

```

SELECT s.email, s.name
FROM student s
WHERE NOT EXISTS (
    SELECT *
    FROM book b
    WHERE authors = 'Adam Smith'
    AND NOT EXISTS (
        SELECT *
        FROM loan l
        WHERE l.book = b.isbn13
        AND l.borrower = s.email));
  
```

NOT Gate (\neg)

A book by Adam Smith exists (P)

AND Gate (\wedge)

The student borrows the book (Q)

$$\neg(P \wedge \neg Q) \equiv \neg P \vee \neg(\neg Q) \equiv \neg P \vee Q \equiv P \rightarrow Q$$