

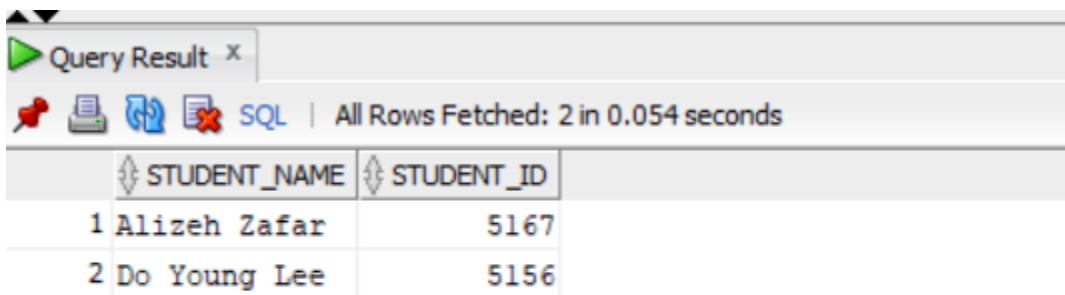
First Query:

```
SELECT DISTINCT s.student_name, s.student_id
FROM student s
WHERE EXISTS (
  SELECT *
  FROM loan l
  WHERE l.student_id = s.student_id
) AND EXISTS(
  SELECT *
  FROM book_fine bf
  WHERE bf.student_id = s.student_id
  AND bf.status = 'unpaid'
);
```

Result:

```
SQL> SQL> SQL> SQL> SQL>  2   3   4   5   6   7   8   9  10  11  12
STUDENT_NAME
-----
STUDENT_ID
-----
Alizeh Zafar
      5167

Do Young Lee
      5156
```



| | STUDENT_NAME | STUDENT_ID |
|---|--------------|------------|
| 1 | Alizeh Zafar | 5167 |
| 2 | Do Young Lee | 5156 |

Second Query:

```
SELECT b.genre, COUNT(b.ISBN) AS loaned_books
FROM book b
WHERE EXISTS (
  SELECT *
```

```

FROM loan l
WHERE l.ISBN = b.ISBN
)
GROUP BY b.genre;

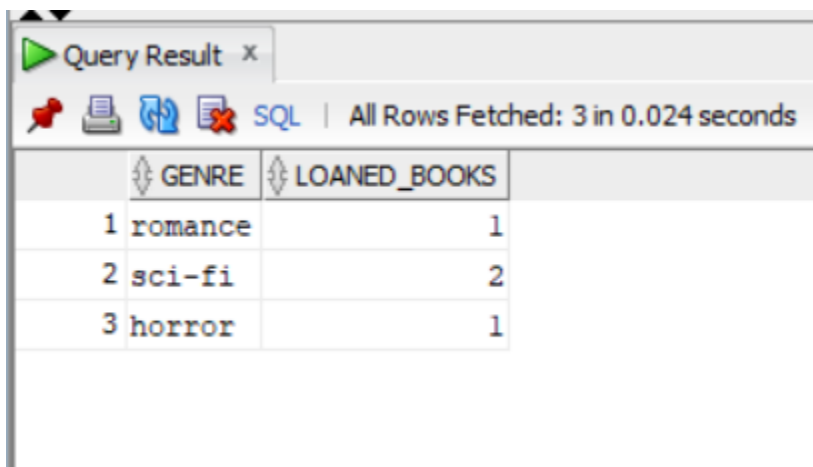
```

Result:

```

SQL> SQL> SQL> SQL>  2      3      4      5      6      7      8
GENRE
-----
LOANED_BOOKS
-----
romance          1
sci-fi           2
horror           1

```



| | GENRE | LOANED_BOOKS |
|---|---------|--------------|
| 1 | romance | 1 |
| 2 | sci-fi | 2 |
| 3 | horror | 1 |

Third Query:

```

SELECT
    s.student_id,
    s.student_name,
    SUM(bf.amount) AS total_fines
FROM student s, book_fine bf
WHERE s.student_id = bf.student_id AND bf.status = 'unpaid'

GROUP BY s.student_id, s.student_name
HAVING SUM(bf.amount) > 0;

```

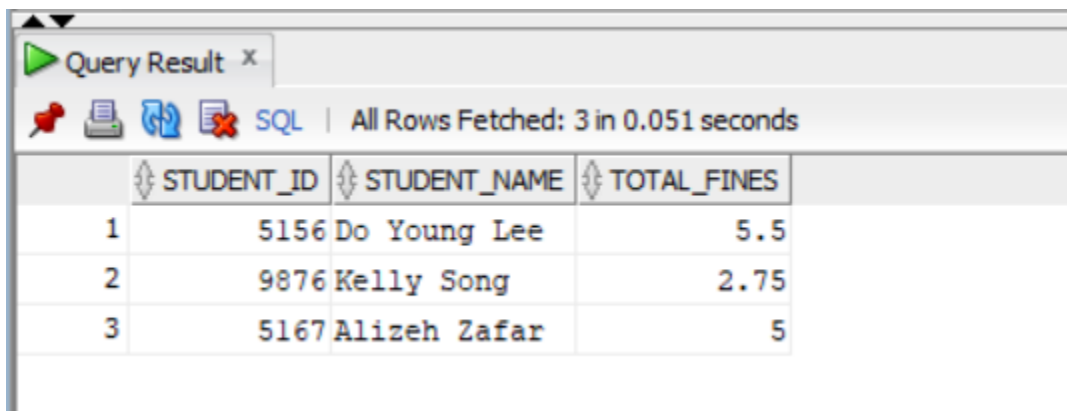
Result:

```
SQL> SQL> SQL> SQL> 2 3 4 5 6 7 8
STUDENT_ID
-----
STUDENT_NAME
-----
TOTAL_FINES
-----
      5156
Do Young Lee
      5.5

      9876
Kelly Song
      2.75

STUDENT_ID
-----
STUDENT_NAME
-----
TOTAL_FINES
-----

      5167
Alizeh Zafar
      5
```



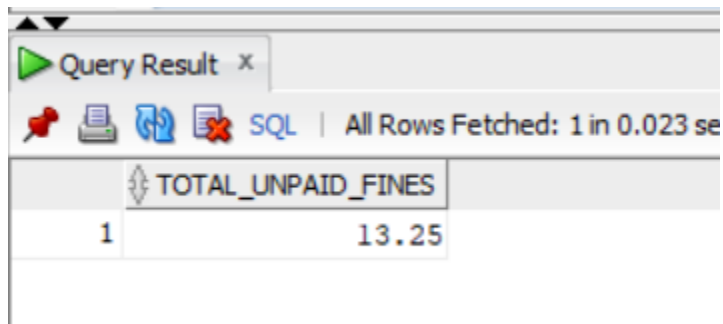
| | STUDENT_ID | STUDENT_NAME | TOTAL_FINES |
|---|------------|--------------|-------------|
| 1 | 5156 | Do Young Lee | 5.5 |
| 2 | 9876 | Kelly Song | 2.75 |
| 3 | 5167 | Alizeh Zafar | 5 |

Fourth Query:

```
SELECT
SUM(amount) AS total_unpaid_fines
FROM book_fine
WHERE status = 'unpaid';
```

Result:

```
SQL> SQL> SQL> SQL> 2 3 4
TOTAL_UNPAID_FINES
-----
13.25
```



| | TOTAL_UNPAID_FINES |
|---|--------------------|
| 1 | 13.25 |

Fifth Query:

```
SELECT DISTINCT s.student_name
FROM student s
WHERE EXISTS (
    SELECT *
    FROM book_fine bf
    WHERE s.student_id = bf.student_id
    AND bf.status = 'paid'
)
UNION
SELECT DISTINCT s.student_name
FROM student s
WHERE EXISTS (
    SELECT *
    FROM loan l
    WHERE s.student_id = l.student_id
);
```

Result:

```
SQL> SQL> SQL> SQL> 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
STUDENT_NAME
-----
Alizeh Zafar
Brittney Tisdale
Do Young Lee
Nidhi Biswas
Peter McKinney
```

| Query Result x | |
|--------------------------------------|------------------|
| All Rows Fetched: 5 in 0.031 seconds | |
| | STUDENT_NAME |
| 1 | Alizeh Zafar |
| 2 | Brittney Tisdale |
| 3 | Do Young Lee |
| 4 | Nidhi Biswas |
| 5 | Peter McKinney |

Sixth Query:

```
SELECT *  
FROM book  
MINUS  
SELECT b.*  
FROM book b, loan l  
WHERE b.ISBN = l.ISBN;
```

Result:

```
SQL> SQL> SQL> SQL> 2 3 4 5 6
ISBN
```

```
-----
BOOK_TITLE
```

```
-----
AUTHOR_ID PUBLICATION_YEAR
```

```
-----
GENRE
```

```
-----
133023
Animal Farm
4325 2005
fiction
```

```
ISBN
```

```
-----
BOOK_TITLE
```

```
-----
AUTHOR_ID PUBLICATION_YEAR
```

```
-----
GENRE
```

```
-----
233483
Tracy Beaker
4326 2006
horror
```

```
ISBN
```

```
-----
BOOK_TITLE
```

```
-----
AUTHOR_ID PUBLICATION_YEAR
```

```
-----
GENRE
```

```
-----
433013
Here Come the Mountains
4327 2008
romance
```

```
ISBN
```

```
-----
BOOK_TITLE
```

```
-----
AUTHOR_ID PUBLICATION_YEAR
```

```
-----
GENRE
```

```
-----
533023
My Sweet Betty
4329 2009
sci-fi
```

ISBN

BOOK_TITLE

AUTHOR_ID PUBLICATION_YEAR

GENRE

833873

Bumblebee

4329

2003

comedy

ISBN

BOOK_TITLE

AUTHOR_ID PUBLICATION_YEAR

GENRE

933953

The Night Circus

4328

2004

fiction

6 rows selected.

| Query Result x | | | | | |
|--------------------------------------|--------|-------------------------|-----------|------------------|---------|
| All Rows Fetched: 6 in 0.021 seconds | | | | | |
| | ISBN | BOOK_TITLE | AUTHOR_ID | PUBLICATION_YEAR | GENRE |
| 1 | 133023 | Animal Farm | 4325 | 2005 | fiction |
| 2 | 233483 | Tracy Beaker | 4326 | 2006 | horror |
| 3 | 433013 | Here Come the Mountains | 4327 | 2008 | romance |
| 4 | 533023 | My Sweet Betty | 4329 | 2009 | sci-fi |
| 5 | 833873 | Bumblebee | 4329 | 2003 | comedy |
| 6 | 933953 | The Night Circus | 4328 | 2004 | fiction |