

1)

i)

```
mysql> DESC author;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| author_id  | int       | NO   | PRI | NULL    |       |
| author_name | varchar(25) | YES  |     | NULL    |       |
| author_city | varchar(25) | YES  |     | NULL    |       |
| author_country | varchar(25) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.02 sec)

mysql> DESC publisher;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| publisher_id | int       | NO   | PRI | NULL    |       |
| publisher_name | varchar(25) | YES  |     | NULL    |       |
| publisher_city | varchar(25) | YES  |     | NULL    |       |
| publisher_country | varchar(25) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> DESC category;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| category_id | int       | NO   | PRI | NULL    |       |
| description | varchar(25) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> DESC catalogue;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| book_id    | int       | NO   | PRI | NULL    |       |
| book_title | varchar(25) | YES  |     | NULL    |       |
| author_id  | int       | YES  | MUL | NULL    |       |
| publisher_id | int       | YES  | MUL | NULL    |       |
| category_id | int       | YES  | MUL | NULL    |       |
| year       | int       | YES  |     | NULL    |       |
| price      | int       | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> DESC orderdetails;
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| order_id   | int       | NO   | PRI | NULL    |       |
| book_id    | int       | YES  | MUL | NULL    |       |
| quantity   | int       | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

li)

```
mysql> SELECT *FROM author;
+-----+-----+-----+-----+
| author_id | author_name | author_city | author_country |
+-----+-----+-----+-----+
| 1001 | JK Rowling | London | England |
| 1002 | Chetan Bhagat | Mumbai | India |
| 1003 | John McCarthy | Chicago | USA |
| 1004 | Dan Brown | California | USA |
| 1005 | Ana Huang | New york | USA |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT *FROM publisher;
+-----+-----+-----+-----+
| publisher_id | publisher_name | publisher_city | publisher_country |
+-----+-----+-----+-----+
| 2001 | Bloomsbury | London | England |
| 2002 | Scholastic | Washington | USA |
| 2003 | Pearson | London | England |
| 2004 | Rupa | Delhi | India |
| 2005 | MC Graw Hill | New York | USA |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT *FROM category;
+-----+-----+
| category_id | description |
+-----+-----+
| 3001 | Fiction |
| 3002 | Non-Fiction |
| 3003 | thriller |
| 3004 | action |
| 3005 | fiction |
+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT *FROM catalogue;
+-----+-----+-----+-----+-----+-----+-----+
| book_id | book_title | author_id | publisher_id | category_id | year | price |
+-----+-----+-----+-----+-----+-----+-----+
| 4001 | HP and Goblet Of Fire | 1001 | 2001 | 3001 | 2002 | 600 |
| 4002 | HP and Order Of Phoenix | 1001 | 2002 | 3001 | 2005 | 650 |
| 4003 | Two States | 1002 | 2004 | 3001 | 2009 | 65 |
| 4004 | 3 Mistakes of my life | 1002 | 2004 | 3001 | 2007 | 55 |
| 4005 | Da Vinci Code | 1004 | 2003 | 3001 | 2004 | 450 |
| 4006 | Angels and Demons | 1004 | 2003 | 3001 | 2003 | 350 |
| 4007 | Artificial Intelligence | 1003 | 2002 | 3002 | 1970 | 500 |
+-----+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)

mysql> SELECT *FROM orderdetails;
+-----+-----+-----+
| order_id | book_id | quantity |
+-----+-----+-----+
| 5001 | 4001 | 5 |
| 5002 | 4002 | 7 |
| 5003 | 4003 | 15 |
| 5004 | 4004 | 11 |
| 5005 | 4005 | 9 |
| 5006 | 4006 | 8 |
| 5007 | 4007 | 2 |
| 5008 | 4004 | 3 |
+-----+-----+-----+
```

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+-----+-----+-----+-----+
| author_name | book_title | Price | Year |
+-----+-----+-----+-----+
| Chetan Bhagat | Two States | 65 | 2009 |
| Chetan Bhagat | 3 Mistakes of my life | 55 | 2007 |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

iv)

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+-----+-----+
| author_id | author_name |
+-----+-----+
|      1001 | JK Rowling  |
+-----+-----+
1 row in set (0.00 sec)

```

v)

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+-----+-----+-----+-----+-----+-----+-----+
| book_id | book_title          | author_id | publisher_id | category_id | year | price |
+-----+-----+-----+-----+-----+-----+-----+
|      4001 | HP and Goblet Of Fire |      1001 |          2001 |          3001 | 2002 |    600 |
|      4002 | HP and Order Of Phoenix |      1001 |          2002 |          3001 | 2005 |    715 |
|      4003 | Two States          |      1002 |          2004 |          3001 | 2009 |     65 |
|      4004 | 3 Mistakes of my life |      1002 |          2004 |          3001 | 2007 |     55 |
|      4005 | Da Vinci Code       |      1004 |          2003 |          3001 | 2004 |    450 |
|      4006 | Angels and Demons    |      1004 |          2003 |          3001 | 2003 |    350 |
|      4007 | Artificial Intelligence |      1003 |          2002 |          3002 | 1970 |    550 |
+-----+-----+-----+-----+-----+-----+-----+
7 rows in set (0.00 sec)

```

2)

i)

```
mysql> DESC branch;
```

Field	Type	Null	Key	Default	Extra
branch_name	varchar(15)	NO	PRI	NULL	
branch_city	varchar(15)	YES		NULL	
assets	int	YES		NULL	

```
3 rows in set (0.00 sec)
```

  

```
mysql> DESC account;
```

Field	Type	Null	Key	Default	Extra
accno	int	NO	PRI	NULL	
branch_name	varchar(15)	YES	MUL	NULL	
balance	int	YES		NULL	

```
3 rows in set (0.00 sec)
```

  

```
mysql> DESC customer;
```

Field	Type	Null	Key	Default	Extra
customer_name	varchar(15)	NO	PRI	NULL	
customer_street	varchar(15)	YES		NULL	
customer_city	varchar(15)	YES		NULL	

```
3 rows in set (0.00 sec)
```

  

```
mysql> DESC loan;
```

Field	Type	Null	Key	Default	Extra
loan_number	int	NO	PRI	NULL	
branch_name	varchar(15)	YES	MUL	NULL	
amount	int	YES		NULL	

```
3 rows in set (0.00 sec)
```

  

```
mysql> DESC depositor;
```

Field	Type	Null	Key	Default	Extra
customer_name	varchar(15)	NO	PRI	NULL	
accno	int	NO	PRI	NULL	

```
2 rows in set (0.00 sec)
```

  

```
mysql> DESC borrower;
```

Field	Type	Null	Key	Default	Extra
customer_name	varchar(15)	NO	PRI	NULL	
loan_number	int	NO	PRI	NULL	

```
2 rows in set (0.00 sec)
```

li)

```

+-----+-----+-----+
| branch_name | branch_city | assets |
+-----+-----+-----+
| b2          | c2          | 20000  |
| b3          | c3          | 30000  |
| b4          | c4          | 40000  |
| b5          | c5          | 50000  |
| Main        | c1          | 10000  |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT *FROM account;
+-----+-----+-----+
| accno | branch_name | balance |
+-----+-----+-----+
| 12    | Main        | 3000    |
| 22    | b2          | 4000    |
| 32    | b3          | 5000    |
| 42    | b4          | 6000    |
| 52    | Main        | 7000    |
| 62    | b5          | 7000    |
+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> SELECT *FROM customer;
+-----+-----+-----+
| customer_name | customer_street | customer_city |
+-----+-----+-----+
| cust1         | cstreet1        | c1            |
| cust2         | cstreet2        | c2            |
| cust3         | cstreet3        | c3            |
| cust4         | cstreet4        | c4            |
| cust5         | cstreet5        | c5            |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT *FROM depositor;
+-----+-----+
| customer_name | accno |
+-----+-----+
| cust1         | 12    |
| cust2         | 22    |
| cust3         | 32    |
| cust4         | 42    |
| cust5         | 62    |
+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT *FROM loan;
+-----+-----+-----+
| loan_number | branch_name | amount |
+-----+-----+-----+
| 10          | Main        | 10000  |
| 20          | b2          | 20000  |
| 30          | b3          | 30000  |
| 40          | b4          | 40000  |
| 50          | b5          | 50000  |
+-----+-----+-----+
5 rows in set (0.00 sec)

```

```
mysql> SELECT *FROM borrower;
+-----+-----+
| customer_name | loan_number |
+-----+-----+
| cust1         |          10 |
| cust2         |          20 |
| cust3         |          30 |
| cust4         |          40 |
| cust5         |          50 |
+-----+-----+
5 rows in set (0.00 sec)
```

lii)

```
+-----+
| customer_name |
+-----+
| cust1         |
+-----+
1 row in set (0.00 sec)
```

lv)

```
+-----+
| customer_name |
+-----+
| cust2         |
+-----+
1 row in set (0.00 sec)
```

3)

i)



```
mysql> DESC customer;
```

Field	Type	Null	Key	Default	Extra
cust_no	int	YES		NULL	
cname	char(25)	YES		NULL	
city	char(25)	YES		NULL	

```
3 rows in set (0.00 sec)
```

  

```
mysql> DESC orders;
```

Field	Type	Null	Key	Default	Extra
orderno	int	YES		NULL	
odate	date	YES		NULL	
ord_amt	int	YES		NULL	

```
3 rows in set (0.00 sec)
```

  

```
mysql> DESC order_item;
```

Field	Type	Null	Key	Default	Extra
orderno	int	YES		NULL	
itemno	int	YES		NULL	
qty	int	YES		NULL	

```
3 rows in set (0.00 sec)
```

  

```
mysql> DESC item;
```

Field	Type	Null	Key	Default	Extra
itemno	int	YES		NULL	
unitprice	int	YES		NULL	

```
2 rows in set (0.00 sec)
```

  

```
mysql> DESC shipment;
```

Field	Type	Null	Key	Default	Extra
orderno	int	YES		NULL	
warehouseno	int	YES		NULL	
ship_date	date	YES		NULL	

```
3 rows in set (0.00 sec)
```

  

```
mysql> DESC warehouse;
```

Field	Type	Null	Key	Default	Extra
warehouseno	int	YES		NULL	
city	char(25)	YES		NULL	

```
2 rows in set (0.00 sec)
```

li)

```
mysql> SELECT *FROM customer;
+-----+-----+-----+
| cust_no | cname | city |
+-----+-----+-----+
| 100 | Alex | Kolkata |
| 101 | Mason | Delhi |
| 102 | Ghost | Noida |
| 103 | Antonio | Carol Bagh |
| 104 | Sokolov | Noida |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT *FROM orders;
+-----+-----+-----+-----+
| orderno | odate | ord_amt | cust_no |
+-----+-----+-----+-----+
| 990 | 2023-06-09 | 25000 | 100 |
| 991 | 2023-01-12 | 28000 | 101 |
| 992 | 2023-05-05 | 2000 | 102 |
| 993 | 2023-06-23 | 1200 | 103 |
| 994 | 2023-03-10 | 4050 | 104 |
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT *FROM order_item;
+-----+-----+-----+
| orderno | itemno | qty |
+-----+-----+-----+
| 990 | 500 | 5 |
| 991 | 501 | 15 |
| 992 | 502 | 10 |
| 993 | 503 | 2 |
| 994 | 504 | 3 |
+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT *FROM item;
+-----+-----+
| itemno | unitprice |
+-----+-----+
| 500 | 25 |
| 501 | 50 |
| 502 | 75 |
| 503 | 100 |
| 504 | 125 |
+-----+-----+
5 rows in set (0.00 sec)

mysql> SELECT *FROM shipment;
+-----+-----+-----+
| orderno | warehouseno | ship_date |
+-----+-----+-----+
| 990 | 5 | 2023-06-27 |
| 991 | 10 | 2023-05-27 |
| 992 | 15 | 2023-04-19 |
| 993 | 20 | 2023-01-30 |
| 994 | 25 | 2023-07-08 |
+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> SELECT *FROM warehouse;
+-----+-----+
| warehouseno | city |
+-----+-----+
| 5 | Kolkata |
| 10 | Delhi |
| 15 | Noida |
| 20 | Carol Bagh |
| 25 | Noida |
+-----+-----+
5 rows in set (0.00 sec)
```

iii)



```

+-----+-----+
| orderno | ship_date |
+-----+-----+
|      992 | 2023-04-19 |
|      994 | 2023-07-08 |
+-----+-----+
2 rows in set (0.00 sec)

```

iv)

```

+-----+-----+-----+
| Customer Name | No of Orders | Average Order Amount |
+-----+-----+-----+
| Alex          |             1 |          25000.0000 |
| Mason         |             1 |          28000.0000 |
| Ghost         |             1 |           2000.0000 |
| Antonio       |             1 |           1200.0000 |
| Sokolov       |             1 |           4050.0000 |
+-----+-----+-----+
5 rows in set (0.00 sec)

```

v)

```

+-----+-----+-----+
| orderno | odate       | ship_date |
+-----+-----+-----+
|      991 | 2023-01-12 | 2023-05-27 |
|      994 | 2023-03-10 | 2023-07-08 |
+-----+-----+-----+
2 rows in set (0.00 sec)

```