Assignment 2 Comp3005 – Derrick Zhang 101232374

2.

a)

```
1  SELECT title FROM Books
```

Data Output    Messages    Notifications

| | title<br>character varying (255) 🔒 |
|---|---|
| 1 | Harry Potter and the Philosopher's Stone |
| 2 | 1984 |
| 3 | Pride and Prejudice |
| 4 | Adventures of Huckleberry Finn |
| 5 | The Great Gatsby |
| 6 | Murder on the Orient Express |
| 7 | The Old Man and the Sea |
| 8 | Foundation |

b)

```
1   SELECT first_name, last_name FROM Members WHERE join_date > '2023-01-01'
```

Data Output   Messages   Notifications

| | first_name character varying (255) 🔒 | last_name character varying (255) 🔒 |
|---|---|---|
| 1 | Alice | Smith |
| 2 | Bob | Johnson |
| 3 | Charlie | Williams |
| 4 | David | Brown |
| 5 | Eva | Jones |
| 6 | Frank | Davis |
| 7 | Grace | Miller |
| 8 | Hugo | Garcia |

c)

```
1  --coalesce function will handle the NULL if a member does
2  SELECT
3      m.first_name,
4      m.last_name,
5      COALESCE(COUNT(b.borrow_id), 0) AS total_books
6  FROM Members m
7  LEFT JOIN Borrowing b ON m.member_id = b.member_id
8  GROUP BY m.first_name, m.last_name
```

Data Output    Messages    Notifications

| | first_name character varying (255) 🔒 | last_name character varying (255) 🔒 | total_books bigint 🔒 |
|---|---|---|---|
| 1 | Hugo | Garcia | 1 |
| 2 | Charlie | Williams | 1 |
| 3 | Bob | Johnson | 1 |
| 4 | Eva | Jones | 1 |
| 5 | Frank | Davis | 1 |
| 6 | Grace | Miller | 1 |
| 7 | David | Brown | 1 |
| 8 | Alice | Smith | 1 |

d)

inserted another book for jk rowling for testing purposes

Query    Query History

```
1  INSERT INTO Books (title, author_id, publisher_id, published_date, isbn, available_
2  VALUES
3  ('Harry Potter and the big chungus', 1, 1, '1997-06-26', '97805632699', 10)
```

```
Query    Query History

1    SELECT
2        a.first_name,
3        a.last_name
4    From Authors a
5    JOIN Books b ON a.author_id = b.author_id
6    GROUP BY a.first_name, a.last_name
7    HAVING COUNT(b.book_id) > 1
8
```

Data Output    Messages    Notifications

| first_name character varying (255) | last_name character varying (255) |
|---|---|
| 1 | J.K. | Rowling |

e)

Inserted a new member who doesn't have any book borrowed

```
1    INSERT INTO Members (first_name, last_name, email, phone, join_date)
2    VALUES
3    ('Ian', 'Hectox', 'Smosh@email.com', '123-456-2580', '2024-08-25')
```

Query    Query History

```
1    SELECT
2        m.first_name,
3        m.last_name
4    FROM Members m
5    LEFT JOIN Borrowing b ON  m.member_id = b.member_id
6    WHERE borrow_id is NULL
```

Data Output    Messages    Notifications

| first_name character varying (255) | last_name character varying (255) |
|---|---|
| 1 | Ian | Hectox |

f)

```
1  SELECT
2      title,
3      published_date
4  FROM Books
5  ORDER BY published_date DESC
6  LIMIT 1
```

Data Output    Messages    Notifications

| | title character varying (255) 🔒 | published_date date 🔒 |
|---|---|---|
| 1 | Harry Potter and the Philosopher's Stone | 1997-06-26 |

g)

NOTE: Bloomsbury has 2 books due to a book I inputted in an earlier question

```
1  SELECT
2      p.publisher_name,
3      COUNT(b.book_id) AS total_books
4  FROM Publishers p
5  JOIN Books b ON p.publisher_id = b.publisher_id
6  GROUP BY p.publisher_name
7  ORDER BY total_books DESC
```

Data Output    Messages    Notifications

| | publisher_name character varying (255) 🔒 | total_books bigint 🔒 |
|---|---|---|
| 1 | Bloomsbury | 2 |
| 2 | Random House | 1 |
| 3 | HarperCollins | 1 |
| 4 | Hachette | 1 |
| 5 | Wiley | 1 |
| 6 | Penguin Books | 1 |
| 7 | Macmillan | 1 |
| 8 | Simon & Schuster | 1 |

h)

NOTE: book is from new value inserted in a query above

Query    Query History

```
1   SELECT
2       b.title
3   FROM Books b
4   LEFT JOIN Borrowing c ON c.book_id = b.book_id
5   WHERE borrow_id IS NULL
6
7
```

Data Output    Messages    Notifications

| title<br>character varying (255) |
|---|
| 1    Harry Potter and the big chungus |

i)

Query    Query History

```
1   --Join members with borrowing, borrowing with book, and books with author
2   SELECT
3       m.first_name,
4       m.last_name
5   FROM Members m
6   JOIN Borrowing b ON m.member_id = b.member_id
7   JOIN Books c ON b.book_id = c.book_id
8   JOIN Authors a ON c.author_id = a.author_id
9   WHERE a.first_name = 'J.K.' AND a.last_name = 'Rowling'
10
```

Data Output    Messages    Notifications

| first_name<br>character varying (255) | last_name<br>character varying (255) |
|---|---|
| 1    Alice | Smith |

j)

Inserted 3 more values into borrowing so we can test

```
1  INSERT INTO Borrowing (book_id, member_id, borrow_date, return_date)
2  VALUES
3  (1, 5, '2023-09-01', NULL),
4  (1, 4, '2023-09-01', NULL),
5  (1, 3, '2023-09-01', NULL),
6  (1, 2, '2023-09-01', NULL)
```

```
1   SELECT
2       a.first_name,
3       a.last_name
4   FROM Authors a
5   LEFT JOIN Books b ON a.author_id = b.author_id
6   LEFT JOIN Borrowing c ON b.book_id = c.book_id
7   GROUP BY a.first_name, a.last_name
8   HAVING COUNT(c.borrow_id) > 3
9
10
```

Data Output    Messages    Notifications

| first_name character varying (255) | last_name character varying (255) |
|---|---|
| 1   J.K. | Rowling |