

Project 1 Report

Project 1 Report

INITIAL LOAD TABLES

PROJECT1_BOOK_COPIES_LOAD

PROJECT1_BOOKS_LOAD

PROJECT1_BORROWERS_LOAD

PROJECT1_LIBRARY_BRANCH_LOAD

Creating and Populating Tables

PROJECT1_BOOK

PROJECT1_AUTHORS

PROJECT1_BOOK_AUTHORS

PROJECT1_LIBRARY_BRANCH_LOAD

PROJECT1_BORROWER

PROJECT1_BOOK_COPIES

PROJECT1_BOOK_LOANS

Exactly 400 books check-outs for exactly 200 different borrowers and exactly 100 different books.

PROJECT1_FINES

Exactly 50 fines records for 50 different borrowers. Fines should be generated by books checked back in late. CREATING INDEXES

Search Function

Reports

TOP 10 BOOKS FOR WHICH MAXIMUM FINES WERE PAID

TOP 15 LEAST LOANED BOOKS

TOP 15 MOST POPULAR BOOKS IN LAST MONTH







ER Model

INITIAL LOAD TABLES

PROJECT1_BOOK_COPIES_LOAD

PROJECT.sql PROJECT1_BOOK_COPIES_LOAD

ColumnsDataModelConstraintsGrantsStatisticsTriggersFlashbackDependen

 Sort.. | Filter:

	BOOK_ID	BRANCH_ID	NO_OF_COPIES
1	0345311396	2	1
2	0345311396	3	1
3	0345311396	4	0
4	0345311396	5	1
5	0345378490	1	1
6	0345378490	2	1
7	0345378490	3	1
8	0345378490	4	1
9	0345378490	5	1
10	0345404793	1	1
11	0345404793	2	1
12	0345404793	3	1
13	0345404793	4	1
14	0345404793	5	1
15	0345433173	1	1
16	0345433173	2	1
17	0345433173	3	1
18	0345433173	4	1
19	0345433173	5	0
20	0375400117	1	1
21	0375400117	2	0
22	0375400117	3	1
23	0375400117	4	1
24	0375400117	5	0
25	0375705856	1	1
26	0375705856	2	1
27	0375705856	3	1
28	0375705856	4	1
29	0375705856	5	1
30	0380717018	1	0
31	0380717018	2	0
32	0380717018	3	1
33	0380717018	4	1
34	0380717018	5	0
35	0380718332	1	0
36	0380718332	2	1
37	0380718332	3	1
38	0380718332	4	1
39	0380718332	5	1
40	0380754509	1	0

PROJECT1_BOOKS_LOAD

PROJECT1_BOOKS_LOAD			
ISBN10	ISBN13	TITLE	AUTHOR
0140252800	9780140252804	Brimstone Wedding	Barbara Vine
0451452755	9780451452757	The Catswold Portal	Shirley Rousseau Murphy
0812575482	9780812575484	Through Wolf's Eyes (Wolf, Book 1)	Jane Lindskold
044651747X	9780446517478	Puerto Vallarta Squeeze	Robert James Waller
0060801263	9780060801267	A Tree Grows In Brooklyn	Betty Smith
0061030147	9780061030147	Cybill Disobedience	Cybill Shepherd,Aimee Lee Ball
0140250964	9780140250961	Snow Angels: A Novel	Stewart O'Nan
0446527165	9780446527163	Wish You Well	David Baldacci
0671461494	9780671461492	The Hitchhiker's Guide To The Galaxy	Douglas Adams
0385337639	9780385337632	Crow Lake (Today Show Book Club #7)	Mary Lawson
039575514X	9780395755143	My Antonia	Willa Cather
0451206673	9780451206671	Pen Pals	Olivia Goldsmith
0330332775	9780330332774	Bridget Jones's Diary	Helen Fielding
0486284735	9780486284736	Pride And Prejudice (Dover Thrift Editions)	Jane Austen,Dover Thrift Editions
0671021745	9780671021740	Eye On Crime: Hardy Boys #153	Franklin W. Dixon
0671047612	9780671047610	Skin And Bones	Franklin W. Dixon
0671504282	9780671504281	LAW OF THE JUNGLE (HARDY BOYS CASE FILE 105) (Hardy Boys, The)	Franklin W. Dixon
0399138684	9780399138683	The Cat Who Came To Breakfast	Lilian Jackson Braun
0785263292	9780785263296	If Singleness Is A Gift, What's The Return Policy?	Holly Virden,Michelle McKinney Hammond
0830714014	9780830714018	Always Daddy's Girl: Understanding Your Father's Impact On Who You Are	H. Norman Wright
0345354931	9780345354938	Night Mare (The Magic Of Xanth, No. 6)	Piers Anthony
0553278223	9780553278224	The Martian Chronicles (The Grand Master Editions)	Ray Bradbury
3150000335	9783150000335	Kabale Und Liebe	Friedrich Schiller,Walter Schafarschik
3257203659	9783257203653	Der Illustrierte Mann	Ray Bradbury,Peter Naujack
3257207522	9783257207521	Der Käfig In Gelb: Stories	Raymond Chandler,Hans Wollschläger
3257208626	9783257208627	Fahrenheit 451	Ray Bradbury
3257208634	9783257208634	Die Mars-Chroniken: Roman In Erzählungen	Ray Bradbury,Thomas Schlack
3257208669	9783257208665	Das Bäume Kommt Auf Leisen Schlen	Ray Bradbury,Norbert Wäfl
3257210450	9783257210453	LÄwenzahnwein	Ray Bradbury,Alexander Schmitz
3257212054	9783257212051	Das Kind Von Morgen. Erzählungen.	Ray Bradbury
3257212429	9783257212426	Die Mechanismen Der Freude. Erzählungen.	Ray Bradbury
3257214154	9783257214154	Familientreffen - Erzählungen	Ray Bradbury,Jürgen Bauer,Alastair Ker
3257216416	9783257216417	Der Tod Kommt Schnell In Mexico. Erzählungen.	Ray Bradbury
3257233051	9783257233056	Veronika Beschließt Zu Sterben	Paulo Coelho,Maralde Meyer-Minnemann
342311360X	9783423113601	Die Liebe In Den Zeiten Der Cholera. Roman.	Gabriel García-a Márquez
3423116714	9783423116718	Die Klone Der Joanna May. Roman.	Fay Weldon
3423241489	9783423241489	Ist Mein Hintern Wirklich So Dick?	Arabella Weir
3426605686	9783426605684	Haifischfrauen	Kiana Davenport,Margarete Längsfeld
3453212150	9783453212152	Die Cappuccino Jahre	Sue Townsend
3462021095	9783462021097	Schwarzer Tee Mit Drei Stück Zucker	Renan Demirkan

PROJECT1_BORROWERS_LOAD

PROJECT1_BORROWERS_LOAD								
ID0000ID	SSN	FIRST_NAME	LAST_NAME	EMAIL	ADDRESS	CITY	STATE	PHONE
1 ID0000205	999-57-3479	Jimmy	Watkins	jwatkins5@msn.com	91873 Colorado Crossing	Dallas	TX	(469) 933-3579
2 ID0000206	999-35-2839	Keith	Fisher	kfisher5@ehow.com	2 Muir Crossing	Richardson	TX	(972) 999-1893
3 ID0000207	999-48-3434	Rose	Oliver	roliver5@reference.com	3152 Thackeray Point	Dallas	TX	(214) 971-9384
4 ID0000208	999-19-5051	Johnny	Vasquez	jvasquez5r@diigo.com	809 Grover Circle	Dallas	TX	(972) 843-5554
5 ID0000209	999-52-6239	Judith	Dunn	jdunn5s@huffingtonpost.com	337 Northview Point	Dallas	TX	(972) 999-1156
6 ID0000210	999-45-3343	Roger	Freeman	rfreeman5t@opensource.org	13 Farmco Way	Dallas	TX	(469) 854-9842
7 ID0000211	999-87-0005	Richard	Bailey	rb Bailey5u@fc2.com	3108 Browning Park	Richardson	TX	(214) 718-0392
8 ID0000212	999-20-1613	Ernest	Palmer	epalmer5v@japanpost.jp	66600 Pleasure Drive	Dallas	TX	(214) 238-1120
9 ID0000213	999-22-0860	Janice	Long	jlong5w@xrea.com	26577 Laurel Road	Dallas	TX	(214) 972-0889
10 ID0000214	999-60-2564	Thomas	Schmidt	tschmidt5x@ucox.ru	0 New Castle Crossing	Plano	TX	(469) 745-9014
11 ID0000215	999-07-7138	Kathryn	Hayes	khayes5y@usa.gov	18504 Basil Hill	Dallas	TX	(469) 831-7793
12 ID0000216	999-58-8800	Chris	Perkins	cperkins5z@nasa.gov	14865 John Wall Center	Plano	TX	(972) 957-3368
13 ID0000217	999-12-8122	Thomas	Scott	tscott60@cpanel.net	449 Schurz Parkway	Dallas	TX	(469) 914-5396
14 ID0000218	999-69-4479	Judy	Richards	jrichards61@narod.ru	9420 Main Hill	Dallas	TX	(469) 871-8324
15 ID0000219	999-89-1063	Janice	Garrett	jgarrett62@naver.com	2998 Chive Place	Dallas	TX	(214) 809-6943
16 ID0000220	999-12-0662	Raymond	Peterson	rpeterson63@friendfeed.com	892 Fairfield Point	Richardson	TX	(469) 947-5199
17 ID0000221	999-03-8015	Marilyn	Williams	mwilliams64@blinklist.com	0 John Wall Circle	Dallas	TX	(214) 992-8183
18 ID0000222	999-80-9145	Teresa	Reid	treid65@baidu.com	9224 Manufacturers Terrace	Dallas	TX	(972) 457-6436
19 ID0000223	999-54-4529	Irene	Medina	imedina66@hhs.gov	51 Southridge Pass	Dallas	TX	(972) 994-3852
20 ID0000224	999-92-5219	Linda	Carpenter	lcarpenter67@flavors.me	43 Dovetail Road	Dallas	TX	(972) 866-8440
21 ID0000225	999-30-6717	Jonathan	Harrison	jharrison68@hp.com	113 Havey Crossing	Plano	TX	(469) 900-2769
22 ID0000226	999-63-5871	Laura	Graham	lgraham69@rakuten.co.jp	72346 Emmet Place	Dallas	TX	(469) 982-4249
23 ID0000227	999-64-8746	Sharon	Pierce	spierce6a@dmaz.org	9 Clove Trail	Dallas	TX	(972) 930-5410
24 ID0000228	999-27-4530	Katherine	Boyd	kboyd6b@cafepress.com	90 Park Meadow Junction	Dallas	TX	(214) 652-5153
25 ID0000229	999-97-7822	Brian	Perkins	bperkins6c@adobe.com	5988 Havey Street	Dallas	TX	(972) 973-2502
26 ID0000230	999-84-8327	Eric	Cooper	ecooper6d@studiopress.com	7 Granby Road	Dallas	TX	(972) 970-2642
27 ID0000231	999-94-1254	Randy	Stanley	rstanley6e@cbsnews.com	94552 Linden Court	Dallas	TX	(972) 815-8835
28 ID0000232	999-59-2633	Pamela	Gutierrez	pgutierrez6f@cdbaby.com	50236 Goodland Lane	Plano	TX	(972) 968-2569
29 ID0000233	999-52-8000	Keith	Perkins	kperkins6h@mayoclinic.com	9543 Farragut Road	Richardson	TX	(214) 804-0599
30 ID0000234	999-70-3782	Scott	Spencer	spencer6i@edublogs.org	5 Lukken Junction	Dallas	TX	(214) 701-4621
31 ID0000235	999-96-4866	Todd	Bryant	tbryant6i@lycos.com	418 Onsgard Hill	Dallas	TX	(214) 980-7359
32 ID0000236	999-54-8159	Jose	Anderson	janderson6j@comsenz.com	2705 Ohio Junction	Dallas	TX	(214) 530-2752
33 ID0000237	999-83-4824	Amanda	Davis	adavis6k@studiopress.com	1636 Norway Maple Place	Plano	TX	(469) 913-5733
34 ID0000238	999-12-8661	Richard	Cruz	rcruz6l@sina.com.cn	69 Marquette Park	Richardson	TX	(469) 902-7741
35 ID0000239	999-77-2893	Sara	Walker	swalker6m@bloomberg.com	18924 3rd Circle	Dallas	TX	(972) 932-7544
36 ID0000240	999-70-9717	Gloria	Sanders	gsanders6n@blog.com	36961 Green Ridge Place	Dallas	TX	(214) 937-3306
37 ID0000241	999-04-3187	Jonathan	Harris	jharris6o@freewebs.com	286 Merry Way	Dallas	TX	(469) 873-4473
38 ID0000242	999-31-3951	Juan	Fields	jfields6p@nationalgeographic.com	291 Marquette Parkway	Richardson	TX	(972) 916-7303
39 ID0000243	999-88-3244	Wanda	Mills	wmills6q@twitter.com	79024 Surrey Way	Dallas	TX	(469) 920-6298
40 ID0000244	999-12-0643	Karen	Davis	kdavis6r@discuz.net	83 Holy Cross Drive	Dallas	TX	(972) 890-5755

PROJECT1_LIBRARY_BRANCH_LOAD

PROJECT1_LIBRARY_BRANCH_LOAD		
Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL		
Sort.. Filter:		
BRANCH_ID	BRANCH_NAME	ADDRESS
1	1 Oak Lawn	4100 Cedar Springs Road, 75219
2	2 Lakewood	6121 Worth Street, 75214
3	3 Grauwylar Park	2146 Gilford Street, 75235
4	4 Highland Hills	3624 Simpson Stuart Road, 75241
5	5 Audelia Road	10045 Audelia Road, 75238

Creating and Populating Tables

PROJECT1_BOOK

```
CREATE TABLE PROJECT1_BOOK
  (ISBN VARCHAR2(20) NOT NULL,
  TITLE VARCHAR2(512) NOT NULL,
  CONSTRAINT ISBNPK PRIMARY KEY (ISBN));

INSERT INTO PROJECT1_BOOK (SELECT ISBN10, TITLE FROM PROJECT1_BOOKS_LOAD);
```


PROJECT.sql x

SQL Worksheet History

Worksheet Query Builder

```
-- CREATING AND POPULATING PROJECT1_BOOK
CREATE TABLE PROJECT1_BOOK
(
  ISBN VARCHAR2(20) NOT NULL,
  TITLE VARCHAR2(512) NOT NULL,
  CONSTRAINT ISBNPK PRIMARY KEY (ISBN));

INSERT INTO PROJECT1_BOOK (SELECT ISBN10, TITLE FROM PROJECT1_BOOKS_LOAD);
```

Script Output x

Task completed in 0.217 seconds

Table PROJECT1_BOOK created.

25,000 rows inserted.

PROJECT1_BOOK	
ISBN	TITLE
1 0671888587	I'll Be Seeing You
2 0553582747	From The Corner Of His Eye
3 0425182908	Isle Of Dogs (Andy Brazil)
4 042518630X	Purity In Death
5 0440223571	This Year It Will Be Different And Other Stories - A Christmas Treasury
6 0812523873	Proxies
7 0842342702	Left Behind: A Novel Of The Earth's Last Days (Left Behind #1)
8 0440225701	The Street Lawyer
9 0060914068	Love, Medicine And Miracles
10 0156047624	All The King's Men
11 0245542957	Pacific Northwest
12 0380715899	Soldier Of The Great War
13 0553280333	Getting Well Again: The Bestselling Classic About The Simontons' Revolutionary Lifesaving Self- Awareness Techn
14 0961769947	Northwest Wines And Wineries
15 0964778319	An Atmosphere Of Eternity: Stories Of India
16 0671623249	Lonesome Dove
17 0679810307	Shabanu: Daughter Of The Wind (Border Trilogy)
18 0679865691	Haveli
19 2070423204	Lieux Dits
20 0345260317	The Dragons Of Eden: Speculations On The Evolution Of Human Intelligence
21 0394743741	The Yawning Heights
22 042511774X	Breathing Lessons
23 0804106304	The Joy Luck Club
24 1853262404	Heart Of Darkness & Other Stories (Wordsworth Collection)
25 0312970242	Deepak Chopra's The Angel Is Near
26 1853260053	Tess Of The D'Urbervilles (Wordsworth Collection)
27 1414035004	The Adventures Of Drew And Ellie: The Magical Dress
28 0060938412	The Accidental Virgin
29 0140067477	The Tao Of Pooh
30 0345465083	Seabiscuit: An American Legend
31 0451625889	The Prince (Mentor Series)
32 1558531025	Life's Little Instruction Book: 511 Suggestions, Observations, And Reminders On How To Live A Happy And Reward
33 0441783589	Starship Troopers
34 0394895894	The Ruby In The Smoke (Sally Lockhart Trilogy, Book 1)
35 1569871213	Black Beauty (Illustrated Classics)
36 0375410538	Anil's Ghost
37 0966986105	Prescription For Terror
38 087113375X	Modern Manners: An Etiquette Book For Rude People
39 0340767936	Turning Thirty
40 0743403843	Decipher

PROJECT1_AUTHORS

```
CREATE TABLE PROJECT1_AUTHORS
(AUTHOR_ID VARCHAR2(30) NOT NULL,
NAME VARCHAR2(256),
CONSTRAINT AUTHORIDPK PRIMARY KEY (AUTHOR_ID));
```

```
CREATE SEQUENCE AUTHORS_SEQ START WITH 1 INCREMENT BY 1 NOCACHE NOCYCLE;
```

```
INSERT INTO PROJECT1_AUTHORS SELECT AUTHORS_SEQ.NEXTVAL, b.* from (SELECT
REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^,;]+' ,1,1) FROM PROJECT1_BOOKS_LOAD
UNION SELECT REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^,;]+' ,1,2) FROM
PROJECT1_BOOKS_LOAD
UNION SELECT REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^,;]+' ,1,3) FROM
PROJECT1_BOOKS_LOAD
UNION SELECT REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^,;]+' ,1,4) FROM
PROJECT1_BOOKS_LOAD
UNION SELECT REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^,;]+' ,1,5) FROM
PROJECT1_BOOKS_LOAD) b;
```

The screenshot displays the SQL Developer environment with two main panes. The top pane, titled 'Worksheet', contains the SQL scripts for creating and populating the PROJECT1_AUTHORS table. The bottom pane, titled 'Script Output', shows the results of the script execution.

SQL Script (Worksheet):

```
-- CREATING AND POPULATING PROJECT1_AUTHORS
CREATE TABLE PROJECT1_AUTHORS
(AUTHOR_ID VARCHAR2(30) NOT NULL,
NAME VARCHAR2(256),
CONSTRAINT AUTHORIDPK PRIMARY KEY (AUTHOR_ID));

CREATE SEQUENCE AUTHORS_SEQ START WITH 1 INCREMENT BY 1 NOCACHE NOCYCLE;

INSERT INTO PROJECT1_AUTHORS SELECT AUTHORS_SEQ.NEXTVAL, b.* from (SELECT REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^,;]+' ,1,1)
FROM PROJECT1_BOOKS_LOAD
UNION SELECT REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^,;]+' ,1,2) FROM PROJECT1_BOOKS_LOAD
UNION SELECT REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^,;]+' ,1,3) FROM PROJECT1_BOOKS_LOAD
UNION SELECT REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^,;]+' ,1,4) FROM PROJECT1_BOOKS_LOAD
UNION SELECT REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^,;]+' ,1,5) FROM PROJECT1_BOOKS_LOAD) b;
```

Script Output:

```
Task completed in 1.42 seconds


Table PROJECT1_AUTHORS created.

Sequence AUTHORS_SEQ created.

15,698 rows inserted.
```

PROJECT.sql PROJECT1_AUTHORS

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Partitions | Indexes | SQL

 Sort: Filter:

	AUTHOR_ID	NAME
1	319	Alan Spence
2	320	Alan Tiegreen
3	321	Alan Titchmarsh
4	322	Alan Trustman
5	323	Alan V. Hewat
6	324	Alan Vanneman
7	325	Alan W. Watts
8	326	Alan Watts
9	327	Alan Witschonke
10	328	Alanna Knight
11	329	Alastair Ker
12	330	Alastair MacNeill
13	331	Alastair McNeill
14	332	Alayne Main
15	333	Albert Bichler
16	334	Albert Camus
17	335	Albert Cohen
18	336	Albert Einstein
19	337	Albert Ellis
20	338	Albert Gilman
21	339	Albert Goldman
22	340	Albert H. Morehead
23	341	Albert J. McBride
24	342	Albert Mousset
25	343	Albert Murray
26	344	Albert Payson Terhune
27	345	Albert Schwarzenbach
28	346	Albert Uderzo
29	347	Albert Wesselski
30	348	Alden T
31	349	Aldo Leopold
32	350	Aldous Huxley
33	351	Alec Fisher
34	352	Alec Ross
35	353	Alec Waugh
36	354	Aleen Malcolm
37	355	Aleister Crowley
38	356	Alejandro Dumas
39	357	Alejandro Jodorowsky
40	358	Alejo Carpentier

PROJECT1_BOOK_AUTHORS

```
CREATE TABLE PROJECT1_BOOK_AUTHORS
(AUTHOR_ID VARCHAR2(30) NOT NULL,
ISBN VARCHAR2(30) NOT NULL,
CONSTRAINT AUTHORS_PK PRIMARY KEY (AUTHOR_ID, ISBN),
CONSTRAINT ISBNFK FOREIGN KEY (ISBN) REFERENCES PROJECT1_BOOK,
CONSTRAINT AUTHORIDFK FOREIGN KEY (AUTHOR_ID) REFERENCES PROJECT1_AUTHORS);

INSERT INTO PROJECT1_book_authors (SELECT PROJECT1_AUTHORS.AUTHOR_ID,
PROJECT1_BOOKS_LOAD.ISBN10 FROM PROJECT1_AUTHORS
JOIN PROJECT1_BOOKS_LOAD ON project1_authors.NAME = (SELECT
REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^;]+' ,1,1) FROM PROJECT1_BOOKS_LOAD
b
WHERE b.ISBN10 = PROJECT1_BOOKS_LOAD.ISBN10)
OR project1_authors.NAME = (SELECT
REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^;]+' ,1,2) FROM PROJECT1_BOOKS_LOAD
b
WHERE b.ISBN10 = PROJECT1_BOOKS_LOAD.ISBN10)
OR project1_authors.NAME = (SELECT
REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^;]+' ,1,3) FROM PROJECT1_BOOKS_LOAD
b
WHERE b.ISBN10 = PROJECT1_BOOKS_LOAD.ISBN10)
OR project1_authors.NAME = (SELECT
REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^;]+' ,1,4) FROM PROJECT1_BOOKS_LOAD
b
WHERE b.ISBN10 = PROJECT1_BOOKS_LOAD.ISBN10)
OR project1_authors.NAME = (SELECT
REGEXP_SUBSTR(PROJECT1_BOOKS_LOAD.AUTHOR, '[^;]+' ,1,5) FROM PROJECT1_BOOKS_LOAD
b
WHERE b.ISBN10 = PROJECT1_BOOKS_LOAD.ISBN10));
```

The screenshot displays the SQL Developer interface. The top pane shows the SQL script for creating and populating the `PROJECT1_BOOK_AUTHORS` table. The script includes a `CREATE TABLE` statement with constraints and an `INSERT INTO` statement using a complex join and `REGEXP_SUBSTR` function to populate the table. The bottom pane shows the execution results, indicating that the table was created successfully and 30,290 rows were inserted.

Table PROJECT1_BOOK_AUTHORS created.

30,290 rows inserted.

PROJECT.sql		PROJECT1_BOOK_AUTHORS						
Columns	Data	Model	Constraints	Grants	Statistics	Triggers	Flashback	Depen
		Sort..		Filter:				
	AUTHOR_ID	ISBN						
1	8806	0385333404						
2	7461	044021145X						
3	9748	0449212084						
4	9937	0553582682						
5	11776	0590947257						
6	14907	0590947257						
7	1841	074345829X						
8	12453	074345829X						
9	2170	0786913878						
10	4331	0801491827						
11	1980	0816729913						
12	8028	0843136685						
13	12156	0843136685						
14	13353	0843136685						
15	846	0866119531						
16	3	0866119531						
17	63	0866119531						
18	2307	0866119566						
19	9807	0866119566						
20	3762	0870441663						
21	6458	0870441663						
22	2918	1561561428						
23	4594	1561561428						
24	10242	1561561428						
25	11088	0553210092						
26	916	0553258524						
27	12937	0688163726						
28	15038	1569471096						
29	9375	055358099X						
30	476	0316168815						
31	14411	014023828X						
32	4338	0316314927						
33	7479	0345424719						
34	14751	0375414746						
35	12587	0375726403						
36	9698	0385503857						
37	7822	0425156842						
38	869	0440226104						
39	3593	0452277337						
40	3383	0553802488						

PROJECT1_LIBRARY_BRANCH_LOAD

```
CREATE TABLE PROJECT1_LIBRARY_BRANCH AS SELECT * FROM
PROJECT1_LIBRARY_BRANCH_LOAD;
ALTER TABLE PROJECT1_LIBRARY_BRANCH ADD CONSTRAINT LIBBRANCHPK PRIMARY KEY
(BRANCH_ID);
```

PROJECT.sql PROJECT1_BOOK_AUTHORS

SQL Worksheet History

Worksheet Query Builder

```
-- CREATING AND ALTERING PROJECT1_LIBRARY_BRANCH_LOAD
CREATE TABLE PROJECT1_LIBRARY_BRANCH AS SELECT * FROM PROJECT1_LIBRARY_BRANCH_LOAD;
ALTER TABLE PROJECT1_LIBRARY_BRANCH ADD CONSTRAINT LIBBRANCHPK PRIMARY KEY (BRANCH_ID);
```

Script Output

Task completed in 0.08 seconds

Table PROJECT1_LIBRARY_BRANCH created.

Table PROJECT1_LIBRARY_BRANCH altered.

PROJECT.sql PROJECT1_LIBRARY_BRANCH

Columns Data Model Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL

BRANCH_ID	BRANCH_NAME	ADDRESS
1	1 Oak Lawn	4100 Cedar Springs Road, 75219
2	2 Lakewood	6121 Worth Street, 75214
3	3 Grauwylar Park	2146 Gilford Street, 75235
4	4 Highland Hills	3624 Simpson Stuart Road, 75241
5	5 Audelia Road	10045 Audelia Road, 75238

PROJECT1_BORROWER

```
CREATE TABLE PROJECT1_BORROWER
(CARD_NO VARCHAR2(20) NOT NULL,
SSN VARCHAR2(20) NOT NULL,
FNAME VARCHAR2(20),
LNAME VARCHAR2(20),
ADDRESS VARCHAR2(128) NOT NULL,
PHONE VARCHAR2(15) NOT NULL,
CONSTRAINT CARDPK PRIMARY KEY (CARD_NO));
```

```
INSERT INTO PROJECT1_BORROWER SELECT ID0000ID,
SSN, FIRST_NAME, LAST_NAME, ADDRESS || ', ' || CITY || ', ' || STATE, PHONE
FROM project1_borrowers_load;
```

The screenshot displays the SQL Developer environment. The top pane shows the SQL script for creating the PROJECT1_BORROWER table and inserting data from the project1_borrowers_load table. The bottom pane shows the script output, indicating that the table was successfully created and 1,000 rows were inserted.

SQL Worksheet History

Worksheet Query Builder

```
-- CREATING AND ALTERING PROJECT1_BORROWER
CREATE TABLE PROJECT1_BORROWER
(CARD_NO VARCHAR2(20) NOT NULL,
SSN VARCHAR2(20) NOT NULL,
FNAME VARCHAR2(20),
LNAME VARCHAR2(20),
ADDRESS VARCHAR2(128) NOT NULL,
PHONE VARCHAR2(15) NOT NULL,
CONSTRAINT CARDPK PRIMARY KEY (CARD_NO));

INSERT INTO PROJECT1_BORROWER SELECT ID0000ID,
SSN, FIRST_NAME, LAST_NAME, ADDRESS || ', ' || CITY || ', ' || STATE, PHONE
FROM project1_borrowers_load;
```

Script Output x

Task completed in 0.059 seconds

Table PROJECT1_BORROWER created.

1,000 rows inserted.

PROJECT1_BORROWER						
CARD_NO	SSN	FNAME	LNAME	ADDRESS	PHONE	
1	ID000289	999-46-8310	Shawn	Martinez	19 Lunder Park, Dallas, TX	(469) 986-4161
2	ID000290	999-97-1438	Mary	Graham	701 Cordelia Court, Dallas, TX	(214) 687-0840
3	ID000291	999-90-4011	Janet	West	2308 Division Center, Dallas, TX	(214) 978-0541
4	ID000292	999-60-4201	Aaron	Arnold	5886 Banding Trail, Dallas, TX	(214) 955-5863
5	ID000293	999-17-0796	Justin	Brown	611 Green Plaza, Plano, TX	(214) 901-6023
6	ID000294	999-06-9057	George	Torres	64206 Calypso Hill, Dallas, TX	(972) 925-4199
7	ID000295	999-28-9325	Brian	Romero	4418 Green Ridge Terrace, Dallas, TX	(469) 825-9159
8	ID000296	999-01-1020	Lawrence	Morris	42 Magdeline Pass, Dallas, TX	(214) 942-2979
9	ID000297	999-93-9771	Patrick	Garcia	1 Nevada Parkway, Dallas, TX	(469) 827-6118
10	ID000298	999-32-6866	Ashley	Moreno	067 Morning Park, Dallas, TX	(469) 869-6226
11	ID000299	999-79-0842	Aaron	Ellis	1925 Grasskamp Alley, Dallas, TX	(469) 937-9272
12	ID000300	999-28-3296	Jimmy	James	3 Knutson Way, Dallas, TX	(972) 930-8175
13	ID000301	999-28-4504	Maria	Torres	56168 Arizona Drive, Dallas, TX	(214) 931-8328
14	ID000302	999-78-4845	Chris	Owens	6 Browning Park, Dallas, TX	(972) 701-4889
15	ID000303	999-27-9759	Elizabeth	Harvey	1995 Nelson Park, Dallas, TX	(972) 992-9375
16	ID000304	999-61-9406	Jane	Baker	0062 Sunbrook Junction, Dallas, TX	(469) 754-6653
17	ID000305	999-06-8429	Lisa	Kelley	272 Larry Drive, Dallas, TX	(469) 930-6637
18	ID000306	999-62-6313	Jonathan	Diaz	18283 Brown Center, Dallas, TX	(469) 940-2479
19	ID000307	999-93-9926	Mildred	Allen	5734 La Follette Point, Dallas, TX	(469) 946-2268
20	ID000308	999-97-1208	Linda	Rogers	0590 Northport Drive, Dallas, TX	(972) 947-1564
21	ID000309	999-18-1878	Gary	Garrett	5285 2nd Court, Dallas, TX	(469) 939-2476
22	ID000310	999-36-5067	Earl	Hall	7755 Park Meadow Way, Dallas, TX	(214) 882-0672
23	ID000311	999-20-4125	Benjamin	Bailey	72101 Elmside Parkway, Dallas, TX	(214) 896-3364
24	ID000312	999-10-4620	Angela	Graham	5 High Crossing Crossing, Richardson, TX	(972) 878-1468
25	ID000313	999-68-7899	Dennis	Hunter	7 2nd Place, Plano, TX	(469) 967-8745
26	ID000314	999-21-2736	Matthew	Stevens	9603 Hansons Way, Dallas, TX	(469) 861-3808
27	ID000315	999-75-0048	Annie	Freeman	7466 Gulseth Alley, Dallas, TX	(972) 921-0146
28	ID000316	999-37-4979	Richard	Lawson	792 Dottie Circle, Dallas, TX	(214) 545-9387
29	ID000317	999-35-3551	Susan	Allen	6 Morrow Alley, Dallas, TX	(214) 748-0451
30	ID000318	999-55-4900	Rose	Coleman	26094 Loomis Alley, Dallas, TX	(469) 819-2212
31	ID000319	999-57-5624	Kathy	Elliot	28 Boyd Pass, Dallas, TX	(469) 996-0439
32	ID000320	999-13-6801	Teresa	Brooks	57699 Oak Circle, Richardson, TX	(972) 731-4160
33	ID000321	999-65-2211	Julie	Lane	8261 Magdeline Road, Dallas, TX	(214) 930-8339
34	ID000322	999-14-5596	Jessica	Day	80 Cascade Junction, Dallas, TX	(214) 947-1788
35	ID000323	999-47-3959	Billy	Cruz	75 Mosinee Court, Dallas, TX	(214) 797-5929
36	ID000324	999-10-4874	Martha	Mccoy	74 Claremont Park, Dallas, TX	(214) 915-1572
37	ID000325	999-41-8699	Frances	Long	0 Schlimgen Alley, Dallas, TX	(214) 951-4800
38	ID000326	999-57-4791	Carolyn	Duncan	1 Merry Place, Dallas, TX	(214) 279-8556
39	ID000327	999-33-4483	Ryan	Mendoza	9 Myrtle Way, Dallas, TX	(214) 867-1887
40	ID000328	999-61-4241	Jerry	Oliver	0 Vera Alley, Dallas, TX	(469) 734-8276

PROJECT1_BOOK_COPIES

```
CREATE TABLE PROJECT1_BOOK_COPIES
(BOOK_ID VARCHAR2(20),
ISBN VARCHAR2(20),
BRANCH_ID NUMERIC(3),
CONSTRAINT BOOK_IDPK PRIMARY KEY (BOOK_ID),
CONSTRAINT ISBNBCFK FOREIGN KEY (ISBN) REFERENCES PROJECT1_BOOK,
CONSTRAINT BRANCHFK FOREIGN KEY (BRANCH_ID) REFERENCES PROJECT1_LIBRARY_BRANCH);
```

```
CREATE sequence book_id_seq START WITH 1 INCREMENT by 1 nocache nocycle;
```

```
DECLARE
    rep_cnt NUMBER;
    CURSOR c_trx
    IS
    SELECT
        book_id,branch_id,no_of_copies
    FROM project1_book_copies_load
BEGIN
    FOR r_trx IN c_trx
```


LOOP

```
rep_cnt := r_trx.no_of_copies;
```

LOOP

```
IF rep_cnt <= 0
```

```
THEN
```

```
EXIT;
```

```
END IF;
```

```
INSERT INTO project1_book_copies VALUES
```

```
(book_id_seq.nextval,r_trx.book_id,r_trx.branch_id);
```

```
rep_cnt := rep_cnt-1;
```

```
END LOOP;
```

```
END LOOP;
```

```
END;
```

```
/
```

The screenshot displays the SQL Developer environment. The top pane shows a script titled 'PROJECT1.sql' with the following content:

```
-- CREATING AND POPULATING PROJECT1_BOOK_COPIES
CREATE TABLE PROJECT1_BOOK_COPIES
(BOOK_ID VARCHAR2(20),
ISBN VARCHAR2(20),
BRANCH_ID NUMERIC(3),
CONSTRAINT BOOK_IDPK PRIMARY KEY (BOOK_ID),
CONSTRAINT ISBNBCFK FOREIGN KEY (ISBN) REFERENCES PROJECT1_BOOK,
CONSTRAINT BRANCHFK FOREIGN KEY (BRANCH_ID) REFERENCES PROJECT1_LIBRARY_BRANCH);

create sequence book_id_seq start with 1 increment by 1 nocache nocycle;

DECLARE
rep_cnt NUMBER;
CURSOR c_trx
IS
SELECT
book_id branch_id no_of_copies
```

The bottom pane, titled 'Script Output', shows the execution results:

```
Table PROJECT1_BOOK_COPIES created.

Sequence BOOK_ID_SEQ created.

PL/SQL procedure successfully completed.
```


PROJECT.sqlPROJECT1_BORROWER

SQL WorksheetHistory

WorksheetQuery Builder

```
DECLARE
  rep_cnt NUMBER;
  CURSOR c_trx
  IS
    SELECT
      book_id,branch_id,no_of_copies
    FROM project1_book_copies_load;
BEGIN
  FOR r_trx IN c_trx
  LOOP

    rep_cnt := r_trx.no_of_copies;
    LOOP
      IF rep_cnt <= 0
      THEN
        EXIT;
      END IF;
      INSERT INTO project1_book_copies VALUES (book_id_seq.nextval,r_trx.book_id,r_trx.branch_id);
      rep_cnt := rep_cnt-1;
    END LOOP;
  END LOOP;
END;
/
```

Script Output


Task completed in 11.451 seconds

Table PROJECT1_BOOK_COPIES created.

Sequence BOOK_ID_SEQ created.

PROJECT.sql PROJECT1_BOOK_COPIES

ColumnsDataModelConstraintsGrantsStatisticsTriggersFlashbackDependenciesData

Sort..Filter:

	BOOK_ID	ISBN	BRANCH_ID
1	321	0743245024	1
2	322	0743245024	3
3	323	0749748001	1
4	324	0749748001	2
5	325	0749748001	3
6	326	0749748028	3
7	327	0749748028	4
8	328	0749748028	5
9	329	0963094424	1
10	330	0963094424	3
11	331	0963094424	4
12	332	0963094424	5
13	333	1401201172	1
14	334	1401201172	2
15	335	1401201172	5
16	336	1563892278	1
17	337	1563892278	2
18	338	1563892278	4
19	339	1563892278	5
20	340	1563898586	1
21	341	1563898586	2
22	342	1563898586	3
23	343	1563898586	4
24	344	1563898586	5
25	345	156971620X	1
26	346	156971620X	2
27	347	156971620X	3
28	348	156971620X	4
29	349	156971620X	5
30	350	1592571301	1
31	351	1592571301	3
32	352	1592571301	5
33	353	0374270325	1
34	354	0374270325	3
35	355	0374270325	3
36	356	0374270325	5
37	357	0375719180	2
38	358	0375719180	3

Dbms Output

Dbms Output

PROJECT1_BOOK_LOANS

Exactly 400 books check-outs for exactly 200 different borrowers and exactly 100 different books.

```
CREATE TABLE PROJECT1_BOOK_LOANS
(LOAN_ID VARCHAR2(20),
BOOK_ID VARCHAR2(20),
CARD_NO VARCHAR2(20),
DATE_OUT DATE,
DUE_DATE DATE,
DATE_IN DATE,
CONSTRAINT LOAN_IDPK PRIMARY KEY (LOAN_ID),
CONSTRAINT BOOK_IDFK FOREIGN KEY (BOOK_ID) REFERENCES PROJECT1_BOOK_COPIES,
CONSTRAINT CARD_NOFK FOREIGN KEY (CARD_NO) REFERENCES PROJECT1_BORROWER);

CREATE SEQUENCE LOANID_SEQ START WITH 1 INCREMENT BY 1 NOCACHE NOCYCLE;

INSERT INTO PROJECT1_BOOK_LOANS
SELECT LOANID_SEQ.NEXTVAL, book_id, card_no, date_out, date_out + 30 AS
due_date,
CASE WHEN ROWNUM <= 50
THEN date_out + 30 + ROUND(DBMS_RANDOM.value(1,10),0)
ELSE date_out + ROUND(DBMS_RANDOM.value(1,30),0)
END
FROM (
SELECT x.card_no AS card_no, y.book_id,y.isbn,
DENSE_RANK() OVER(ORDER BY card_no) AS bor_rank,
ROW_NUMBER() OVER(PARTITION BY card_no ORDER BY card_no,book_id) AS bb_rank,
SYSDATE - ROUND(DBMS_RANDOM.value(1,30),0) AS date_out
FROM
(SELECT * FROM
(SELECT card_no
FROM PROJECT1_BORROWER
ORDER BY DBMS_RANDOM.random)
WHERE ROWNUM <= 200 ) x,
(SELECT * FROM
(SELECT book_id,isbn
FROM PROJECT1_BOOK_COPIES
ORDER BY DBMS_RANDOM.random )
WHERE ROWNUM <= 100 ) y
ORDER BY DBMS_RANDOM.random )
WHERE (bor_rank) = bb_rank-1
OR (bor_rank) = bb_rank
OR bor_rank - 100 = bb_rank
OR bor_rank - 100 = bb_rank -1
OR (bor_rank=200 and bb_rank=1);
```

PROJECT.sql PROJECT1_BOOK_COPIES

SQL Worksheet History

Worksheet

Query Builder

```
-- CREATING AND POPULATING PROJECT1_BOOK_LOANS
CREATE TABLE PROJECT1_BOOK_LOANS
(LOAN_ID VARCHAR2(20),
BOOK_ID VARCHAR2(20),
CARD_NO VARCHAR2(20),
DATE_OUT DATE,
DUE_DATE DATE,
DATE_IN DATE,
CONSTRAINT LOAN_IDPK PRIMARY KEY (LOAN_ID),
CONSTRAINT BOOK_IDFK FOREIGN KEY (BOOK_ID) REFERENCES PROJECT1_BOOK_COPIES,
CONSTRAINT CARD_NOFK FOREIGN KEY (CARD_NO) REFERENCES PROJECT1_BORROWER);

CREATE SEQUENCE LOANID_SEQ START WITH 1 INCREMENT BY 1 NOCACHE NOCYCLE;

INSERT INTO PROJECT1_BOOK_LOANS
SELECT LOANID_SEQ.NEXTVAL, book_id, card_no, date_out, date_out + 30 AS due_date,
CASE WHEN ROWNUM <= 50
THEN date_out + 30 + ROUND(DBMS_RANDOM.value(1,10),0)
```

Script Output x

Task completed in 0.466 seconds

Table PROJECT1_BOOK_LOANS created.

Sequence LOANID_SEQ created.

400 rows inserted.

PROJECT.sql PROJECT1_BOOK_COPIES

SQL Worksheet History

Worksheet Query Builder

```
INSERT INTO PROJECT1_BOOK_LOANS
SELECT LOANID_SEQ.NEXTVAL, book_id, card_no, date_out, date_out + 30 AS due_date,
CASE WHEN ROWNUM <= 50
THEN date_out + 30 + ROUND(DBMS_RANDOM.value(1,10),0)
ELSE date_out + ROUND(DBMS_RANDOM.value(1,30),0)
END
FROM (
SELECT x.card_no AS card_no, y.book_id,y.isbn,
DENSE_RANK() OVER(ORDER BY card_no) AS bor_rank,
ROW_NUMBER() OVER(PARTITION BY card_no ORDER BY card_no,book_id) AS bb_rank,
SYSDATE - ROUND(DBMS_RANDOM.value(1,30),0) AS date_out
FROM
(SELECT * FROM
(SELECT card_no
FROM PROJECT1_BORROWER
ORDER BY DBMS_RANDOM.random)
WHERE ROWNUM <= 200 ) x,
(SELECT * FROM
(SELECT book_id,isbn
FROM PROJECT1_BOOK_COPIES
ORDER BY DBMS_RANDOM.random )
WHERE ROWNUM <= 100 ) y
ORDER BY DBMS_RANDOM.random )
WHERE (bor_rank) = bb_rank-1
OR (bor_rank) = bb_rank
OR bor_rank - 100 = bb_rank
OR bor_rank - 100 = bb_rank -1
OR (bor_rank=200 and bb_rank=1);
```

Script Output x

Task completed in 0.466 seconds

Table PROJECT1_BOOK_LOANS created.

PROJECT1_BOOK_LOANS						
Columns	Data	Model	Constraints	Grants	Statistics	Triggers
Flashback	Dependencies	Details	Partitions	Indexes	SQL	
Sort..	Filter:					
LOAN_ID	BOOK_ID	CARD_NO	DATE_OUT	DUE_DATE	DATE_IN	
1 154	35021	ID000675	18-OCT-21	17-NOV-21	29-OCT-21	
2 155	65426	ID000379	24-OCT-21	23-NOV-21	06-NOV-21	
3 156	62918	ID000818	29-OCT-21	28-NOV-21	24-NOV-21	
4 157	4810	ID000771	23-OCT-21	22-NOV-21	27-OCT-21	
5 158	34664	ID000157	15-OCT-21	14-NOV-21	04-NOV-21	
6 159	42420	ID000724	12-OCT-21	11-NOV-21	29-OCT-21	
7 160	78957	ID000916	17-OCT-21	16-NOV-21	24-OCT-21	
8 161	16184	ID000038	11-OCT-21	10-NOV-21	08-NOV-21	
9 162	3352	ID000664	04-OCT-21	03-NOV-21	12-OCT-21	
10 163	17339	ID000536	20-OCT-21	19-NOV-21	21-OCT-21	
11 164	66007	ID000383	14-OCT-21	13-NOV-21	23-OCT-21	
12 165	3642	ID000163	01-OCT-21	31-OCT-21	05-OCT-21	
13 166	14393	ID000520	28-OCT-21	27-NOV-21	20-NOV-21	
14 167	67993	ID000388	24-OCT-21	23-NOV-21	05-NOV-21	
15 168	62976	ID000823	07-OCT-21	06-NOV-21	02-NOV-21	
16 169	3352	ID000657	19-OCT-21	18-NOV-21	04-NOV-21	
17 170	64255	ID000378	13-OCT-21	12-NOV-21	31-OCT-21	
18 171	5016	ID000783	24-OCT-21	23-NOV-21	20-NOV-21	
19 172	8511	ID000960	18-OCT-21	17-NOV-21	19-OCT-21	
20 173	78257	ID000425	24-OCT-21	23-NOV-21	27-OCT-21	
21 174	4810	ID000274	08-OCT-21	07-NOV-21	04-NOV-21	
22 175	5248	ID000787	01-OCT-21	31-OCT-21	10-OCT-21	
23 176	4810	ID000277	16-OCT-21	15-NOV-21	05-NOV-21	
24 177	13397	ID000019	24-OCT-21	23-NOV-21	01-NOV-21	
25 178	71313	ID000879	19-OCT-21	18-NOV-21	11-NOV-21	
26 179	31831	ID000150	24-OCT-21	23-NOV-21	25-OCT-21	
27 180	30291	ID000622	14-OCT-21	13-NOV-21	09-NOV-21	
28 181	30561	ID000634	28-OCT-21	27-NOV-21	07-NOV-21	
29 182	86084	ID000445	15-OCT-21	14-NOV-21	11-NOV-21	
30 183	86459	ID000972	27-OCT-21	26-NOV-21	25-NOV-21	
31 184	62976	ID000824	01-OCT-21	31-OCT-21	08-OCT-21	
32 185	66007	ID000386	05-OCT-21	04-NOV-21	06-OCT-21	
33 186	42880	ID000729	24-OCT-21	23-NOV-21	10-NOV-21	
34 187	78957	ID000425	20-OCT-21	19-NOV-21	01-NOV-21	
35 188	52953	ID000295	11-OCT-21	10-NOV-21	22-OCT-21	
36 189	16184	ID000532	23-OCT-21	22-NOV-21	29-OCT-21	
37 190	75565	ID000884	21-OCT-21	20-NOV-21	01-NOV-21	
38 191	21376	ID000063	06-OCT-21	05-NOV-21	12-OCT-21	
39 192	11349	ID000004	01-OCT-21	31-OCT-21	10-OCT-21	
40 193	21376	ID000576	02-OCT-21	01-NOV-21	20-OCT-21	

PROJECT1_FINES












Exactly 50 fines records for 50 different borrowers. Fines should be generated by books checked back in late.

```
CREATE TABLE PROJECT1_FINES(
  LOAN_ID VARCHAR2(20),
  FINE_AMT VARCHAR2(10),
  PAID VARCHAR2(10),
  CONSTRAINT FINE_PK PRIMARY KEY (LOAN_ID),
  CONSTRAINT FINE_FK FOREIGN KEY (LOAN_ID) REFERENCES PROJECT1_BOOK_LOANS);
```

```
INSERT INTO PROJECT1_FINES(loan_id, fine_amt)
(SELECT loan_id, floor(TRUNC(date_in) - TRUNC(due_date)) * 10
FROM PROJECT1_BOOK_LOANS
WHERE FLOOR(TRUNC(due_date) - TRUNC(date_in)) < 0);
```

PROJECT.sql x PROJECT1_BOOK_LOANS x

SQL Worksheet History












Worksheet Query Builder

----- CREATING AND POPULATING PROJECT1_FINES

CREATE TABLE PROJECT1_FINES(
LOAN_ID VARCHAR2(20),
FINE_AMT VARCHAR2(10),
PAID VARCHAR2(10),
CONSTRAINT FINE_PK PRIMARY KEY (LOAN_ID),
CONSTRAINT FINE_FK FOREIGN KEY (LOAN_ID) REFERENCES PROJECT1_BOOK_LOANS);

INSERT INTO PROJECT1_FINES(loan_id, fine_amt)
(SELECT loan_id, floor(TRUNC(date_in) - TRUNC(due_date)) * 10
FROM PROJECT1_BOOK_LOANS
WHERE FLOOR(TRUNC(due_date) - TRUNC(date_in)) < 0);

Script Output x


Task completed in 0.093 seconds

Table PROJECT1_FINES created.

50 rows inserted.

PROJECT.sql x PROJECT1_FINES x

Columns | Data | Model | Constraints | Grants | Statistics | Triggers | Flashback | Depend

 Sort.. | Filter:

	LOAN_ID	FINE_AMT	PAID
1	1	50	(null)
2	2	60	(null)
3	3	100	(null)
4	4	80	(null)
5	5	30	(null)
6	6	80	(null)
7	7	50	(null)
8	8	30	(null)
9	9	40	(null)
10	10	20	(null)
11	11	30	(null)
12	12	20	(null)
13	13	30	(null)
14	14	90	(null)
15	15	70	(null)
16	16	10	(null)
17	17	90	(null)
18	18	90	(null)
19	19	80	(null)
20	20	80	(null)
21	21	100	(null)
22	22	50	(null)
23	23	50	(null)
24	24	90	(null)
25	25	60	(null)
26	26	70	(null)
27	27	50	(null)
28	28	30	(null)
29	29	40	(null)
30	30	30	(null)
31	31	20	(null)
32	32	70	(null)
33	33	40	(null)
34	34	40	(null)
35	35	50	(null)
36	36	90	(null)
37	37	10	(null)
38	38	90	(null)
39	39	100	(null)
40	40	10	(null)

CREATING INDEXES

```
CREATE INDEX BOOK_TITLE_ISBN_INDEX ON PROJECT1_BOOK(ISBN,TITLE);
CREATE INDEX AUTHOR_IND ON PROJECT1_AUTHORS(AUTHOR_ID,NAME);
```

Search Function

```
SELECT k.BOOK_ID, k.BRANCH_ID, k.ISBN, k.TITLE, k.AUTHORS FROM
(SELECT
BOOK_ID, BRANCH_ID, ISBN, TITLE,
LISTAGG(NAME, ', ') AS AUTHORS
FROM
( SELECT
DISTINCT bc.BOOK_ID, bc.BRANCH_ID, b.ISBN, b.TITLE,
pa.author_id, pa.name
FROM
project1_book b, PROJECT1_AUTHORS pa,
PROJECT1_BOOK_AUTHORS ba, PROJECT1_BOOK_COPIES bc
WHERE
ba.ISBN = b.ISBN
AND ba.AUTHOR_ID = pa.AUTHOR_ID
AND bc.ISBN = b.ISBN
AND (LOWER(b.TITLE) LIKE LOWER('%AIR%')
OR LOWER(pa.NAME) LIKE LOWER('%AIR%')
OR LOWER(b.ISBN) LIKE LOWER('%AIR%')
OR bc.BOOK_ID LIKE LOWER('%AIR%'))
ORDER BY bc.BOOK_ID)
WHERE BRANCH_ID = 2
GROUP BY BOOK_ID, BRANCH_ID, ISBN, TITLE
ORDER BY ISBN, BOOK_ID) k
LEFT JOIN
(SELECT * FROM PROJECT1_BOOK_LOANS
WHERE DATE_IN IS NULL
AND DATE_IN > SYSDATE) l
ON k.BOOK_ID = l.BOOK_ID
ORDER BY TITLE;
```

SQL Worksheet History		
Worksheet Query Builder		
<pre> SELECT k.BOOK_ID, k.BRANCH_ID, k.ISBN, k.TITLE, k.AUTHORS FROM (SELECT BOOK_ID, BRANCH_ID, ISBN, TITLE, LISTAGG(NAME, ', ') AS AUTHORS FROM (SELECT DISTINCT bc.BOOK_ID, bc.BRANCH_ID, b.ISBN, b.TITLE, pa.author_id, pa.name FROM project1_book b, PROJECT1_AUTHORS pa, PROJECT1_BOOK_AUTHORS ba, PROJECT1_BOOK_COPIES bc WHERE ba.ISBN = b.ISBN AND ba.AUTHOR_ID = pa.AUTHOR_ID AND bc.ISBN = b.ISBN AND (LOWER(b.TITLE) LIKE LOWER('%AIR%') OR LOWER(pa.NAME) LIKE LOWER('%AIR%') OR LOWER(b.ISBN) LIKE LOWER('%AIR%') OR bc.BOOK_ID LIKE LOWER('%AIR%')) ORDER BY bc.BOOK_ID) WHERE BRANCH_ID = 2 GROUP BY BOOK_ID, BRANCH_ID, ISBN, TITLE ORDER BY ISBN, BOOK_ID) k LEFT JOIN (SELECT * FROM PROJECT1_BOOK_LOANS WHERE DATE_IN IS NULL AND DATE_IN > SYSDATE) l ON k.BOOK_ID = l.BOOK_ID ORDER BY TITLE; </pre>		
Query Result x		
SQL Fetched 50 rows in 0.122 seconds		
BRANCH_ID	ISBN	TITLE
1	20201895293	101 Bright Ideas: ESL Activities For All Ages

SQL Worksheet History

Worksheet Query Builder

```
SELECT k.BOOK_ID, k.BRANCH_ID, k.ISBN, k.TITLE, k.AUTHORS FROM
(SELECT
BOOK_ID, BRANCH_ID, ISBN, TITLE,
LISTAGG(NAME, ', ') AS AUTHORS
FROM
( SELECT
DISTINCT bc.BOOK_ID, bc.BRANCH_ID, b.ISBN, b.TITLE,
pa.author_id, pa.name
FROM
project1_book b, PROJECT1_AUTHORS pa,
PROJECT1_BOOK_AUTHORS ba, PROJECT1_BOOK_COPIES bc
WHERE
ba.ISBN = b.ISBN
```

Query Result x

SQL | Fetched 50 rows in 0.122 seconds

BOOK_ID	BRANCH_ID	ISBN	TITLE	AUTHORS
17393		20201895293	101 Bright Ideas: ESL Activities For All Ages	Claire Maria Ford, Claire Ford
27159		23310005844	20 Jahre 40 Bleiben	Josephine Fairley
387121		2039923246X	26 Fairmount Avenue	Tomie DePaola
456699		20871132648	A Fairy Tale Of New York (Donleavy, J. P.)	J. P. Donleavy
547144		2080506270X	A Field Guide To Demons, Fairies, Fallen Angels And Oth...	Carol K. Mack, Dinah Mack
634468		20060259078	A Little Prairie House (Little House)	Laura Ingalls Wilder, Renee Graef
718310		20061092029	A Marriage Made In Heaven: Or Too Tired For An Affair	Erma Bombeck
891232		20553240838	A Most Contagious Game	Catherine Aird
928856		20764221566	A Quiet Strength (Prairie Legacy Series #3)	Janette Oke
1028834		20764221396	A Searching Heart (Prairie Legacy Series #2)	Janette Oke
118736		20061012289	A Secret Affair	Barbara Taylor Bradford
1229298		20876544766	A Small Book Of Fairies	Eugene Stiles
1367002		20811643085	A Tooth For The Tooth Fairy (For Real Book)	James Cummins, Louise Gunther
1467760		21565845609	A Transatlantic Love Affair: Letters To Nelson Algren	Nelson Algren, Simone De Beauvoir, Sylvie Le Bon
157683		2037541181X	A Venetian Affair	Andrea Di Robilant
1627391		20060391022	A Village Affair	Joanna Trollope
1710433		21561706213	Adventures Of A Psychic: A Fascinating And Inspiring Tr...	Sylvia Browne, Antoinette May
1842155		20553574078	Affair	Amanda Quick
1950665		20060928174	After The Affair: Healing The Pain And Rebuilding Trust...	Janis Abrahms Spring, Michael Spring
2037015		20553157124	Against Taffy Sinclair Club, The	Betsy Haynes
2164246		22904299106	Aie, Mes Aieux! Liens Transgenerationnels, Sectrets De ...	Anne Ancelin SchÄtzenberger

Reports

TOP 10 BOOKS FOR WHICH MAXIMUM FINES WERE PAID


```

SELECT * FROM (SELECT b.TITLE, b.ISBN, SUM(f.FINE_AMT) FINE_AMOUNT FROM
PROJECT1_FINES f
JOIN PROJECT1_BOOK_LOANS l ON f.LOAN_ID = l.loan_id
JOIN project1_book_copies c ON c.book_id = l.book_id
JOIN PROJECT1_BOOK b ON b.ISBN = c.ISBN
group by b.TITLE, b.ISBN
ORDER BY FINE_AMOUNT DESC)
WHERE ROWNUM < 11;

```

```

-- TOP 10 BOOKS FOR WHICH MAXIMUM FINES WERE PAID

SELECT * FROM (SELECT b.TITLE, b.ISBN, SUM(f.FINE_AMT) FINE_AMOUNT FROM PROJECT1_FINES f
JOIN PROJECT1_BOOK_LOANS l ON f.LOAN_ID = l.loan_id
JOIN project1_book_copies c ON c.book_id = l.book_id
JOIN PROJECT1_BOOK b ON b.ISBN = c.ISBN
group by b.TITLE, b.ISBN
ORDER BY FINE_AMOUNT DESC)
WHERE ROWNUM < 11;

```

Query Result x			
SQL All Rows Fetched: 10 in 0.042 seconds			
TITLE	ISBN	FINE_AMOUNT	
1 The Art Of Imperfection: Simple Ways To Make Peace With Yourself	0609605216	180	
2 Paroles	2070367622	110	
3 A More Perfect Union	0380754134	110	
4 Life Is Short, Wear Your Party Pants	1401901484	110	
5 Out Of The Deep I Cry: A Clare Fergusson And Russ Van Alstyne Mystery	0312312628	110	
6 Mathematics And The Imagination (Tempus)	1556151047	100	
7 Whose Dinner	1852700483	90	
8 GATES OF PARADISE	0671670646	90	
9 Purple Ronnie's Love Poems	0752271474	90	
10 Happy Isles Of Oceania: Paddling The Pacific	0449908585	90	

TOP 15 LEAST LOANED BOOKS

```

SELECT A.ISBN, A.Title, Count(A.ISBN) AS No_of_books_loaned
FROM PROJECT1_BOOK A, PROJECT1_BOOK_LOANS B, PROJECT1_BOOK_COPIES C
WHERE A.ISBN = C.ISBN
AND C.BOOK_ID = B.BOOK_ID
AND B.DATE_OUT BETWEEN (sysdate -30) AND sysdate
GROUP BY A.ISBN, A.Title
ORDER BY COUNT(A.ISBN)
FETCH NEXT 15 ROWS ONLY;

```

SQL Worksheet History		
Worksheet Query Builder		
<pre> SELECT A.ISBN, A.Title, Count(A.ISBN) AS No_of_books_loaned FROM PROJECT1_BOOK A, PROJECT1_BOOK_LOANS B, PROJECT1_BOOK_COPIES C WHERE A.ISBN = C.ISBN AND C.BOOK_ID = B.BOOK_ID AND B.DATE_OUT BETWEEN (sysdate -30) AND sysdate GROUP BY A.ISBN, A.Title ORDER BY COUNT(A.ISBN) FETCH NEXT 15 ROWS ONLY; </pre>		
Script Output x Query Result x		
SQL All Rows Fetched: 15 in 0.056 seconds		
ISBN	TITLE	NO_OF_BOOKS_LOANED
1 0373057296	Midsummer Madness (Silhouette Desire)	4
2 0595259677	THE TWENTIETH CENTURY COLLECTION: Eight Extraordinary One-Act Plays By Playwright	4
3 0553149121	Kiss Sleeping Beauty Goodbye: Breaking The Spell Of Feminine Myths And Models	4
4 0425121631	Rules Of Prey	4
5 0828103054	The Civil War (American Heritage Library)	4
6 1853262714	Anna Karenina (Wordsworth Classics) (Wadsworth Collection)	4
7 0786819146	The Eternity Code (Artemis Fowl, Book 3)	4
8 0671018930	Eternal Warriors: The War In Heaven (Book One)	4
9 0439095026	Tell Me This Isn't Happening	4
10 0786889373	The Big Picture	4
11 006093395X	As The Romans Do: An American Family's Italian Odyssey	4
12 3426776545	Die Fünf Tibeter	4
13 0345405625	Walk In Hell (The Great War, Book 2)	4
14 0786703229	The Dressmaker	4
15 0140250840	Scent Of Dried Roses	4

TOP 15 MOST POPULAR BOOKS IN LAST MONTH

```

SELECT pb.ISBN, pb.Title, COUNT(pb.ISBN) AS No_of_books_loaned
FROM PROJECT1_BOOK pb, PROJECT1_BOOK_LOANS bl, PROJECT1_BOOK_COPIES bc
WHERE pb.ISBN = bc.ISBN
AND bc.BOOK_ID = bl.BOOK_ID
AND bl.date_out
BETWEEN (sysdate-30)
AND sysdate
GROUP BY pb.ISBN, pb.Title
ORDER BY COUNT(pb.ISBN) DESC
FETCH NEXT 15 ROWS ONLY;

```

SQL Worksheet: History

Worksheet Query Builder

```

SELECT pb.ISBN, pb.Title, COUNT(pb.ISBN) AS No_of_books_loaned
FROM PROJECT1_BOOK pb, PROJECT1_BOOK_LOANS bl, PROJECT1_BOOK_COPIES bc
WHERE pb.ISBN = bc.ISBN
AND bc.BOOK_ID = bl.BOOK_ID
AND bl.date_out
BETWEEN (sysdate-30)
AND sysdate
GROUP BY pb.ISBN, pb.Title
ORDER BY COUNT(pb.ISBN) DESC
FETCH NEXT 15 ROWS ONLY;

```

Script Output x Query Result x

SQL | All Rows Fetched: 15 in 0.044 seconds

ISBN	TITLE	NO_OF_BOOKS_LOANED
1 0373057296	Midsummer Madness (Silhouette Desire)	4
2 0595259677	THE TWENTIETH CENTURY COLLECTION: Eight Extraordinary One-Act Plays By Playwright	4
3 0553149121	Kiss Sleeping Beauty Goodbye: Breaking The Spell Of Feminine Myths And Models	4
4 0425121631	Rules Of Prey	4
5 0828103054	The Civil War (American Heritage Library)	4
6 1853262714	Anna Karenina (Wordsworth Classics) (Wadsworth Collection)	4
7 0786819146	The Eternity Code (Artemis Fowl, Book 3)	4
8 0671018930	Eternal Warriors: The War In Heaven (Book One)	4
9 0439095026	Tell Me This Isn't Happening	4
10 0786889373	The Big Picture	4
11 006093395X	As The Romans Do: An American Family's Italian Odyssey	4
12 3426776545	Die F�nf Tibeter	4
13 0345405625	Walk In Hell (The Great War, Book 2)	4
14 0786703229	The Dressmaker	4
15 0140250840	Scent Of Dried Roses	4

ER Model

BOOK (ISBN, TITLE)

BOOK_AUTHORS (AUTHOR_ID, ISBN)

BOOK_AUTHORS.AUTHOR_ID references AUTHORS.AUTHOR_ID.

AUTHORS (AUTHOR_ID, NAME)

LIBRARY_BRANCH (BRANCH_ID, BRANCH_NAME, ADDRESS)

BOOK_COPIES (BOOK_ID, ISBN, BRANCH_ID)

BOOK_COPIES.ISBN references BOOK.ISBN,

BOOK_COPIES.BRANCH_ID references LIBRARY_BRANCH.BRANCH_ID.

BORROWER (CARD_NO, SSN, FNAME, LNAME, ADDRESS, PHONE)

BOOK_LOANS (LOAN_ID, BOOK_ID, CARD_NO, DATE_OUT, DUE_DATE, DATE_IN)

BOOK_LOANS.BOOK_ID references BOOK_COPIES.BOOK_ID,

BOOK_LOANS.CARD_NO references BORROWER.CARD_NO.

FINES (LOAN_ID, FINE_AMT, PAID)

FINES.LOAN_ID references BOOK_LOANS.LOAN_ID.

