**INTRODUCTION TO DATABASE [J]**

**Normalization for Group 1’s project on Art Gallery**

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| --- | --- | --- | --- | --- |
| **NAME** | **SHAFI BIN MAHMUD** | **FAISHAL UDDIN HIMEL** | **MD. TAHSIN HASIB** | **NISHAT TASNIM** |
| **ID** | **22-45994-1** | **22-45996-1** | **22-46026-1** | **22-46034-1** |

* organizes (ex\_id, ex\_date, sx\_date, ex\_name, ex\_sponsors, ow\_id, ow\_name, ow\_num, ow\_email)

1NF: ow\_num **multivalued attribute**

2NF: ex\_id, ex\_date, sx\_date, ex\_name, ex\_sponsors, ow\_id

ow\_id, ow\_name, ow\_num, ow\_email

3NF: **No transitive dependency**

ex\_id, ex\_date, sx\_date, ex\_name, ex\_sponsors, ow\_id

ow\_id, ow\_name, ow\_num, ow\_email

**Table:** **ex\_id, ex\_date, sx\_date, ex\_name, ex\_sponsors, ow\_name**

**ow\_id, ow\_name ow\_num, ow\_email**

* showcases (ex\_id, ex\_date, sx\_date, ex\_name, ex\_sponsors, art\_id, art\_type, art\_date, art\_title, art\_price)

1NF: **No multivalued attribute**

2NF: ex\_id, ex\_date, sx\_date, ex\_name, ex\_sponsors

art\_id, art\_date, art\_type, art\_title, art\_price, ex\_id

3NF: **No transitive dependency**

ex\_id, ex\_date, sx\_date, ex\_name, ex\_sponsors

art\_id, art\_date, art\_type, art\_title, art\_price, ex\_id

**Table: ex\_id, ex\_date, sx\_date, ex\_name, ex\_sponsors**

**art\_id, art\_date, art\_type, art\_title, art\_price, ex\_id**

* maintains (art\_id, art\_date, art\_type, art\_title, art\_price, st\_id, st\_address, st\_salary, st\_num, st\_role, st\_name)

1NF: st\_num **multivalued attribute**

2NF: st\_id, st\_address, st\_salary, st\_num, st\_role, st\_name

art\_id, art\_date, art\_type, art\_title, art\_price

artst\_id, art\_id, st\_id

3NF: **No transitive dependency**

st\_id, st\_address, st\_salary, st\_num, st\_role, st\_name

art\_id, art\_date, art\_type, art\_title, art\_price

artst\_id, art\_id, st\_id

**table: st\_id, st\_address, st\_salary, st\_num, st\_role, st\_name**

**art\_id, art\_date, art\_type, art\_title, art\_price**

**artst\_id, art\_id, st\_id**

* buys (art\_id, art\_date, art\_type, art\_title, art\_price, cus\_id, cus\_num, cus\_address, cus\_name)

1NF: cus\_num **multivalued attribute**

2NF: art\_id, art\_date, art\_type, art\_title, art\_price, cus\_id

cus\_id, cus\_num, cus\_address, cus\_name,

3NF: **No transitive dependency**

art\_id, art\_date, art\_ type, art\_title, art\_price, cus\_id

cus\_id, cus\_num, cus\_address, cus\_name,

**Table**: **art\_id, art\_date, art\_ type, art\_title, art\_price, cus\_id**

**cus\_id, cus\_num, cus\_address, cus\_name**

* creates (art\_id, art\_date, art\_type, art\_title, art\_price, atst\_id, atst\_address, atst\_num, atst\_name)

1NF: atst\_num **multivalued attribute**

2NF: art\_id, art\_date, art\_type, art\_title, art\_price, atst\_id

atst\_id, atst\_address, atst\_num, atst\_name

3NF: **No transitive dependency**

art\_id, art\_date, art\_type, art\_title, art\_price, atst\_id

atst\_id, atst\_address, atst\_num, atst\_name

**Table:** **art\_id, art\_date, art\_type, art\_title, art\_price, atst\_id**

**atst\_id, atst\_address, atst\_num, atst\_name**

* manages (ow\_id, ow\_name, ow\_num, ow\_email, st\_id, st\_address, st\_salary, st\_num, st\_role, st\_name)

1NF: ow\_num **multivalued attribute**

2NF: ow\_id, ow\_name, ow\_num, ow\_email

st\_id, st\_address, st\_salary, st\_num, st\_role, st\_name, ow\_id

3NF: **No transitive dependency**

ow\_id, ow\_name, ow\_num, ow\_email

st\_id, st\_address, st\_salary, st\_num, st\_role, st\_name, ow\_id

**Table: ow\_id, ow\_name, ow\_num, ow\_email**

**st\_id, st\_address, st\_salary, st\_num, st\_role, st\_name, ow\_id**

* manages (ow\_id, ow\_name, ow\_num, ow\_email, atst\_id, atst\_address, atst\_num, atst\_name)

1NF: ow\_num, atst\_num **multivalued attribute**

2NF: ow\_id, ow\_name, ow\_num, ow\_email

atst\_id, atst\_address, atst\_num, atst\_name, ow\_id

3NF: **No transitive dependency**

ow\_id, ow\_name, ow\_num, ow\_email

atst\_id, atst\_address, atst\_num, atst\_name, ow\_name

**Table: ow\_id, ow\_name, ow\_num, ow\_email**

**atst\_id, atst\_address, atst\_num, atst\_name**

* **TOTAL TABLE:**

1. **ex\_id, ex\_date, sx\_date, ex\_name, ex\_sponsors, ow\_id**
2. **ow\_id, ow\_name, ow\_num, ow\_email**
3. **ex\_id, ex\_date, sx\_date, ex\_name, ex\_sponsors**
4. **art\_id, art\_date, art\_type, art\_title, art\_price, ex\_id**
5. **st\_id, st\_address, st\_salary, st\_num, st\_role, st\_name**
6. **art\_id, art\_date, art\_type, art\_title, art\_price**
7. **artst\_id, art\_id, st\_id**
8. **art\_id, art\_date, art\_ type, art\_title, art\_price, cus\_id**
9. **cus\_id, cus\_num, cus\_address, cus\_name**
10. **art\_id, art\_date, art\_type, art\_title, art\_price, atst\_id**
11. **atst\_id, atst\_address, atst\_num, atst\_name**
12. **ow\_id, ow\_name, ow\_num, ow\_email**
13. **st\_id, st\_address, st\_salary, st\_num, st\_role, st\_name, ow\_id**
14. **ow\_id, ow\_name, ow\_num, ow\_email**
15. **atst\_id, atst\_address, atst\_num, atst\_name**

* **FINAL TABLE:**

1. **ex\_id, ex\_date, sx\_date, ex\_name, ex\_sponsors, ow\_id**
2. **ow\_id, ow\_name, ow\_num, ow\_email**
3. **art\_id, art\_date, art\_type, art\_title, art\_price, ex\_id**
4. **artst\_id, art\_id, st\_id**
5. **art\_id, art\_date, art\_ type, art\_title, art\_price, cus\_id**
6. **cus\_id, cus\_num, cus\_address, cus\_name**
7. **art\_id, art\_date, art\_type, art\_title, art\_price, atst\_id**
8. **atst\_id, atst\_address, atst\_num, atst\_name**
9. **st\_id, st\_address, st\_salary, st\_num, st\_role, st\_name, ow\_id**