00:00 (null)	
3	7003	104	1	1/15/2006, 12:00:00 (null)	
4	7004	101	1	7/4/2006, 12:00:00	7/19/2006, 12:00:00
5	7005	104	2	11/15/2006, 12:00:00	11/30/2006, 12:00:00
6	7006	101	3	2/18/2006, 12:00:00 (null)	

37. UPDATE MEMBER SET Penalty_Amount=100 WHERE MEMBER_NAME='GARIMA SEN';

38. SAVEPOINT X;

39. DELETE ISSUE WHERE MEMBER_ID=1 AND ISSUE_DATE < '10-DEC-06';

40. DELETE FROM BOOKS WHERE CATEGORY NOT IN ('RDBMS','DATABASE');

```
SQL> DELETE FROM BOOKS WHERE CATEGORY NOT IN ('RDBMS','DATABASE')
```

ORA-02292: integrity constraint (SQL_BVGFG8Z66BWPMB9PS7WB3PMJDL.SYS_C003234836) violated - child record found

41. ROLLBACK X;

42. COMMIT;

43. DROP TABLE MEMBER101;

44. DROP TABLE BOOK101;

45. SELECT * FROM MEMBER;

```
DESC NUMBER;
SELECT * FROM BOOKS;
DESC BOOKS;
SELECT * FROM ISSUE;
DESC ISSUE;
```

46. CREATE SEQUENCE no_seq

```
START WITH 100
INCREMENT BY 2
MAXVALUE 200
NOCYCLE
NOCACHE;
```

47. DROP SEQUENCE no_seq;

48. CREATE SEQUENCE book_seq

```
START WITH 101  
INCREMENT BY 1  
MAXVALUE 1000  
NOCYCLE;
```

49. CREATE SEQUENCE member_seq

```
START WITH 1  
INCREMENT BY 1  
MAXVALUE 100  
NOCYCLE;
```

50. DROP SEQUENCE BOOK_SEQ;

DROP SEQUENCE MEMBER_SEQ;