

COMP1204 Data management: Coursework 2

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1 The Relational Model

1.1 EX1

Attribute name	data type	Attribute name	data type	Attribute name	data type
Author	String	No. helpful	int	Location	int
Content	String	Overall	int	Cleanliness	int
Date	String	Value	int	Check in/Front desk	int
No. readers	int	Rooms	int	Service	int
Business service	int	-	-	-	-

Relation Schema:

HotelReview(Author, Content, Date, No. reader, No. helpful, Overall, Value, Rooms, Location, Cleanliness, Check in/Front desk, Service, Business service).

Author attribute is the primary key since all other attributes rely on the author and in order to write a review, you must have an author (no fields in this attribute can be null).

1.2 EX2

Author \rightarrow Content, Date, No. reader, No. helpful, Overall, Value, Rooms, Location, Cleanliness, Check in/Front desk, Service, Business service.
Author (attribute) should be the determinant for all other attributes since it is the author who decides the scores and the content of the review on a hotel.

Candidate keys:

Author, Author + Content, Author + Content + Date.

1.3 EX3

2 Entity-Relationship Diagramming

2.1 EX4

3 Relational Algebra

3.1 EX5

$$\sigma_{UserID=givenID}(Review) \quad (1)$$

3.2 EX6

$$\sigma_{No.reviews>2}((UserID) \gamma_{count(UserID) \rightarrow No.reviews}(Review)) \bowtie Author \quad (2)$$

3.3 EX7

3.4 EX8

4 SQL Queries

4.1 EX9

4.2 EX10

4.3 EX11

4.4 EX12

4.5 EX13

4.6 EX14

5 Conclusions

5.1 EX15