UCS2404 Database Management Systems

Project Report

Journal / Conference Publication management system

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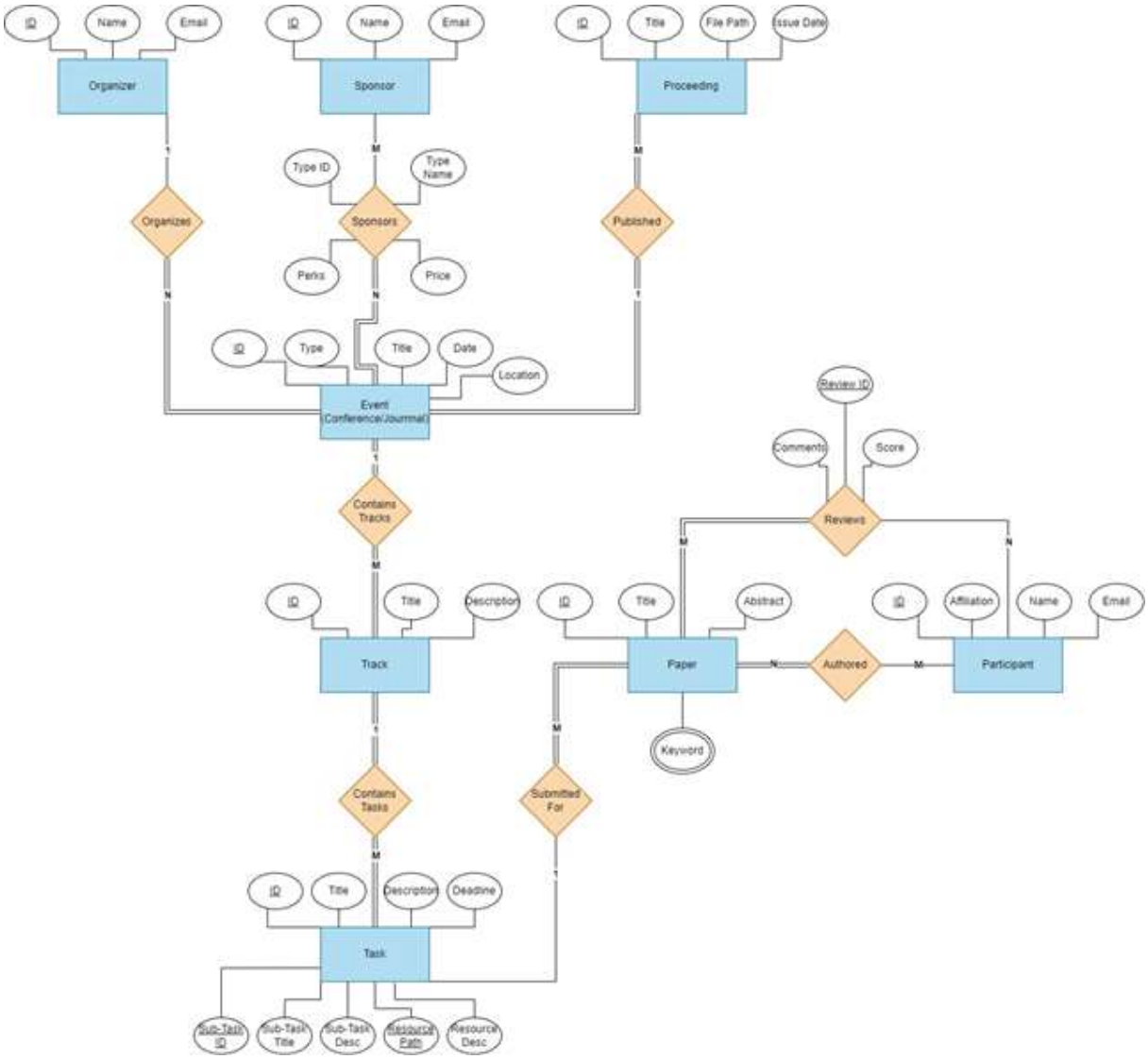
Problem Statement :

Analyse the data for a specific real-time application which uses a Journal Management system .Analyse the data for a specific real-time application which uses a Food Delivery Management system. Analysing the data includes identifying the constraints among the attributes and the existence of dependencies among the attributes. The constraints and dependencies identification could be framed/identified by deeper understanding of the problem specification, interactions/dependencies among various attributes and user-requirements for the specific real-time application. Prepare the documentation showing the list of attributes and identify various functional dependencies among the set of attributes.

ER DIAGRAM :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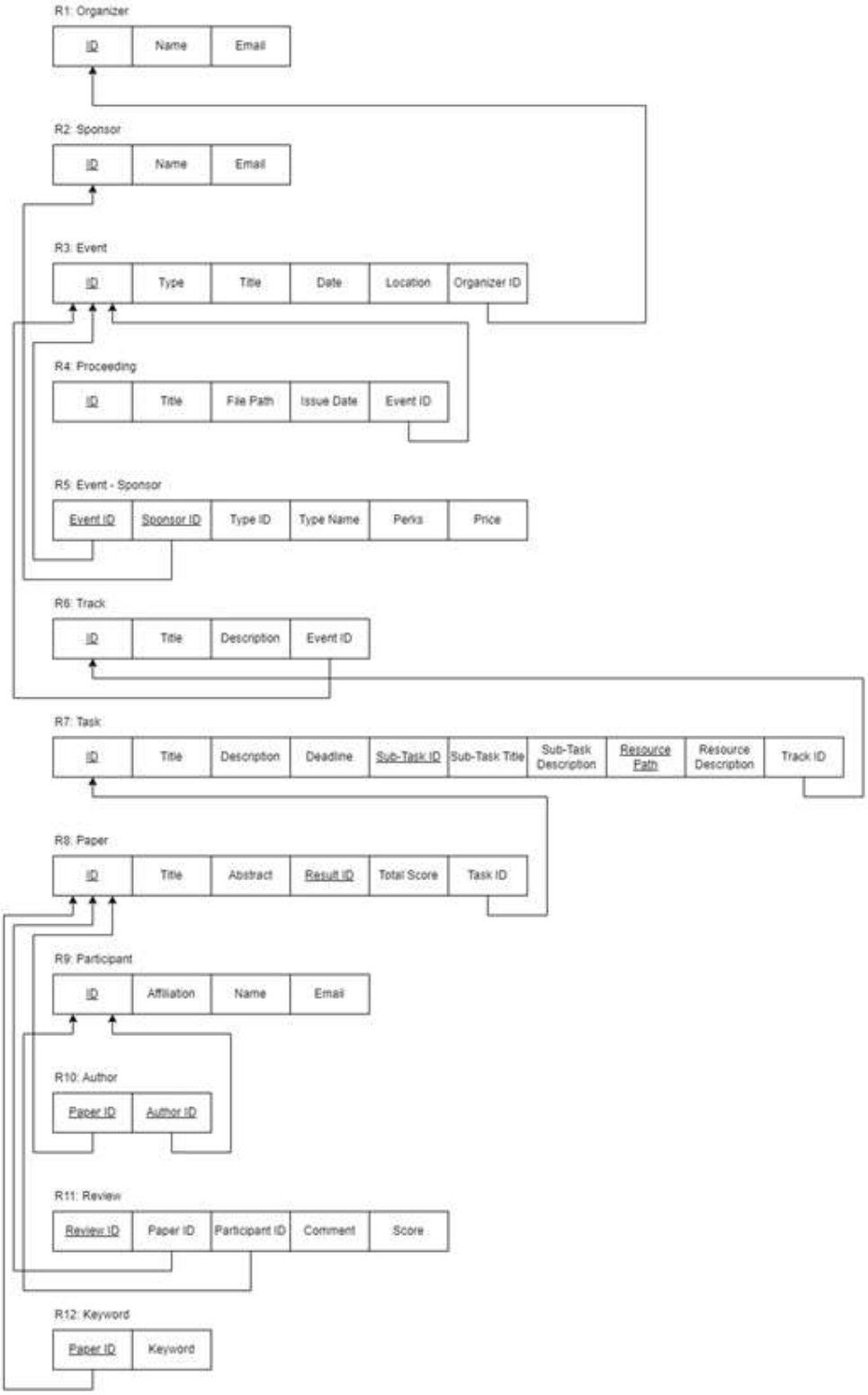
INITIAL REALTIONAL SCHEMA :



R1: Organizer

Attributes:

- A: ID (Primary Key)
- B: Name
- C: Email

Functional Dependencies:

- A -> B
- A -> C

Steps:

1. **Decomposition**:
   - Reduce RHS:
     - Set of FDs: {A -> B, A -> C}
     - No further decomposition needed as the RHS are already single attributes.
2. **Removal of extraneous attributes**:
   - No extraneous attributes.
3. **Removal of redundant FDs**:
   - Checking redundancy:
     - Trying to remove A -> B:
       - Set of FDs: {A -> C}
       - $\{A\}^+ = \{A, C\}$ (does not include B)
       - Closure is not satisfied.
       - Therefore, A -> B is not redundant.
     - Trying to remove A -> C:
       - Set of FDs: {A -> B}
       - $\{A\}^+ = \{A, B\}$ (does not include C)
       - Closure is not satisfied.
       - Therefore, A -> C is not redundant.

Resulting FDs: {A -> B, A -> C}

Candidate Key: {A}

Primary Key: A

Prime Attributes: {A}

Non-Prime Attributes: {B, C}

NORMALISATION :

Checking for 1NF:

- The atomicity of the relation is satisfied.
- The above relation satisfies the 1NF condition.

Checking for 2NF:

- No partial dependency should exist in the relation.
- The above relation satisfies the 2NF condition.

Checking for 3NF:

- No transitive dependency should exist in the relation.
- NPA → NPA (Non-Prime Attribute does not determine another Non-Prime Attribute)

Given Functional Dependencies:

- A → B
- A → C

These functional dependencies do not violate the 3NF condition.

The 3NF is satisfied.

Table: Organizer (Divided into Smaller Relations)

Organizer1:

- Candidate key: {A}
- PA: {A}
- NPA: {B, C}
- FDs:
  - A → B
  - A → C

Checking for BCNF:

- LHS must be a Super-key.
- The above relation satisfies the BCNF condition.

R2: Sponsor

Attributes:

- A: ID (Primary Key)
- B: Name
- C: Email

Functional Dependencies:

- A -> B
- A -> C

Steps:

1. **Decomposition**:
   - Reduce RHS:
     - Set of FDs: {A -> B, A -> C}
     - No further decomposition needed as the RHS are already single attributes.
2. **Removal of extraneous attributes**:
   - No extraneous attributes.
3. **Removal of redundant FDs**:
   - Checking redundancy:
     - Trying to remove A -> B:
       - Set of FDs: {A -> C}
       - $\{A\}^+$ = {A, C} (does not include B)
       - Closure is not satisfied.
       - Therefore, A -> B is not redundant.
     - Trying to remove A -> C:
       - Set of FDs: {A -> B}
       - $\{A\}^+$ = {A, B} (does not include C)
       - Closure is not satisfied.
       - Therefore, A -> C is not redundant.

Resulting FDs: {A -> B, A -> C,}

Candidate Key: {A}

Primary Key: A

Prime Attributes: {A}

Non-Prime Attributes: {B, C}

NORMALISATION :

Table: Sponsor

Attributes:

- A: ID (Primary Key)
- B: Name
- C: Email

Checking for 1NF:

- The atomicity of the relation is satisfied.
- The above relation satisfies the 1NF condition.

Checking for 2NF:

- No partial dependency should exist in the relation.
- The primary key is `A`.
- The functional dependencies are `A → B` and `A → C`.
- All non-key attributes (`B`, `C`) are fully functionally dependent on the primary key `A`.

The above relation satisfies the 2NF condition.

Checking for 3NF:

- No transitive dependency should exist in the relation.
- NPA → NPA (Non-Prime Attribute does not determine another Non-Prime Attribute)

Given Functional Dependencies:

- A → B
- A → C

These functional dependencies do not violate the 3NF condition.

The 3NF is satisfied.

Table: Sponsor (Divided into Smaller Relations)

Sponsor1:

- Candidate key: {A}
- PA: {A}
- NPA: {B, C}
- FDs:
  - A → B
  - A → C

Checking for BCNF:

- LHS must be a Super-key.
- The above relation satisfies the BCNF condition.

R3: Event

Attributes:

- A: ID (Primary Key)
- B: Type
- C: Title
- D: Date
- E: Location
- F: Organizer ID (Foreign Key)

Functional Dependencies:

- A -> B
- A -> C
- A -> D
- A -> E
- A -> F

Steps:

1. **Decomposition**:
   - Reduce RHS:
     - Set of FDs: {A -> B, A -> C, A -> D, A -> E, A -> F}

- No further decomposition needed as the RHS are already single attributes.

2. **Removal of extraneous attributes**:
   - No extraneous attributes.
3. **Removal of redundant FDs**:
   - Checking redundancy:
     - Trying to remove A -> B:
       - Set of FDs: {A -> C, A -> D, A -> E, A -> F}
       - $\{A\}^+$ = {A, C, D, E, F} (does not include B)
       - Closure is not satisfied.
       - Therefore, A -> B is not redundant.
     - Trying to remove A -> C:
       - Set of FDs: {A -> B, A -> D, A -> E, A -> F}
       - $\{A\}^+$ = {A, B, D, E, F} (does not include C)
       - Closure is not satisfied.
       - Therefore, A -> C is not redundant.
     - Trying to remove A -> D:
       - Set of FDs: {A -> B, A -> C, A -> E, A -> F}
       - $\{A\}^+$ = {A, B, C, E, F} (does not include D)
       - Closure is not satisfied.
       - Therefore, A -> D is not redundant.
     - Trying to remove A -> E:
       - Set of FDs: {A -> B, A -> C, A -> D, A -> F}
       - $\{A\}^+$ = {A, B, C, D, F} (does not include E)
       - Closure is not satisfied.
       - Therefore, A -> E is not redundant.
     - Trying to remove A -> F:
       - Set of FDs: {A -> B, A -> C, A -> D, A -> E}
       - $\{A\}^+$ = {A, B, C, D, E} (does not include F)
       - Closure is not satisfied.
       - Therefore, A -> F is not redundant.

Resulting FDs: {A -> B, A -> C, A -> D, A -> E, A -> F}

Candidate Key: {A}

Primary Key: A

Prime Attributes: {A}

Non-Prime Attributes: {B, C, D, E, F}

NORMALISATION :

Checking for 1NF:

- The atomicity of the relation is satisfied.
- The above relation satisfies the 1NF condition.

Checking for 2NF:

- No partial dependency should exist in the relation.
- The primary key is `A`.
- The functional dependencies are `A → B`, `A → C`, `A → D`, `A → E`, and `A → F`.
- All non-key attributes (`B`, `C`, `D`, `E`, `F`) are fully functionally dependent on the primary key `A`.

The above relation satisfies the 2NF condition.

Checking for 3NF:

- No transitive dependency should exist in the relation.
- NPA → NPA (Non-Prime Attribute does not determine another Non-Prime Attribute)

Given Functional Dependencies:

- A → B
- A → C
- A → D
- A → E
- A → F

These functional dependencies do not violate the 3NF condition.

The 3NF is satisfied.

Table: Event (Divided into Smaller Relations)

Event1:

- Candidate key: {A}
- PA: {A}
- NPA: {B, C, D, E, F}
- FDs:
  - A → B
  - A → C
  - A → D
  - A → E
  - A → F

Checking for BCNF:

- LHS must be a Super-key.
- The above relation satisfies the BCNF condition.

R4: Proceeding

Attributes:

- A: ID (Primary Key)
- B: Title
- C: File Path
- D: Issue Date
- E: Event ID (Foreign Key)

Functional Dependencies:

- A -> B
- A -> C
- A -> D
- A -> E

Steps:

1. **Decomposition**:
    - Reduce RHS:
        - Set of FDs: {A -> B, A -> C, A -> D, A -> E}
        - No further decomposition needed as the RHS are already single attributes.
2. **Removal of extraneous attributes**:
    - No extraneous attributes.
3. **Removal of redundant FDs**:
    - Checking redundancy:
        - Trying to remove A -> B:
            - Set of FDs: {A -> C, A -> D, A -> E}
            - $\{A\}^+ = \{A, C, D, E\}$ (does not include B)
            - Closure is not satisfied.
            - Therefore, A -> B is not redundant.
        - Trying to remove A -> C:
            - Set of FDs: {A -> B, A -> D, A -> E}

- $\{A\}^+ = \{A, B, D, E\}$ (does not include C)
- Closure is not satisfied.
- Therefore, A -> C is not redundant.

- Trying to remove A -> D:
  - Set of FDs: {A -> B, A -> C, A -> E}
  - $\{A\}^+ = \{A, B, C, E\}$ (does not include D)
  - Closure is not satisfied.
  - Therefore, A -> D is not redundant.
- Trying to remove A -> E:
  - Set of FDs: {A -> B, A -> C, A -> D}
  - $\{A\}^+ = \{A, B, C, D\}$ (does not include E)
  - Closure is not satisfied.
  - Therefore, A -> E is not redundant.

Resulting FDs: {A -> B, A -> C, A -> D, A -> E}

Candidate Key: {A}

Primary Key: A

Prime Attributes: {A}

Non-Prime Attributes: {B, C, D, E}

NORMALISATION :

Checking for 1NF:

- The atomicity of the relation is satisfied.
- The above relation satisfies the 1NF condition.

Checking for 2NF:

- No partial dependency should exist in the relation.
- The primary key is `A`.
- The functional dependencies are `A → B`, `A → C`, `A → D`, and `A → E`.
- All non-key attributes (`B`, `C`, `D`, `E`) are fully functionally dependent on the primary key `A`.

The above relation satisfies the 2NF condition.

Checking for 3NF:

- No transitive dependency should exist in the relation.
- NPA → NPA (Non-Prime Attribute does not determine another Non-Prime Attribute)

Given Functional Dependencies:

- A → B
- A → C
- A → D
- A → E

These functional dependencies do not violate the 3NF condition.

The 3NF is satisfied.

Table: Proceeding (Divided into Smaller Relations)

Proceeding1:

- Candidate key: {A}
- PA: {A}
- NPA: {B, C, D, E}
- FDs:
  - A → B
  - A → C
  - A → D
  - A → E

Checking for BCNF:

- LHS must be a Super-key.
- The above relation satisfies the BCNF condition.

R5: Event-Sponsor

Attributes:

- A: Event ID
- B: Sponsor ID
- C: Type ID
- D: Type Name
- E: Perks
- F: Price

Functional Dependencies:

- AB -> C
- C -> D, E, F

Steps:

1. **Decomposition**:
    - Reduce RHS:
        - Set of FDs: {AB -> C, C -> D, C -> E, C -> F}
        - No further decomposition needed as the RHS are already single attributes.
2. **Removal of extraneous attributes**:
    - For AB -> C:
        - Taking A as extraneous:
            - B -> C (not logically valid as Sponsor ID alone does not determine Type ID)
        - Taking B as extraneous:
            - A -> C (not logically valid as Event ID alone does not determine Type ID)
        - Therefore, no extraneous attributes in AB -> C.
    - For C -> D:
        - C -> D is already in its minimal form.
    - For C -> E:
        - C -> E is already in its minimal form.
    - For C -> F:
        - C -> F is already in its minimal form.
3. **Removal of redundant FDs**:
    - Checking redundancy:
        - Trying to remove AB -> C:
            - Set of FDs: {C -> D, C -> E, C -> F}
            - $\{C\}^+ = \{C, D, E, F\}$ (does not include AB)
            - Closure is not satisfied.
            - Therefore, AB -> C is not redundant.
        - Trying to remove C -> D:
            - Set of FDs: {AB -> C, C -> E, C -> F}
            - $\{C\}^+ = \{C, E, F\}$ (does not include D)
            - Closure is not satisfied.
            - Therefore, C -> D is not redundant.
        - Trying to remove C -> E:
            - Set of FDs: {AB -> C, C -> D, C -> F}
            - $\{C\}^+ = \{C, D, F\}$ (does not include E)
            - Closure is not satisfied.
            - Therefore, C -> E is not redundant.
        - Trying to remove C -> F:

- Set of FDs: {AB -> C, C -> D, C -> E}
- $\{C\}^+$ = {C, D, E} (does not include F)
- Closure is not satisfied.
- Therefore, C -> F is not redundant.

Resulting FDs: {AB -> C, C -> D, C -> E, C -> F}

Candidate Key: {A, B}

Primary Key: AB

Prime Attributes: {A, B}

Non-Prime Attributes: {C, D, E, F}

NORMALISATION :

Functional Dependencies:

- AB → C
- C → D, E, F

Checking for 1NF:

- The atomicity of the relation is satisfied.
- The above relation satisfies the 1NF condition.

Checking for 2NF:

- No partial dependency should exist in the relation.
- The composite primary key is `{A, B}`.
- The functional dependencies are `AB → C` and `C → D, E, F`.
- All non-key attributes (`C`, `D`, `E`, `F`) are fully functionally dependent on the composite primary key `{A, B}`.

The above relation satisfies the 2NF condition.

Checking for 3NF:

- No transitive dependency should exist in the relation.
- NPA → NPA (Non-Prime Attribute does not determine another Non-Prime Attribute)

Given Functional Dependencies:

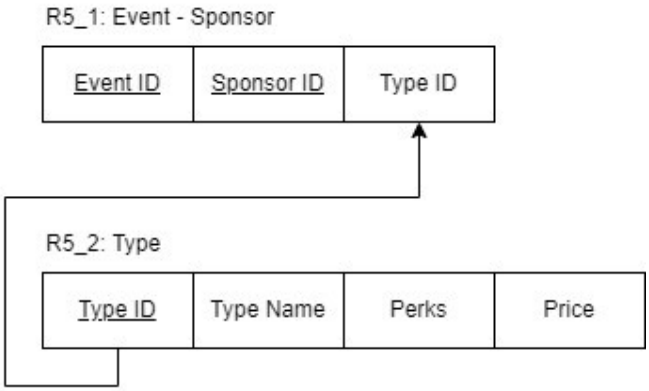
- AB → C
- C → D, E, F

Since C is not a candidate key and it determines non-prime attributes (D, E, F), there is a transitive dependency which violates the 3NF condition.

Normalization to 3NF:

Decomposition:

1. **Event-Sponsor:**
   - Attributes: {A, B, C}
   - Candidate key: {A, B}
   - PA: {A, B}
   - NPA: {C}
   - FDs:
     - AB → C
2. **Type:**
   - Attributes: {C, D, E, F}
   - Candidate key: {C}
   - PA: {C}
   - NPA: {D, E, F}
   - FDs:
     - C → D, E, F



Now, each table is in 3NF.

Checking for BCNF:

- LHS must be a Super-key.

Event-Sponsor:

- Functional Dependency: AB → C
- {A, B} is a composite key and a superkey, so this relation is in BCNF.

Type:

- Functional Dependency: C → D, E, F

- C is a candidate key and a superkey, so this relation is in BCNF.

R6: Track

Attributes:

- A: ID
- B: Title
- C: Description
- D: Event ID

Functional Dependencies:

- A -> B
- A -> D
- A -> C

Steps:

1. **Decomposition**:
    - Reduce RHS:
        - Set of FDs: {A -> B, A -> D, A -> C}
        - No further decomposition needed as the RHS are already single attributes.
2. **Removal of extraneous attributes**:
    - No extraneous attributes in the given set of FDs.
3. **Removal of redundant FDs**:
    - Checking redundancy:
        - Trying to remove A -> B:
            - Set of FDs: {A -> D, A -> C}
            - $\{A\}^+$ = {A, D, C} (does not include B)
            - Closure is not satisfied.
            - Therefore, A -> B is not redundant.
        - Trying to remove A -> D:
            - Set of FDs: {A -> B, A -> C}
            - $\{A\}^+$ = {A, B, C} (does not include D)
            - Closure is not satisfied.
            - Therefore, A -> D is not redundant.
        - Trying to remove A -> C:
            - Set of FDs: {A -> B, A -> D}

- $\{A\}^+ = \{A, B, D\}$ (does not include C)
- Closure is not satisfied.
- Therefore, A -> C is not redundant.

Resulting FDs: {A -> B, A -> D, A -> C}

Candidate Key: {A}

Primary Key: A

Prime Attributes: {A}

Non-Prime Attributes: {B, C, D}

NORMALISATION :

Checking for 1NF:

- The atomicity of the relation is satisfied.
- The above relation satisfies the 1NF condition.

Checking for 2NF:

- No partial dependency should exist in the relation.
- The primary key is `A`.
- The functional dependencies are `A → B`, `A → C`, and `A → D`.
- All non-key attributes (`B`, `C`, `D`) are fully functionally dependent on the primary key `A`.

The above relation satisfies the 2NF condition.

Checking for 3NF:

- No transitive dependency should exist in the relation.
- NPA → NPA (Non-Prime Attribute does not determine another Non-Prime Attribute)

Given Functional Dependencies:

- A → B
- A → C
- A → D

These functional dependencies do not violate the 3NF condition.

The 3NF is satisfied.

Table: Track (Divided into Smaller Relations)

Track1:

- Candidate key: {A}
- PA: {A}
- NPA: {B, C, D}
- FDs:
  - A → B
  - A → C
  - A → D

Checking for BCNF:

- LHS must be a Super-key.
- The above relation satisfies the BCNF condition.

R7: Task

Attributes:

- A: ID
- B: Title
- C: Description
- D: Deadline
- E: Sub-Task ID
- F: Sub-Task Title
- G: Sub-Task Description
- H: Resource Path
- I: Resource Description
- J: Track ID

Functional Dependencies:

- A -> B, C, D, J
- E -> F, G, H
- H -> I

Steps:

1. **Decomposition**:
   - Reduce RHS:

- Set of FDs: {A -> B, A -> C, A -> D, A -> J, E -> F, E -> G, E -> H, H -> I}

2. **Removal of extraneous attributes**:
   - No extraneous attributes in the given set of FDs.
3. **Removal of redundant FDs**:
   - Checking redundancy for each FD:
     - Trying to remove A -> B:
       - Set of FDs: {A -> C, A -> D, A -> J, E -> F, E -> G, E -> H, H -> I}
       - $\{A\}^+$ = {A, C, D, J} (does not include B)
       - Closure is not satisfied.
       - Therefore, A -> B is not redundant.
     - Trying to remove A -> C:
       - Set of FDs: {A -> B, A -> D, A -> J, E -> F, E -> G, E -> H, H -> I}
       - $\{A\}^+$ = {A, B, D, J} (does not include C)
       - Closure is not satisfied.
       - Therefore, A -> C is not redundant.
     - Trying to remove A -> D:
       - Set of FDs: {A -> B, A -> C, A -> J, E -> F, E -> G, E -> H, H -> I}
       - $\{A\}^+$ = {A, B, C, J} (does not include D)
       - Closure is not satisfied.
       - Therefore, A -> D is not redundant.
     - Trying to remove A -> J:
       - Set of FDs: {A -> B, A -> C, A -> D, E -> F, E -> G, E -> H, H -> I}
       - $\{A\}^+$ = {A, B, C, D} (does not include J)
       - Closure is not satisfied.
       - Therefore, A -> J is not redundant.
     - Trying to remove E -> F:
       - Set of FDs: {A -> B, A -> C, A -> D, A -> J, E -> G, E -> H, H -> I}
       - $\{E\}^+$ = {E, G, H} (does not include F)
       - Closure is not satisfied.
       - Therefore, E -> F is not redundant.
     - Trying to remove E -> G:
       - Set of FDs: {A -> B, A -> C, A -> D, A -> J, E -> F, E -> H, H -> I}
       - $\{E\}^+$ = {E, F, H} (does not include G)
       - Closure is not satisfied.
       - Therefore, E -> G is not redundant.
     - Trying to remove E -> H:
       - Set of FDs: {A -> B, A -> C, A -> D, A -> J, E -> F, E -> G, H -> I}

- $\{E\}^+ = \{E, F, G\}$ (does not include H)
- Closure is not satisfied.
- Therefore, E -> H is not redundant.

- Trying to remove H -> I:
  - Set of FDs: {A -> B, A -> C, A -> D, A -> J, E -> F, E -> G, E -> H}
  - $\{H\}^+ = \{H\}$ (does not include I)
  - Closure is not satisfied.
  - Therefore, H -> I is not redundant.

Resulting FDs: {A -> B, A -> C, A -> D, A -> J, E -> F, E -> G, E -> H, H -> I}

Candidate Key: {AE}

Primary Key: AE

Prime Attributes: {A, E}

Non-Prime Attributes: {B, C, D, F, G, H, I, J}

NORMALISATION :

Checking for 1NF:

- The atomicity of the relation is satisfied.
- The above relation satisfies the 1NF condition.

Checking for 2NF:

- No partial dependency should exist in the relation.
- The composite primary key is `{A, E}`.
- However, let's first decompose based on the functional dependencies to achieve 2NF.

Decomposition into 2NF:

1. **Task:**
   - Attributes: {A, B, C, D, J}
   - Candidate key: {A}
   - PA: {A}
   - NPA: {B, C, D, J}
   - FDs:
     - A → B, C, D, J
2. **Sub Task:**
   - Attributes: {E, F, G, H, I}
   - Candidate key: {E}
   - PA: {E}

- NPA: {F, G, H, I}
- FDs:
  - E → F, G, H
  - H → I

3. **Task-SubTask:**
   - Attributes: {A, E}
   - Candidate key: {A, E}
   - PA: {A, E}
   - FDs:
     - None (A, E is a composite key and holds the relationship between Task ID and Sub-Task ID)

Now, each table is in 2NF as all non-key attributes are fully functionally dependent on the primary key.

Checking for 3NF:

Task1:

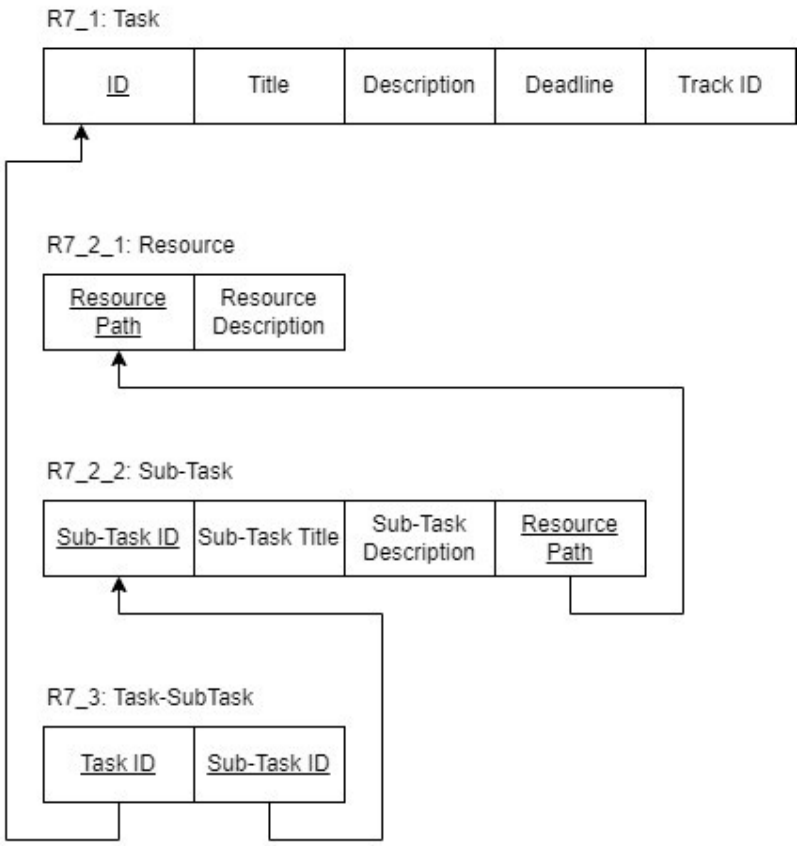
- Functional Dependencies: A → B, C, D, J
- No transitive dependencies exist.
- The table is in 3NF.

Task2 (Decomposed further into Task2a and Task2b for 3NF):

1. **Sub Task:**
   - Attributes: {E, F, G, H}
   - Candidate key: {E}
   - PA: {E}
   - NPA: {F, G, H}
   - FDs:
     - E → F, G, H
2. **Resource:**
   - Attributes: {H, I}
   - Candidate key: {H}
   - PA: {H}
   - NPA: {I}
   - FDs:
     - H → I

Task-SubTask:

- Attributes: {A, E}
- Functional Dependencies: None
- The table is in 3NF.



R8: Paper

Attributes:

- A: ID
- B: Title
- C: Abstract
- D: Result ID
- E: Total Score
- F: Task ID

Functional Dependencies:

- A -> B
- A -> C
- A -> D
- A -> F
- D -> E

Steps:

1. **Decomposition**:
    - Reduce RHS:
        - Set of FDs: {A -> B, A -> C, A -> D, A -> F, D -> E}
2. **Removal of extraneous attributes**:
    - No extraneous attributes in the given set of FDs.
3. **Removal of redundant FDs**:
    - Checking redundancy:
        - Trying to remove A -> B:
            - Set of FDs: {A -> C, A -> D, A -> F, D -> E}
            - $\{A\}^+$ = {A, C, D, F} (does not include B)
            - Closure is not satisfied.
            - Therefore, A -> B is not redundant.
        - Trying to remove A -> C:
            - Set of FDs: {A -> B, A -> D, A -> F, D -> E}
            - $\{A\}^+$ = {A, B, D, F} (does not include C)
            - Closure is not satisfied.
            - Therefore, A -> C is not redundant.
        - Trying to remove A -> D:
            - Set of FDs: {A -> B, A -> C, A -> F, D -> E}
            - $\{A\}^+$ = {A, B, C, F} (does not include D)
            - Closure is not satisfied.
            - Therefore, A -> D is not redundant.
        - Trying to remove A -> F:
            - Set of FDs: {A -> B, A -> C, A -> D, D -> E}
            - $\{A\}^+$ = {A, B, C, D} (does not include F)
            - Closure is not satisfied.
            - Therefore, A -> F is not redundant.
        - Trying to remove D -> E:
            - Set of FDs: {A -> B, A -> C, A -> D, A -> F}
            - $\{D\}^+$ = {D} (does not include E)
            - Closure is not satisfied.
            - Therefore, D -> E is not redundant.

Resulting FDs: {A -> B, A -> C, A -> D, A -> F, D -> E}

Candidate Key: {A}

Primary Key: A

Prime Attributes: {A}

Non-Prime Attributes: {B, C, D, E, F}

R9: Participant

Attributes:

- A: ID
- B: Affiliation
- C: Name
- D: Email

Functional Dependencies:

- A -> B, C, D

Steps:

1. **Decomposition**:
   - Reduce RHS:
     - Set of FDs: {A -> B, A -> C, A -> D}
     - No further decomposition needed as the RHS are already single attributes.
2. **Removal of extraneous attributes**:
   - No extraneous attributes in the given set of FDs.
3. **Removal of redundant FDs**:
   - Checking redundancy:
     - Trying to remove A -> B:
       - Set of FDs: {A -> C, A -> D}
       - $\{A\}^+$ = {A, C, D} (does not include B)
       - Closure is not satisfied.
       - Therefore, A -> B is not redundant.
     - Trying to remove A -> C:
       - Set of FDs: {A -> B, A -> D}
       - $\{A\}^+$ = {A, B, D} (does not include C)
       - Closure is not satisfied.
       - Therefore, A -> C is not redundant.
     - Trying to remove A -> D:
       - Set of FDs: {A -> B, A -> C}
       - $\{A\}^+$ = {A, B, C} (does not include D)
       - Closure is not satisfied.
       - Therefore, A -> D is not redundant.

Resulting FDs: {A -> B, A -> C, A -> D}

Candidate Key: {A}

Primary Key: A **Prime Attributes**: {A}

Non-Prime Attributes: {B, C, D}

NORMALISATION :

Checking for 1NF:

- The atomicity of the relation is satisfied.
- The above relation satisfies the 1NF condition.

Checking for 2NF:

- No partial dependency should exist in the relation.
- The primary key is `A`.
- The functional dependencies are `A → B`, `A → C`, and `A → D`.
- All non-key attributes (`B`, `C`, `D`) are fully functionally dependent on the primary key `A`.

The above relation satisfies the 2NF condition.

Checking for 3NF:

- No transitive dependency should exist in the relation.
- NPA → NPA (Non-Prime Attribute does not determine another Non-Prime Attribute)

Given Functional Dependencies:

- A → B
- A → C
- A → D

These functional dependencies do not violate the 3NF condition.

The 3NF is satisfied.

Table: Participant (Divided into Smaller Relations)

Participant1:

- Candidate key: {A}
- PA: {A}
- NPA: {B, C, D}
- FDs:

- A → B
- A → C
- A → D

Checking for BCNF:

- LHS must be a Super-key.
- The above relation satisfies the BCNF condition.

R10: Author

Attributes:

- A: Paper ID
- B: Author ID

Functional Dependencies:

- AB -> AB (This means both Paper ID and Author ID together form the composite primary key)

Steps:

1. **Decomposition**:
   - Reduce RHS:
     - Set of FDs: {AB -> A, AB -> B}
     - No further decomposition needed as the RHS are already single attributes.
2. **Removal of extraneous attributes**:
   - No extraneous attributes in the given set of FDs.
3. **Removal of redundant FDs**:
   - No redundant FDs.

Resulting FDs: {AB -> A, AB -> B}

Candidate Key: {A, B}

Primary Key: AB **Prime Attributes**: {A, B}

Non-Prime Attributes: {}

R11: Review

Attributes:

- A: Review ID
- B: Paper ID
- C : Participant ID
- D: Comment
- E: Score

Steps:

1. **Decomposition**:
    - Reduce RHS:
        - Set of FDs: {A -> B, A -> C, A -> D, A -> E}
        - No further decomposition needed as the RHS are already single attributes.
2. **Removal of extraneous attributes**:
    - No extraneous attributes.
3. **Removal of redundant FDs**:
    - Checking redundancy:
        - Trying to remove A -> B:
            - Set of FDs: {A -> C, A -> D, A -> E}
            - $\{A\}^+$ = {A, C, D, E} (does not include B)
            - Closure is not satisfied.
            - Therefore, A -> B is not redundant.
        - Trying to remove A -> C:
            - Set of FDs: {A -> B, A -> D, A -> E}
            - $\{A\}^+$ = {A, B, D, E} (does not include C)
            - Closure is not satisfied.
            - Therefore, A -> C is not redundant.
        - Trying to remove A -> D:
            - Set of FDs: {A -> B, A -> C, A -> E}
            - $\{A\}^+$ = {A, B, C, E} (does not include D)
            - Closure is not satisfied.
            - Therefore, A -> D is not redundant.
        - Trying to remove A -> E:
            - Set of FDs: {A -> B, A -> C, A -> D}
            - $\{A\}^+$ = {A, B, C, D} (does not include E)
            - Closure is not satisfied.
            - Therefore, A -> E is not redundant.

Resulting FDs: {A -> B, A -> C, A -> D, A -> E}

Candidate Key: {A}

Primary Key: A

Prime Attributes: {A}

Non-Prime Attributes: {B, C, D, E}

NORMALISATION :

Checking for 1NF:

- The atomicity of the relation is satisfied.
- The above relation satisfies the 1NF condition.

Checking for 2NF:

- No partial dependency should exist in the relation.
- The composite primary key is `{A, B}`.
- There are no partial dependencies because there are no non-key attributes.

The above relation satisfies the 2NF condition.

Checking for 3NF:

- No transitive dependency should exist in the relation.
- NPA → NPA (Non-Prime Attribute does not determine another Non-Prime Attribute)

Given Functional Dependencies:

- AB → AB

These functional dependencies do not violate the 3NF condition.

The 3NF is satisfied.

Table: Author (Divided into Smaller Relations)

Author1:

- Candidate key: {A, B}
- PA: {A, B}
- FDs:
    - AB → AB

Checking for BCNF:

- LHS must be a Super-key.
- The above relation satisfies the BCNF condition.

R12: Keyword

Attributes:

- A: Paper ID
- B: Keyword

Functional Dependencies:

- A -> B

Steps:

1. **Decomposition**:
   - Reduce RHS:
     - Set of FDs: {A -> B}
     - No further decomposition needed as the RHS are already single attributes.
2. **Removal of extraneous attributes**:
   - No extraneous attributes in the given set of FDs.
3. **Removal of redundant FDs**:
   - No redundant FDs.

Resulting FDs: {A -> B}

Candidate Key: {A}

Primary Key: A

Prime Attributes: {A}

Non-Prime Attributes: {B}

NORMALISATION :

Checking for 1NF:

- The atomicity of the relation is satisfied.
- The above relation satisfies the 1NF condition.

Checking for 2NF:

- No partial dependency should exist in the relation.
- The primary key is A (assuming that each Paper ID is associated with a unique keyword).
- The functional dependency is A → B.
- All non-key attributes (B) are fully functionally dependent on the primary key A.

The above relation satisfies the 2NF condition.

Checking for 3NF:

- No transitive dependency should exist in the relation.
- NPA → NPA (Non-Prime Attribute does not determine another Non-Prime Attribute)

Given Functional Dependencies:

- A → B

These functional dependencies do not violate the 3NF condition.

The 3NF is satisfied.

Table: Keyword (Divided into Smaller Relations)

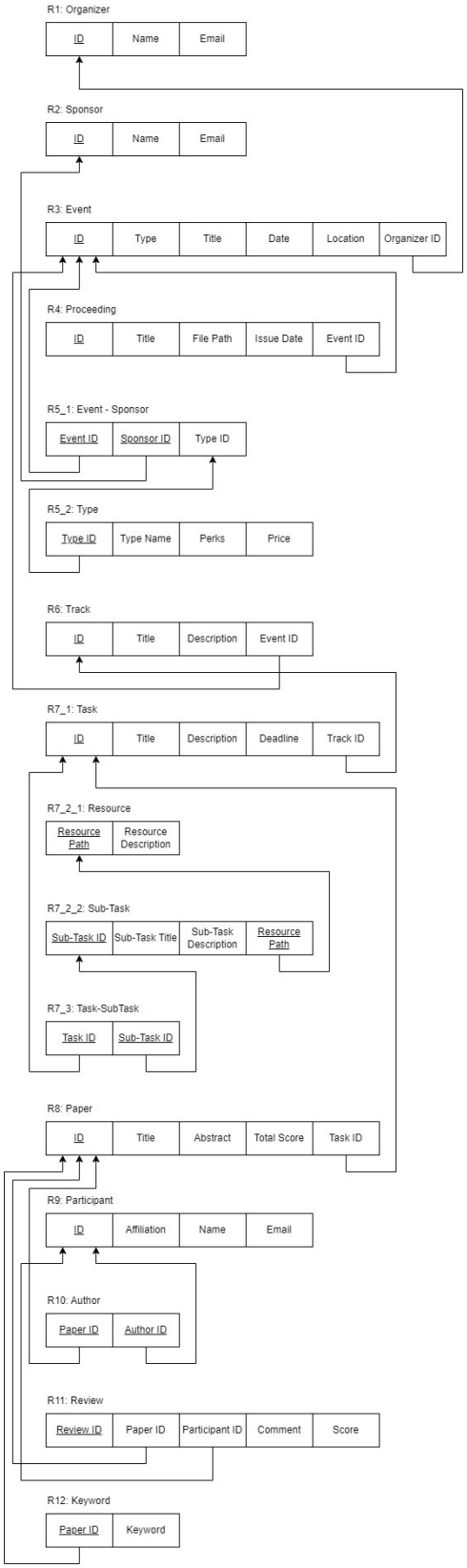
Keyword1:

- Candidate key: {A}
- PA: {A}
- NPA: {B}
- FDs:
    - A → B

Checking for BCNF:

- LHS must be a Super-key.
- The above relation satisfies the BCNF condition.

REALTIONAL SCHEMA AFTER NORMALISATION:



Creating and Populating Tables with Triggers and Constraints:

```
--@ "C:\rohith\college\sem4\dbms\project\database.sql"

-- Drop existing tables with cascade constraints
DROP TABLE Keyword CASCADE CONSTRAINTS;
DROP TABLE Organizer CASCADE CONSTRAINTS;
DROP TABLE Sponsor CASCADE CONSTRAINTS;
DROP TABLE Event_Details CASCADE CONSTRAINTS;
DROP TABLE Event_Sponsor CASCADE CONSTRAINTS;
DROP TABLE Track CASCADE CONSTRAINTS;
DROP TABLE Task CASCADE CONSTRAINTS;
DROP TABLE Task_SubTask CASCADE CONSTRAINTS;
DROP TABLE SubTask CASCADE CONSTRAINTS;
DROP TABLE Task_Resource CASCADE CONSTRAINTS;
DROP TABLE Participant CASCADE CONSTRAINTS;
DROP TABLE Author CASCADE CONSTRAINTS;
DROP TABLE Review CASCADE CONSTRAINTS;
DROP TABLE Proceeding CASCADE CONSTRAINTS;
DROP TABLE Sponsor_Type CASCADE CONSTRAINTS;
DROP TABLE Paper CASCADE CONSTRAINTS;
DROP TRIGGER UpdateTotalScore;

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-- Create Keyword table
CREATE TABLE Keyword (
    ID NUMBER PRIMARY KEY,
    Name VARCHAR2(100)
);

-- Create Organizer table
CREATE TABLE Organizer (
    ID NUMBER PRIMARY KEY,
    Name VARCHAR2(100),
    Email VARCHAR2(100),
    Type VARCHAR2(50)
);

-- Create Sponsor table
CREATE TABLE Sponsor (
    ID NUMBER PRIMARY KEY,
    Name VARCHAR2(100),
```

```
    Email VARCHAR2(100)
);

-- Create Event table
CREATE TABLE Event_Details (
    ID NUMBER PRIMARY KEY,
    Type VARCHAR2(50),
    Title VARCHAR2(200),
    Event_Date DATE,
    Location VARCHAR2(200),
    OrganizerID NUMBER,
    FOREIGN KEY (OrganizerID) REFERENCES Organizer(ID)
);

-- Create Event-Sponsor relationship table
CREATE TABLE Event_Sponsor (
    EventID NUMBER,
    SponsorID NUMBER,
    PRIMARY KEY (EventID, SponsorID),
    FOREIGN KEY (EventID) REFERENCES Event_Details(ID),
    FOREIGN KEY (SponsorID) REFERENCES Sponsor(ID)
);

-- Create Track table
CREATE TABLE Track (
    ID NUMBER PRIMARY KEY,
    Title VARCHAR2(200),
    Description VARCHAR2(500),
    EventID NUMBER,
    FOREIGN KEY (EventID) REFERENCES Event_Details(ID)
);

-- Create Task table
CREATE TABLE Task (
    ID NUMBER PRIMARY KEY,
    Title VARCHAR2(200),
    Deadline DATE,
    TrackID NUMBER,
    FOREIGN KEY (TrackID) REFERENCES Track(ID)
);

-- Create Paper table with TotalScore column
CREATE TABLE Paper (
    ID NUMBER PRIMARY KEY,
    Title VARCHAR2(20),
    Abstract VARCHAR2(30),
    TaskID NUMBER,
    TotalScore NUMBER DEFAULT 0,
```

```
    FOREIGN KEY (TaskID) REFERENCES Task(ID)
);

-- Create Sub-Task table
CREATE TABLE SubTask (
    ID NUMBER PRIMARY KEY,
    Title VARCHAR2(200),
    Description VARCHAR2(500),
    ResourcePath VARCHAR2(300)
);

-- Create Task-SubTask relationship table
CREATE TABLE Task_SubTask (
    TaskID NUMBER,
    SubTaskID NUMBER,
    PRIMARY KEY (TaskID, SubTaskID),
    FOREIGN KEY (TaskID) REFERENCES Task(ID),
    FOREIGN KEY (SubTaskID) REFERENCES SubTask(ID)
);

-- Create Resource table
CREATE TABLE Task_Resource (
    ID NUMBER PRIMARY KEY,
    Description VARCHAR2(500),
    Path VARCHAR2(300)
);

-- Create Participant table
CREATE TABLE Participant (
    ID NUMBER PRIMARY KEY,
    Affiliation VARCHAR2(20),
    Name VARCHAR2(20),
    Email VARCHAR2(20),
    Type VARCHAR2(20)
);

-- Create Author table
CREATE TABLE Author (
    PaperID NUMBER,
    AuthorID NUMBER,
    PRIMARY KEY (PaperID, AuthorID),
    FOREIGN KEY (PaperID) REFERENCES Paper(ID),
    FOREIGN KEY (AuthorID) REFERENCES Participant(ID)
);

-- Create Review table
CREATE TABLE Review (
    ReviewID NUMBER,
```

```
    PaperID NUMBER,
    ParticipantID NUMBER,
    Comments VARCHAR2(20),
    Score NUMBER,
    PRIMARY KEY (PaperID, ParticipantID),
    FOREIGN KEY (PaperID) REFERENCES Paper(ID),
    FOREIGN KEY (ParticipantID) REFERENCES Participant(ID)
);

-- Create Proceeding table
CREATE TABLE Proceeding (
    ID NUMBER PRIMARY KEY,
    Title VARCHAR2(200),
    FilePath VARCHAR2(300),
    IssueDate DATE,
    EventID NUMBER,
    FOREIGN KEY (EventID) REFERENCES Event_Details(ID)
);

-- Create Type table
CREATE TABLE Sponsor_Type (
    ID NUMBER PRIMARY KEY,
    TypeName VARCHAR2(100),
    Perks VARCHAR2(200),
    Price NUMBER
);

-- Create trigger to update TotalScore in Paper table
CREATE OR REPLACE TRIGGER UpdateTotalScore
BEFORE INSERT OR UPDATE OR DELETE ON Review
FOR EACH ROW
BEGIN
    IF INSERTING THEN
        -- Update TotalScore when a new review is added
        UPDATE Paper
        SET TotalScore = TotalScore + :NEW.Score
        WHERE ID = :NEW.PaperID;

    ELSIF UPDATING THEN
        -- Adjust TotalScore when an existing review is updated
        UPDATE Paper
        SET TotalScore = TotalScore - :OLD.Score + :NEW.Score
        WHERE ID = :NEW.PaperID;

    ELSIF DELETING THEN
        -- Update TotalScore when a review is deleted
        UPDATE Paper
        SET TotalScore = TotalScore - :OLD.Score
```

```
        WHERE ID = :OLD.PaperID;
    END IF;
END;
/

--------------------------------------------------------------------------------
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-- Insert values into Keyword table
INSERT INTO Keyword (ID, Name) VALUES (1, 'Artificial Intelligence');
INSERT INTO Keyword (ID, Name) VALUES (2, 'Machine Learning');
INSERT INTO Keyword (ID, Name) VALUES (3, 'Data Science');

-- Insert values into Organizer table
INSERT INTO Organizer (ID, Name, Email, Type) VALUES (1, 'John Doe',
'john.doe@example.com', 'Individual');
INSERT INTO Organizer (ID, Name, Email, Type) VALUES (2, 'Tech Org',
'info@techorg.com', 'Organization');
INSERT INTO Organizer (ID, Name, Email, Type) VALUES (3, 'Event Planner',
'planner@example.com', 'Individual');

-- Insert values into Sponsor table
INSERT INTO Sponsor (ID, Name, Email) VALUES (1, 'Company A',
'contact@companya.com');
INSERT INTO Sponsor (ID, Name, Email) VALUES (2, 'Company B',
'contact@companyb.com');
INSERT INTO Sponsor (ID, Name, Email) VALUES (3, 'Company C',
'contact@companyc.com');

-- Insert values into Event_Details table
INSERT INTO Event_Details (ID, Type, Title, Event_Date, Location, OrganizerID)
VALUES (1, 'Conference', 'Tech Conference 2024', TO_DATE('2024-09-01', 'YYYY-MM-
DD'), 'New York', 1);
INSERT INTO Event_Details (ID, Type, Title, Event_Date, Location, OrganizerID)
VALUES (2, 'Workshop', 'AI Workshop', TO_DATE('2024-10-10', 'YYYY-MM-DD'), 'San
Francisco', 2);
INSERT INTO Event_Details (ID, Type, Title, Event_Date, Location, OrganizerID)
VALUES (3, 'Seminar', 'Data Science Seminar', TO_DATE('2024-11-15', 'YYYY-MM-DD'),
'Los Angeles', 3);

-- Insert values into Event_Sponsor table
INSERT INTO Event_Sponsor (EventID, SponsorID) VALUES (1, 1);
INSERT INTO Event_Sponsor (EventID, SponsorID) VALUES (2, 2);
INSERT INTO Event_Sponsor (EventID, SponsorID) VALUES (3, 3);

-- Insert values into Track table
```
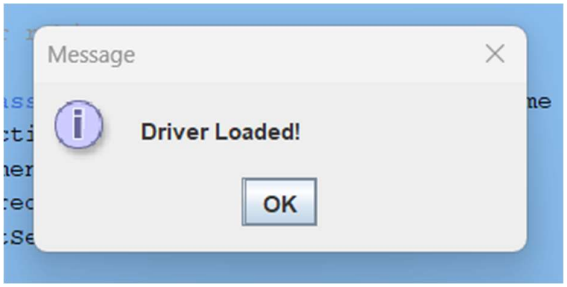
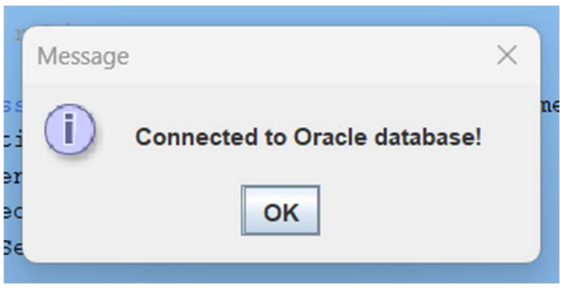

```
INSERT INTO Track (ID, Title, Description, EventID)
VALUES (1, 'AI Track', 'All about Artificial Intelligence', 1);
INSERT INTO Track (ID, Title, Description, EventID)
VALUES (2, 'ML Track', 'Deep dive into Machine Learning', 2);
INSERT INTO Track (ID, Title, Description, EventID)
VALUES (3, 'DS Track', 'Exploring Data Science', 3);

-- Insert values into Task table
INSERT INTO Task (ID, Title, Deadline, TrackID)
VALUES (1, 'Task 1', TO_DATE('2024-08-15', 'YYYY-MM-DD'), 1);
INSERT INTO Task (ID, Title, Deadline, TrackID)
VALUES (2, 'Task 2', TO_DATE('2024-09-25', 'YYYY-MM-DD'), 2);
INSERT INTO Task (ID, Title, Deadline, TrackID)
VALUES (3, 'Task 3', TO_DATE('2024-10-30', 'YYYY-MM-DD'), 3);

-- Insert values into Paper table
INSERT INTO Paper (ID, Title, Abstract, TaskID, TotalScore)
VALUES (1, 'Paper 1', 'Abstract of Paper 1', 1, 0);
INSERT INTO Paper (ID, Title, Abstract, TaskID, TotalScore)
VALUES (2, 'Paper 2', 'Abstract of Paper 2', 2, 0);
INSERT INTO Paper (ID, Title, Abstract, TaskID, TotalScore)
VALUES (3, 'Paper 3', 'Abstract of Paper 3', 3, 0);

-- Insert values into SubTask table
INSERT INTO SubTask (ID, Title, Description, ResourcePath)
VALUES (1, 'SubTask 1', 'Description of SubTask 1', '/path/to/resource1');
INSERT INTO SubTask (ID, Title, Description, ResourcePath)
VALUES (2, 'SubTask 2', 'Description of SubTask 2', '/path/to/resource2');
INSERT INTO SubTask (ID, Title, Description, ResourcePath)
VALUES (3, 'SubTask 3', 'Description of SubTask 3', '/path/to/resource3');

-- Insert values into Task_SubTask table
INSERT INTO Task_SubTask (TaskID, SubTaskID) VALUES (1, 1);
INSERT INTO Task_SubTask (TaskID, SubTaskID) VALUES (2, 2);
INSERT INTO Task_SubTask (TaskID, SubTaskID) VALUES (3, 3);

-- Insert values into Task_Resource table
INSERT INTO Task_Resource (ID, Description, Path)
VALUES (1, 'Resource 1 Description', '/path/to/resource1');
INSERT INTO Task_Resource (ID, Description, Path)
VALUES (2, 'Resource 2 Description', '/path/to/resource2');
INSERT INTO Task_Resource (ID, Description, Path)
VALUES (3, 'Resource 3 Description', '/path/to/resource3');

-- Insert values into Participant table
INSERT INTO Participant (ID, Affiliation, Name, Email, Type)
VALUES (1, 'Univ A', 'Alice', 'alice@ex.com', 'Author');
INSERT INTO Participant (ID, Affiliation, Name, Email, Type)
```

```
VALUES (2, 'Univ B', 'Bob', 'bob@ex.com', 'Reviewer');
INSERT INTO Participant (ID, Affiliation, Name, Email, Type)
VALUES (3, 'Univ C', 'Charlie', 'charlie@ex.com', 'Attendee');

-- Insert values into Author table
INSERT INTO Author (PaperID, AuthorID) VALUES (1, 1);
INSERT INTO Author (PaperID, AuthorID) VALUES (2, 1);
INSERT INTO Author (PaperID, AuthorID) VALUES (3, 1);

-- Insert values into Review table
INSERT INTO Review (ReviewID, PaperID, ParticipantID, Comments, Score)
VALUES (1, 1, 2, 'Excellent.', 9);
INSERT INTO Review (ReviewID, PaperID, ParticipantID, Comments, Score)
VALUES (2, 2, 3, 'Good.', 8);
INSERT INTO Review (ReviewID, PaperID, ParticipantID, Comments, Score)
VALUES (3, 3, 1, 'Splendid.', 7);
INSERT INTO Review (ReviewID, PaperID, ParticipantID, Comments, Score)
VALUES (4, 1, 3, 'Insightful.', 8);
INSERT INTO Review (ReviewID, PaperID, ParticipantID, Comments, Score)
VALUES (5, 2, 1, 'Great.', 6);


-- Insert values into Proceeding table
INSERT INTO Proceeding (ID, Title, FilePath, IssueDate, EventID)
VALUES (1, 'Proceeding 1', '/path/to/proceeding1', TO_DATE('2024-09-02', 'YYYY-MM-
DD'), 1);
INSERT INTO Proceeding (ID, Title, FilePath, IssueDate, EventID)
VALUES (2, 'Proceeding 2', '/path/to/proceeding2', TO_DATE('2024-10-11', 'YYYY-MM-
DD'), 2);
INSERT INTO Proceeding (ID, Title, FilePath, IssueDate, EventID)
VALUES (3, 'Proceeding 3', '/path/to/proceeding3', TO_DATE('2024-11-16', 'YYYY-MM-
DD'), 3);

-- Insert values into Sponsor_Type table
INSERT INTO Sponsor_Type (ID, TypeName, Perks, Price)
VALUES (1, 'Platinum', 'All-access pass, Logo on materials', 10000);
INSERT INTO Sponsor_Type (ID, TypeName, Perks, Price)
VALUES (2, 'Gold', 'All-access pass', 5000);
INSERT INTO Sponsor_Type (ID, TypeName, Perks, Price)
VALUES (3, 'Silver', 'Logo on materials', 2500);

commit;
```

Loading the Driver and Establishing the Connection:





Main Code to Select the Table:

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to
change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this
template
 */
package com.oracle.paper_journal;
import javax.swing.*;
import java.sql.*;
import java.sql.Statement;
import java.util.logging.Level;
import java.util.logging.Logger;

/**
 *
 * @author rohit
 */
public class review extends javax.swing.JFrame {
    Connection con;
    Statement st;
```

```
    PreparedStatement ps;
    ResultSet rs;

    /**
     * Creates new form review
     */
    public review() {
        initComponents();
        try {
            Class.forName("oracle.jdbc.OracleDriver");
            JOptionPane.showMessageDialog(this, "Driver Loaded!");

            try {
                con =
DriverManager.getConnection("jdbc:oracle:thin:@Rohith:1521:orcla", "scott",
"tiger");
                JOptionPane.showMessageDialog(this, "Connected to Oracle
database!");
            } catch (SQLException ex) {
                Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null,
ex);
                JOptionPane.showMessageDialog(this, ex.getMessage());
            }
        } catch (ClassNotFoundException ex) {
            Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        }
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated
Code">
    private void initComponents() {

        jLabel6 = new javax.swing.JLabel();
        PID = new javax.swing.JTextField();
        PaID = new javax.swing.JTextField();
        Comments = new javax.swing.JTextField();
        Score = new javax.swing.JTextField();
        insertButton = new javax.swing.JButton();
        updateButton = new javax.swing.JButton();
        searchButton = new javax.swing.JButton();
        deleteButton = new javax.swing.JButton();
```

```
        clearButton = new javax.swing.JButton();
        jLabel1 = new javax.swing.JLabel();
        Title_ = new javax.swing.JLabel();
        Abstract_ = new javax.swing.JLabel();
        Result_ = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        RID = new javax.swing.JTextField();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jLabel6.setFont(new java.awt.Font("Segoe UI", 1, 24)); // NOI18N
        jLabel6.setText("Review Table");

        PID.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                PIDActionPerformed(evt);
            }
        });

        PaID.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                PaIDActionPerformed(evt);
            }
        });

        Comments.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                CommentsActionPerformed(evt);
            }
        });

        Score.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ScoreActionPerformed(evt);
            }
        });

        insertButton.setText("Insert");
        insertButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                insertButtonActionPerformed(evt);
            }
        });

        updateButton.setText("Update");
        updateButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                updateButtonActionPerformed(evt);
```

```
            }
        });

        searchButton.setText("Search");
        searchButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                searchButtonActionPerformed(evt);
            }
        });

        deleteButton.setText("Delete");
        deleteButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                deleteButtonActionPerformed(evt);
            }
        });

        clearButton.setText("Clear");
        clearButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                clearButtonActionPerformed(evt);
            }
        });

        jLabel1.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        jLabel1.setText("Paper ID");

        Title_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Title_.setText("Participant ID");

        Abstract_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Abstract_.setText("Comments");

        Result_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Result_.setText("Score");

        jLabel2.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        jLabel2.setText("Reviwer ID");

        RID.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                RIDActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
```

```
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addGap(91, 91, 91)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.TRAILING)
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(clearButton)
                        .addGap(83, 83, 83))
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(insertButton)
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement
.RELATED, 92, Short.MAX_VALUE)
                        .addComponent(updateButton)
                        .addGap(101, 101, 101)
                        .addComponent(searchButton)))
                .addGap(69, 69, 69))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                .addComponent(jLabel6)
                .addGap(203, 203, 203))
            .addGroup(layout.createSequentialGroup()
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(170, 170, 170)
                        .addComponent(deleteButton))
                    .addGroup(layout.createSequentialGroup()
                        .addGap(112, 112, 112)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayou
t.Alignment.TRAILING)
                            .addComponent(jLabel1)
                            .addComponent(Title_)
                            .addComponent(Abstract_)
                            .addComponent(Result_)
                            .addComponent(jLabel2))
                        .addGap(18, 18, 18)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayou
t.Alignment.LEADING, false)
                            .addComponent(PaID,
javax.swing.GroupLayout.DEFAULT_SIZE, 193, Short.MAX_VALUE)
                            .addComponent(Comments)
                            .addComponent(RID)
                            .addComponent(PID,
javax.swing.GroupLayout.Alignment.TRAILING)
```

```
                            .addComponent(Score))))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jLabel6)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED
, 33, Short.MAX_VALUE)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(jLabel2)
                    .addComponent(RID, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(jLabel1)
                    .addComponent(PID, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Title_)
                    .addComponent(PaID, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Abstract_)
                    .addComponent(Comments, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Result_)
                    .addComponent(Score, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(29, 29, 29)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(insertButton)
                    .addComponent(updateButton)
                    .addComponent(searchButton))
                .addGap(18, 18, 18)
```

```
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignment.BASELINE)
                    .addComponent(deleteButton)
                    .addComponent(clearButton))
                .addGap(47, 47, 47))
        );

        pack();
    }// </editor-fold>

    private void PIDActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void PaIDActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void CommentsActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void ScoreActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void insertButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            String sql = "INSERT INTO Review (ReviewID, PaperID, ParticipantID, Comments, Score) VALUES (?, ?, ?, ?, ?)";
            ps = con.prepareStatement(sql);
            ps.setString(1, RID.getText());
            ps.setString(2, PID.getText());
            ps.setString(3, PaID.getText());
            ps.setString(4, Comments.getText());
            ps.setString(5, Score.getText());
            ps.executeUpdate();
            JOptionPane.showMessageDialog(this, "Inserted!");
        } catch (SQLException ex) {
            Logger.getLogger(review.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        }
    }
```

```
    private void updateButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            // Start a transaction
            con.setAutoCommit(false);

            // Prepare the SQL update statement
            String sql = "UPDATE Review SET PaperID = ?, ParticipantID = ?,
Comments = ?, Score = ? WHERE ReviewID = ?";
            PreparedStatement pstmt = con.prepareStatement(sql);

            // Set the parameters for the prepared statement
            pstmt.setString(1, PID.getText());
            pstmt.setString(2, PaID.getText());
            pstmt.setString(3, Comments.getText());
            pstmt.setString(4, Score.getText());
            pstmt.setString(5, RID.getText());

            // Execute the update statement
            int rowsUpdated = pstmt.executeUpdate();

            // Commit the transaction
            con.commit();

            // Check if the update was successful
            if (rowsUpdated > 0) {
                JOptionPane.showMessageDialog(this, "Record Updated
Successfully!");
            } else {
                JOptionPane.showMessageDialog(this, "Record Not Found!");
            }
        } catch (SQLException ex) {
            try {
                // Rollback in case of an error
                con.rollback();
            } catch (SQLException rollbackEx) {
                Logger.getLogger(review.class.getName()).log(Level.SEVERE, null,
rollbackEx);
            }
            Logger.getLogger(review.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        } finally {
            try {
                // Restore the default autocommit mode
                con.setAutoCommit(true);
            } catch (SQLException ex) {
```

```
                Logger.getLogger(review.class.getName()).log(Level.SEVERE, null,
ex);
            }
        }
    }

    private void searchButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            String sql = "SELECT * FROM Review WHERE ReviewID = '" + RID.getText()
+ "'";
            st = con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,
ResultSet.CONCUR_UPDATABLE);
            rs = st.executeQuery(sql);

            if (rs.next()) {
                RID.setText(rs.getString(1));
                PID.setText(rs.getString(2));
                PaID.setText(rs.getString(3));
                Comments.setText(rs.getString(4));
                Score.setText(rs.getString(5));
                JOptionPane.showMessageDialog(this, "Record Found!");
            } else {
                JOptionPane.showMessageDialog(this, "Record Not Found!");
            }
        } catch (SQLException ex) {
            Logger.getLogger(review.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        }
    }

    private void deleteButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            // Start a transaction
            con.setAutoCommit(false);

            // Delete the record from the Review table
            String deleteReviewSql = "DELETE FROM Review WHERE ReviewID = '" +
RID.getText() + "'";
            st = con.createStatement();
            int rowsDeleted = st.executeUpdate(deleteReviewSql);

            // Commit the transaction
            con.commit();

            if (rowsDeleted > 0) {
```

```
                JOptionPane.showMessageDialog(this, "Record Deleted
Successfully!");
                // Optionally, clear the fields
                RID.setText("");
                PID.setText("");
                PaID.setText("");
                Comments.setText("");
                Score.setText("");
            } else {
                JOptionPane.showMessageDialog(this, "Record Not Found!");
            }
        } catch (SQLException ex) {
            try {
                // Rollback in case of an error
                con.rollback();
            } catch (SQLException rollbackEx) {
                Logger.getLogger(review.class.getName()).log(Level.SEVERE, null,
rollbackEx);
            }
            Logger.getLogger(review.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        } finally {
            try {
                // Restore the default autocommit mode
                con.setAutoCommit(true);
            } catch (SQLException ex) {
                Logger.getLogger(review.class.getName()).log(Level.SEVERE, null,
ex);
            }
        }
    }

    private void clearButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        RID.setText("");
        PID.setText("");
        PaID.setText("");
        Comments.setText("");
        Score.setText("");
    }

    private void RIDActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    /**
     * @param args the command line arguments
```

```
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
            java.util.logging.Logger.getLogger(review.class.getName()).log(java.uti
l.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(review.class.getName()).log(java.uti
l.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
            java.util.logging.Logger.getLogger(review.class.getName()).log(java.uti
l.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(review.class.getName()).log(java.uti
l.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new review().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JLabel Abstract_;
    private javax.swing.JTextField Comments;
    private javax.swing.JTextField PID;
    private javax.swing.JTextField PaID;
    private javax.swing.JTextField RID;
    private javax.swing.JLabel Result_;
```

```
    private javax.swing.JTextField Score;
    private javax.swing.JLabel Title_;
    private javax.swing.JButton clearButton;
    private javax.swing.JButton deleteButton;
    private javax.swing.JButton insertButton;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JButton searchButton;
    private javax.swing.JButton updateButton;
    // End of variables declaration
}
```

Selecting the Table:

```
Enter the table to be viewed:
1. Participant
2. Review
3. Paper
```

Code for the Participant Table:

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to
change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this
template
 */
package com.oracle.paper_journal;
import javax.swing.*;
import java.sql.*;
import java.sql.Statement;
import java.util.logging.Level;
import java.util.logging.Logger;

/**
 *
 * @author rohit
 */
public class participant extends javax.swing.JFrame {
    Connection con;
```

```
    Statement st;
    PreparedStatement ps;
    ResultSet rs;
    /**
     * Creates new form participant
     */
    public participant() {
        initComponents();
        try {
            Class.forName("oracle.jdbc.OracleDriver");
            JOptionPane.showMessageDialog(this, "Driver Loaded!");

            try {
                con =
DriverManager.getConnection("jdbc:oracle:thin:@Rohith:1521:orcla", "scott",
"tiger");
                JOptionPane.showMessageDialog(this, "Connected to Oracle
database!");
            } catch (SQLException ex) {
                Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null,
ex);
                JOptionPane.showMessageDialog(this, ex.getMessage());
            }
        } catch (ClassNotFoundException ex) {
            Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        }
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated
Code">
    private void initComponents() {

        clearButton = new javax.swing.JButton();
        jLabel2 = new javax.swing.JLabel();
        jLabel1 = new javax.swing.JLabel();
        ParID = new javax.swing.JTextField();
        Title_ = new javax.swing.JLabel();
        Abstract_ = new javax.swing.JLabel();
        Result_ = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        Affiliation = new javax.swing.JTextField();
```

```
        Name = new javax.swing.JTextField();
        Email = new javax.swing.JTextField();
        Type = new javax.swing.JTextField();
        insertButton = new javax.swing.JButton();
        updateButton = new javax.swing.JButton();
        searchButton = new javax.swing.JButton();
        deleteButton = new javax.swing.JButton();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        clearButton.setText("Clear");
        clearButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                clearButtonActionPerformed(evt);
            }
        });

        jLabel2.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        jLabel2.setText("Participant ID");

        jLabel1.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        jLabel1.setText("Affiliation");

        ParID.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                ParIDActionPerformed(evt);
            }
        });

        Title_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Title_.setText("Name");

        Abstract_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Abstract_.setText("Email");

        Result_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Result_.setText("Type");

        jLabel6.setFont(new java.awt.Font("Segoe UI", 1, 24)); // NOI18N
        jLabel6.setText("Participant Table");

        Affiliation.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                AffiliationActionPerformed(evt);
            }
        });

        Name.addActionListener(new java.awt.event.ActionListener() {
```

```
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                NameActionPerformed(evt);
            }
        });

        Email.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                EmailActionPerformed(evt);
            }
        });

        Type.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                TypeActionPerformed(evt);
            }
        });

        insertButton.setText("Insert");
        insertButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                insertButtonActionPerformed(evt);
            }
        });

        updateButton.setText("Update");
        updateButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                updateButtonActionPerformed(evt);
            }
        });

        searchButton.setText("Search");
        searchButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                searchButtonActionPerformed(evt);
            }
        });

        deleteButton.setText("Delete");
        deleteButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                deleteButtonActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
```

```
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addGap(91, 91, 91)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.TRAILING)
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(clearButton)
                        .addGap(83, 83, 83))
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(insertButton)
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement
.RELATED, 92, Short.MAX_VALUE)
                        .addComponent(updateButton)
                        .addGap(101, 101, 101)
                        .addComponent(searchButton)))
                .addGap(69, 69, 69))
            .addGroup(layout.createSequentialGroup()
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(170, 170, 170)
                        .addComponent(deleteButton))
                    .addGroup(layout.createSequentialGroup()
                        .addGap(112, 112, 112)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayou
t.Alignment.TRAILING)
                            .addComponent(jLabel1)
                            .addComponent(Title_)
                            .addComponent(Abstract_)
                            .addComponent(Result_)
                            .addComponent(jLabel2))
                        .addGap(18, 18, 18)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayou
t.Alignment.LEADING, false)
                            .addComponent(Name,
javax.swing.GroupLayout.DEFAULT_SIZE, 193, Short.MAX_VALUE)
                            .addComponent(Email)
                            .addComponent(ParID)
                            .addComponent(Affiliation,
javax.swing.GroupLayout.Alignment.TRAILING)
                            .addComponent(Type))))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
```

```
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                .addComponent(jLabel6)
                .addGap(169, 169, 169))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jLabel6)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED
, 33, Short.MAX_VALUE)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(jLabel2)
                    .addComponent(ParID, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(jLabel1)
                    .addComponent(Affiliation,
javax.swing.GroupLayout.PREFERRED_SIZE, javax.swing.GroupLayout.DEFAULT_SIZE,
javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Title_)
                    .addComponent(Name, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Abstract_)
                    .addComponent(Email, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Result_)
                    .addComponent(Type, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(29, 29, 29)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(insertButton)
                    .addComponent(updateButton)
```

```
                    .addComponent(searchButton))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(deleteButton)
                    .addComponent(clearButton))
                .addGap(47, 47, 47))
        );

        pack();
    }// </editor-fold>

    private void clearButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        ParID.setText("");
        Affiliation.setText("");
        Name.setText("");
        Email.setText("");
        Type.setText("");
    }

    private void ParIDActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void AffiliationActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void NameActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void EmailActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void TypeActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void insertButtonActionPerformed(java.awt.event.ActionEvent evt)
{
```

```
        try {
            String sql = "INSERT INTO Participant (ID, Affiliation, Name, Email,
Type) VALUES (?, ?, ?, ?, ?)";
            ps = con.prepareStatement(sql);
            ps.setString(1, ParID.getText());
            ps.setString(2, Affiliation.getText());
            ps.setString(3, Name.getText());
            ps.setString(4, Email.getText());
            ps.setString(5, Type.getText());
            ps.executeUpdate();
            JOptionPane.showMessageDialog(this, "Inserted!");
        } catch (SQLException ex) {
            Logger.getLogger(participant.class.getName()).log(Level.SEVERE, null,
ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        }
    }

    private void updateButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            // Start a transaction
            con.setAutoCommit(false);

            // Prepare the SQL update statement
            String sql = "UPDATE Participant SET Affiliation = ?, Name = ?, Email =
?, Type = ? WHERE ID = ?";
            PreparedStatement pstmt = con.prepareStatement(sql);

            // Set the parameters for the prepared statement
            pstmt.setString(1, Affiliation.getText());
            pstmt.setString(2, Name.getText());
            pstmt.setString(3, Email.getText());
            pstmt.setString(4, Type.getText());
            pstmt.setString(5, ParID.getText());

            // Execute the update statement
            int rowsUpdated = pstmt.executeUpdate();

            // Commit the transaction
            con.commit();

            // Check if the update was successful
            if (rowsUpdated > 0) {
                JOptionPane.showMessageDialog(this, "Record Updated
Successfully!");
            } else {
                JOptionPane.showMessageDialog(this, "Record Not Found!");
```

```
            }
        } catch (SQLException ex) {
            try {
                // Rollback in case of an error
                con.rollback();
            } catch (SQLException rollbackEx) {
                Logger.getLogger(participant.class.getName()).log(Level.SEVERE,
null, rollbackEx);
            }
            Logger.getLogger(participant.class.getName()).log(Level.SEVERE, null,
ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        } finally {
            try {
                // Restore the default autocommit mode
                con.setAutoCommit(true);
            } catch (SQLException ex) {
                Logger.getLogger(participant.class.getName()).log(Level.SEVERE,
null, ex);
            }
        }
    }

    private void searchButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            String sql = "SELECT * FROM Participant WHERE ID = '" + ParID.getText()
+ "'";
            st = con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,
ResultSet.CONCUR_UPDATABLE);
            rs = st.executeQuery(sql);

            if (rs.next()) {
                ParID.setText(rs.getString(1));
                Affiliation.setText(rs.getString(2));
                Name.setText(rs.getString(3));
                Email.setText(rs.getString(4));
                Type.setText(rs.getString(5));
                JOptionPane.showMessageDialog(this, "Record Found!");
            } else {
                JOptionPane.showMessageDialog(this, "Record Not Found!");
            }
        } catch (SQLException ex) {
            Logger.getLogger(participant.class.getName()).log(Level.SEVERE, null,
ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        }
    }
```

```
    private void deleteButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            // Start a transaction
            con.setAutoCommit(false);

            // Delete the record from the Participant table
            String deleteParticipantSql = "DELETE FROM Participant WHERE ID = '" +
ParID.getText() + "'";
            st = con.createStatement();
            int rowsDeleted = st.executeUpdate(deleteParticipantSql);

            // Commit the transaction
            con.commit();

            if (rowsDeleted > 0) {
                JOptionPane.showMessageDialog(this, "Record Deleted
Successfully!");
                // Optionally, clear the fields
                ParID.setText("");
                Affiliation.setText("");
                Name.setText("");
                Email.setText("");
                Type.setText("");
            } else {
                JOptionPane.showMessageDialog(this, "Record Not Found!");
            }
        } catch (SQLException ex) {
            try {
                // Rollback in case of an error
                con.rollback();
            } catch (SQLException rollbackEx) {
                Logger.getLogger(participant.class.getName()).log(Level.SEVERE,
null, rollbackEx);
            }
            Logger.getLogger(participant.class.getName()).log(Level.SEVERE, null,
ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        } finally {
            try {
                // Restore the default autocommit mode
                con.setAutoCommit(true);
            } catch (SQLException ex) {
                Logger.getLogger(participant.class.getName()).log(Level.SEVERE,
null, ex);
            }
        }
```

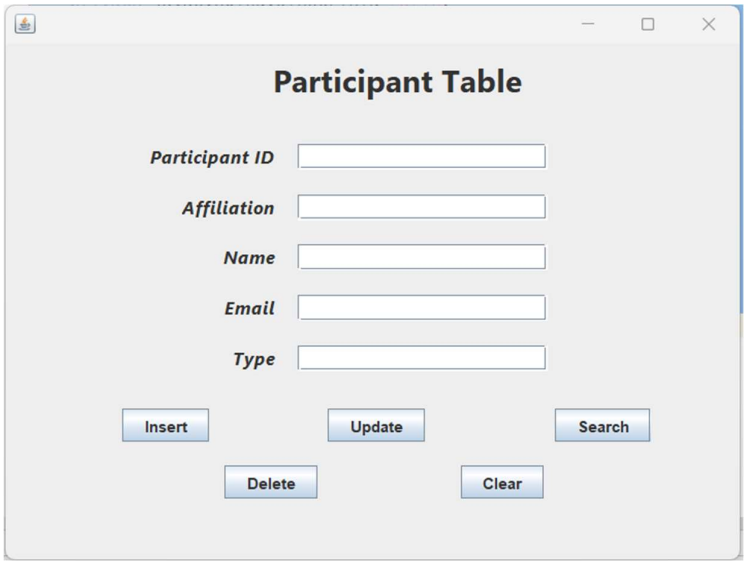
```
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
            java.util.logging.Logger.getLogger(participant.class.getName()).log(jav
a.util.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(participant.class.getName()).log(jav
a.util.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
            java.util.logging.Logger.getLogger(participant.class.getName()).log(jav
a.util.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(participant.class.getName()).log(jav
a.util.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new participant().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JLabel Abstract_;
    private javax.swing.JTextField Affiliation;
```

```
    private javax.swing.JTextField Email;
    private javax.swing.JTextField Name;
    private javax.swing.JTextField ParID;
    private javax.swing.JLabel Result_;
    private javax.swing.JLabel Title_;
    private javax.swing.JTextField Type;
    private javax.swing.JButton clearButton;
    private javax.swing.JButton deleteButton;
    private javax.swing.JButton insertButton;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JButton searchButton;
    private javax.swing.JButton updateButton;
    // End of variables declaration
}
```

Selecting and Working on the Participant Table:

```
Enter the table to be viewed:
1. Participant
2. Review
3. Paper
1
```

Basic UI

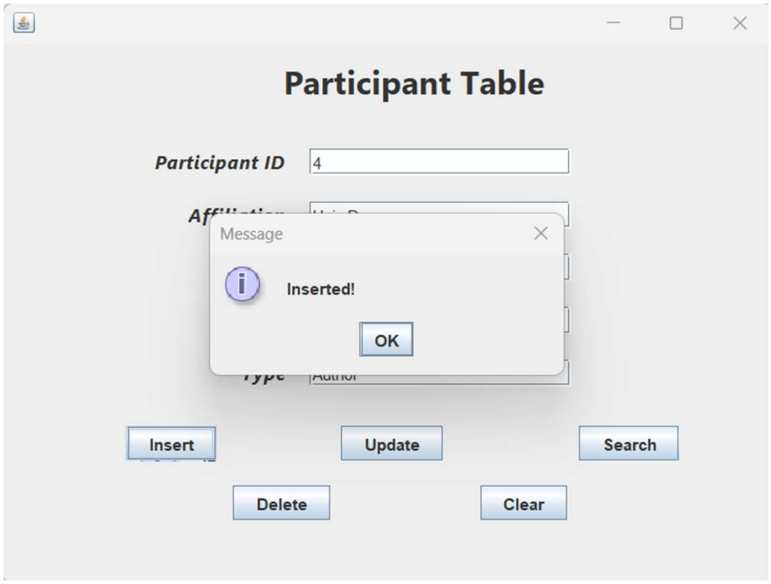


Inserting:

Before Insertion:

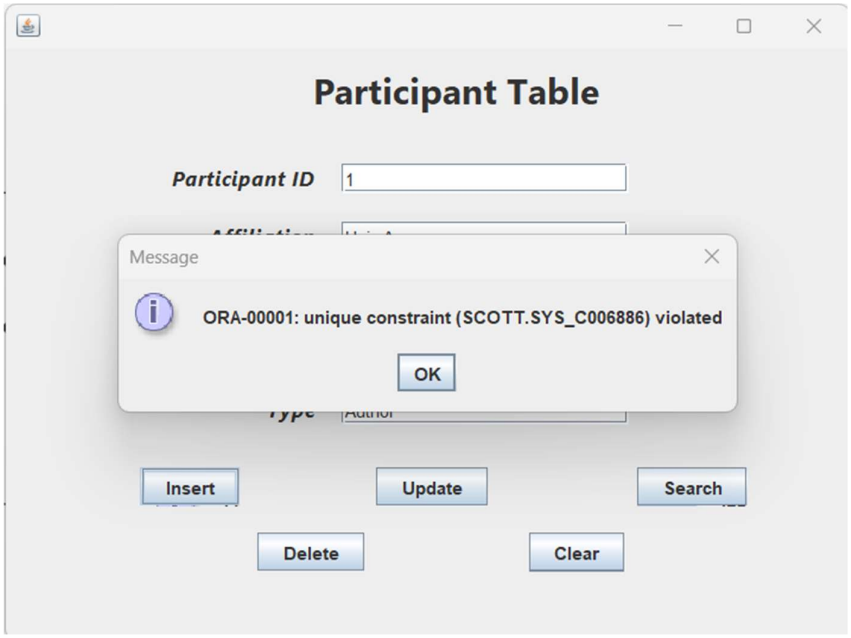
```
        ID AFFILIATION          NAME                 EMAIL
---------- -------------------- -------------------- --------------------
TYPE
--------------------
         1 Univ A               Alice                alice@ex.com
Author

         2 Univ B               Bob                  bob@ex.com
Reviewer

         3 Univ C               Charlie              charlie@ex.com
Attendee
```

After Successful Insertion:




```
        ID AFFILIATION          NAME                 EMAIL
---------- -------------------- -------------------- --------------------
TYPE
--------------------
         4 Univ D               Daisy                daisy@ex.com
Author

         1 Univ A               Alice                alice@ex.com
Author

         2 Univ B               Bob                  bob@ex.com
Reviewer


        ID AFFILIATION          NAME                 EMAIL
---------- -------------------- -------------------- --------------------
TYPE
--------------------
         3 Univ C               Charlie              charlie@ex.com
Attendee
```

Incorrect Insertion:

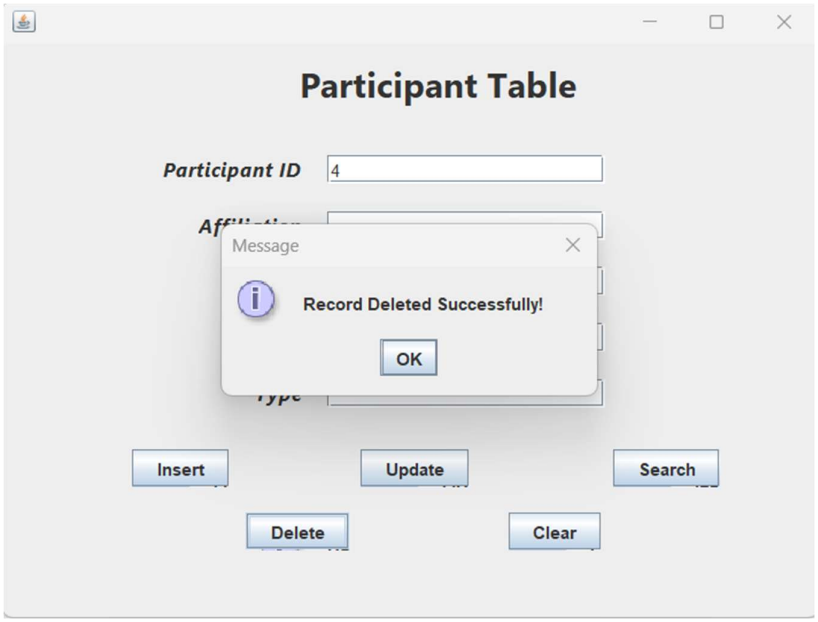


Deleting:

Before Deleting a Record:

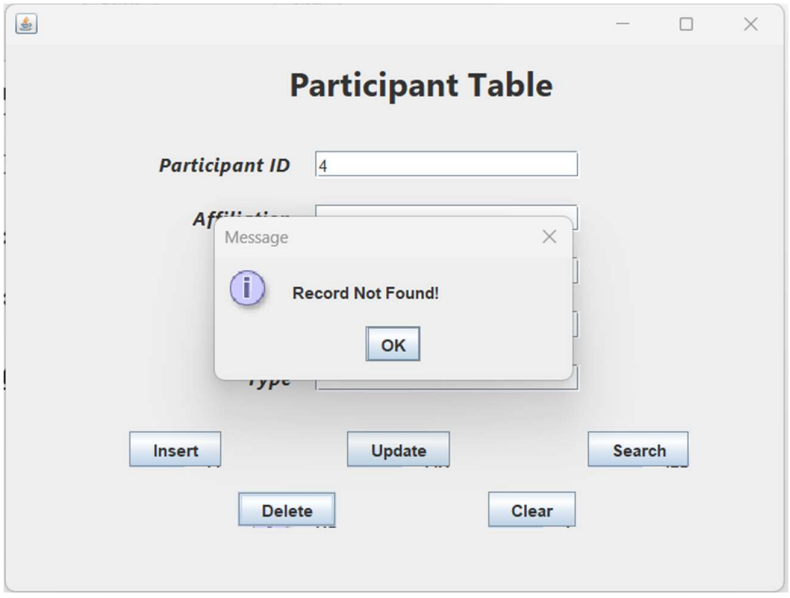
```
        ID AFFILIATION          NAME                EMAIL
---------- -------------------- -------------------- --------------------
TYPE
--------------------
         4 Univ D               Daisy               daisy@ex.com
Author

         1 Univ A               Alice               alice@ex.com
Author

         2 Univ B               Bob                 bob@ex.com
Reviewer


        ID AFFILIATION          NAME                EMAIL
---------- -------------------- -------------------- --------------------
TYPE
--------------------
         3 Univ C               Charlie             charlie@ex.com
Attendee
```

After Deleting a Record Successfully:




```
        ID AFFILIATION          NAME                 EMAIL
---------- -------------------- -------------------- --------------------
TYPE
--------------------
         1 Univ A               Alice                alice@ex.com
Author

         2 Univ B               Bob                  bob@ex.com
Reviewer

         3 Univ C               Charlie              charlie@ex.com
Attendee
```

Incorrect Deletion:

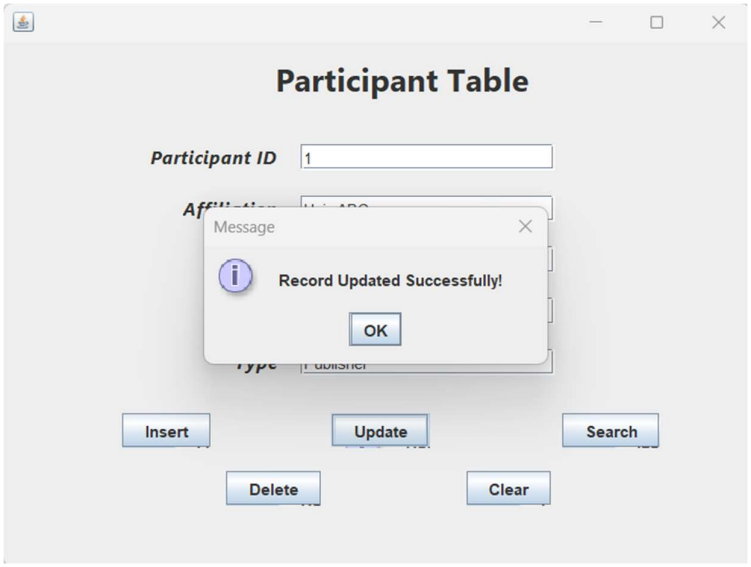


Updating:

Before Updating:

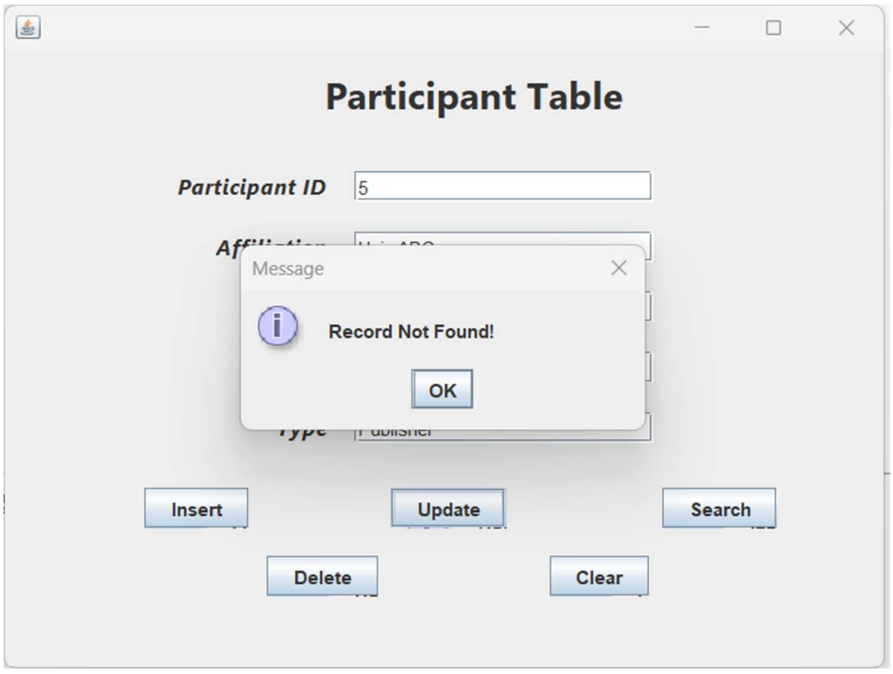
```
        ID AFFILIATION          NAME                 EMAIL
---------- -------------------- -------------------- --------------------
TYPE
--------------------
         1 Univ A               Alice                alice@ex.com
Author

         2 Univ B               Bob                  bob@ex.com
Reviewer

         3 Univ C               Charlie              charlie@ex.com
Attendee
```

After Successful Update:



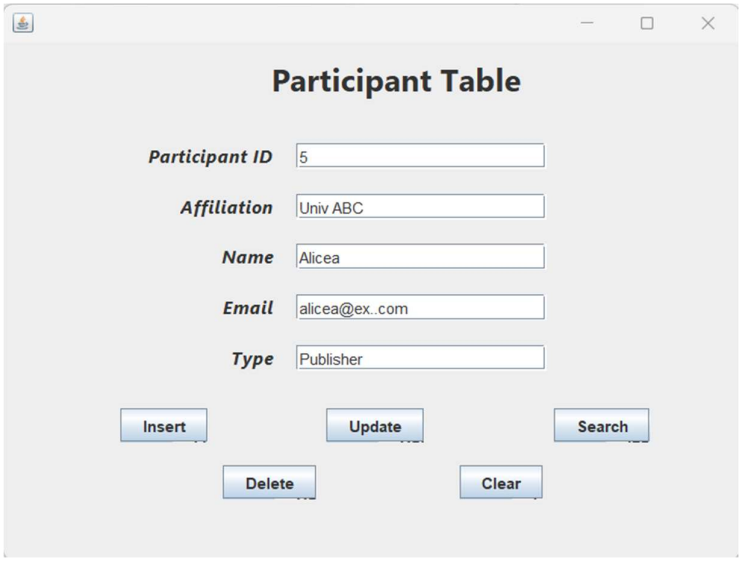

```
        ID AFFILIATION          NAME                 EMAIL
---------- -------------------- -------------------- --------------------
TYPE
--------------------
         1 Univ ABC             Alicea               alicea@ex..com
Publisher

         2 Univ B               Bob                  bob@ex.com
Reviewer

         3 Univ C               Charlie              charlie@ex.com
Attendee
```

Updating incorrectly:

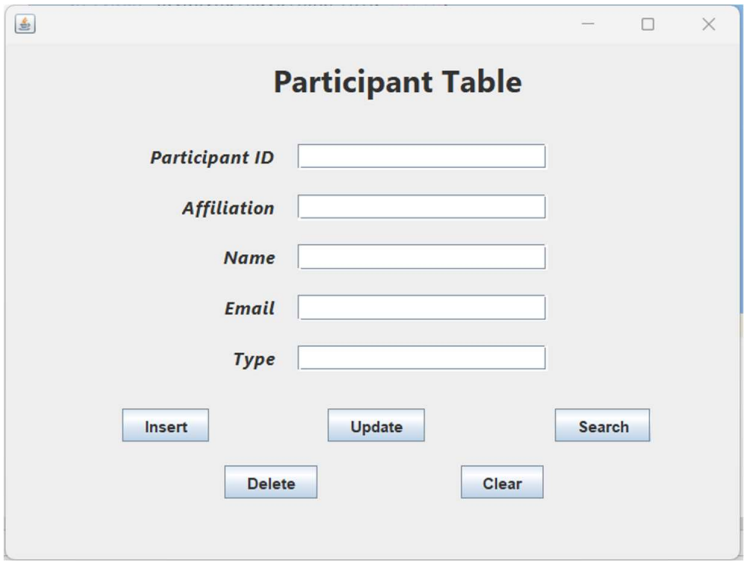


Clear:

Before:

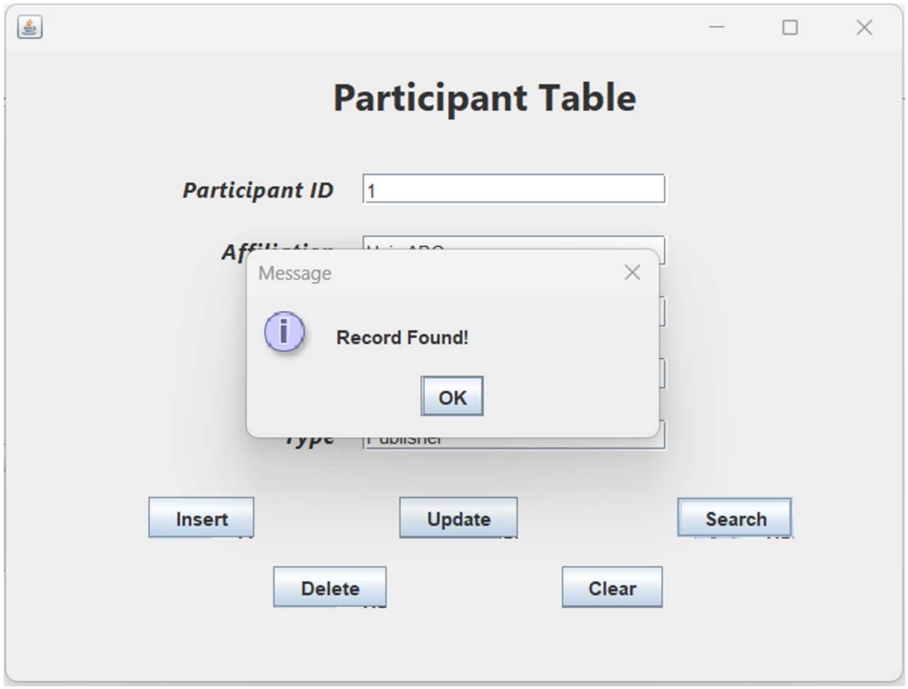


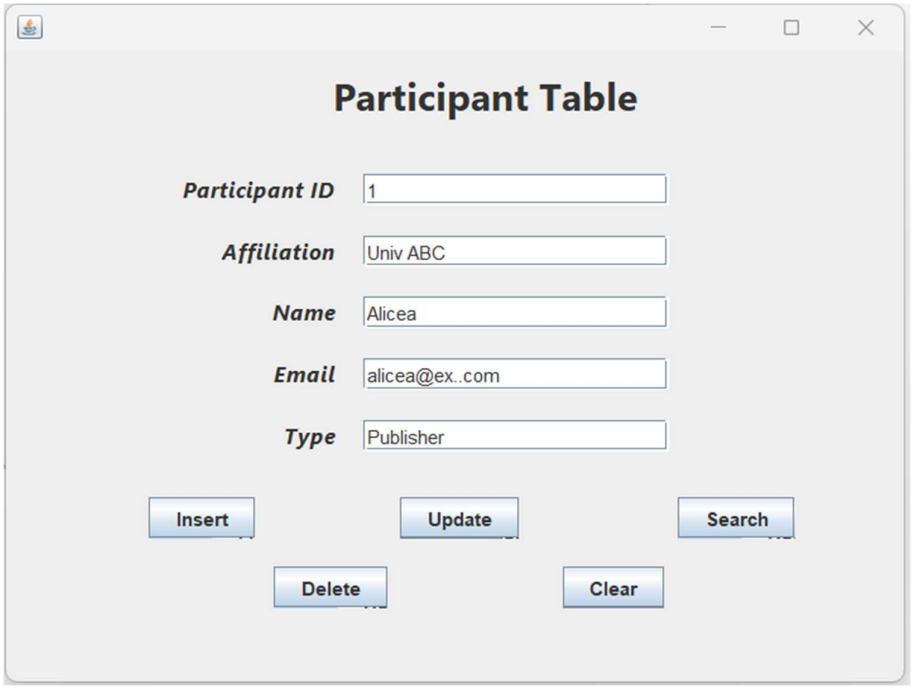
After:



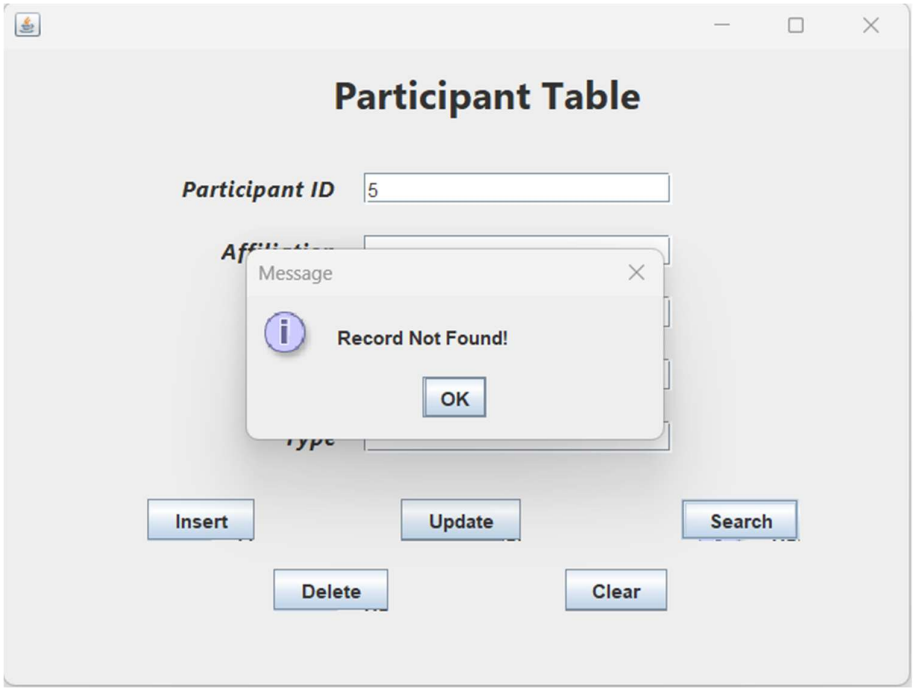
Search:

If Record is Found:





If Record is Not Found:



Code for the Review Table:

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to
change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this
template
 */
package com.oracle.paper_journal;
import javax.swing.*;
import java.sql.*;
import java.sql.Statement;
import java.util.logging.Level;
import java.util.logging.Logger;

/**
 *
 * @author rohit
 */
public class review extends javax.swing.JFrame {
    Connection con;
    Statement st;
    PreparedStatement ps;
    ResultSet rs;

    /**
     * Creates new form review
     */
    public review() {
        initComponents();
        try {
            Class.forName("oracle.jdbc.OracleDriver");
            JOptionPane.showMessageDialog(this, "Driver Loaded!");

            try {
                con =
DriverManager.getConnection("jdbc:oracle:thin:@Rohith:1521:orcla", "scott",
"tiger");
                JOptionPane.showMessageDialog(this, "Connected to Oracle
database!");
            } catch (SQLException ex) {
                Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null,
ex);
                JOptionPane.showMessageDialog(this, ex.getMessage());
            }
        } catch (ClassNotFoundException ex) {
            Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
```

```
        }
    }

    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated
Code">
    private void initComponents() {

        jLabel6 = new javax.swing.JLabel();
        PID = new javax.swing.JTextField();
        PaID = new javax.swing.JTextField();
        Comments = new javax.swing.JTextField();
        Score = new javax.swing.JTextField();
        insertButton = new javax.swing.JButton();
        updateButton = new javax.swing.JButton();
        searchButton = new javax.swing.JButton();
        deleteButton = new javax.swing.JButton();
        clearButton = new javax.swing.JButton();
        jLabel1 = new javax.swing.JLabel();
        Title_ = new javax.swing.JLabel();
        Abstract_ = new javax.swing.JLabel();
        Result_ = new javax.swing.JLabel();
        jLabel2 = new javax.swing.JLabel();
        RID = new javax.swing.JTextField();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        jLabel6.setFont(new java.awt.Font("Segoe UI", 1, 24)); // NOI18N
        jLabel6.setText("Review Table");

        PID.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                PIDActionPerformed(evt);
            }
        });

        PaID.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                PaIDActionPerformed(evt);
            }
        });

        Comments.addActionListener(new java.awt.event.ActionListener() {
```

```
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            CommentsActionPerformed(evt);
        }
    });

    Score.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            ScoreActionPerformed(evt);
        }
    });

    insertButton.setText("Insert");
    insertButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            insertButtonActionPerformed(evt);
        }
    });

    updateButton.setText("Update");
    updateButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            updateButtonActionPerformed(evt);
        }
    });

    searchButton.setText("Search");
    searchButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            searchButtonActionPerformed(evt);
        }
    });

    deleteButton.setText("Delete");
    deleteButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            deleteButtonActionPerformed(evt);
        }
    });

    clearButton.setText("Clear");
    clearButton.addActionListener(new java.awt.event.ActionListener() {
        public void actionPerformed(java.awt.event.ActionEvent evt) {
            clearButtonActionPerformed(evt);
        }
    });

    jLabel1.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
    jLabel1.setText("Paper ID");
```

```
        Title_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Title_.setText("Participant ID");

        Abstract_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Abstract_.setText("Comments");

        Result_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Result_.setText("Score");

        jLabel2.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        jLabel2.setText("Reviwer ID");

        RID.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                RIDActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addGap(91, 91, 91)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.TRAILING)
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(clearButton)
                        .addGap(83, 83, 83))
                    .addGroup(layout.createSequentialGroup()
                        .addComponent(insertButton)
                        .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement
.RELATED, 92, Short.MAX_VALUE)
                        .addComponent(updateButton)
                        .addGap(101, 101, 101)
                        .addComponent(searchButton)))
                .addGap(69, 69, 69))
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE)
                .addComponent(jLabel6)
                .addGap(203, 203, 203))
            .addGroup(layout.createSequentialGroup()
```

```
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.LEADING)
                    .addGroup(layout.createSequentialGroup()
                        .addGap(170, 170, 170)
                        .addComponent(deleteButton))
                    .addGroup(layout.createSequentialGroup()
                        .addGap(112, 112, 112)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayou
t.Alignment.TRAILING)
                            .addComponent(jLabel1)
                            .addComponent(Title_)
                            .addComponent(Abstract_)
                            .addComponent(Result_)
                            .addComponent(jLabel2))
                        .addGap(18, 18, 18)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayou
t.Alignment.LEADING, false)
                            .addComponent(PaID,
javax.swing.GroupLayout.DEFAULT_SIZE, 193, Short.MAX_VALUE)
                            .addComponent(Comments)
                            .addComponent(RID)
                            .addComponent(PID,
javax.swing.GroupLayout.Alignment.TRAILING)
                            .addComponent(Score))))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jLabel6)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED
, 33, Short.MAX_VALUE)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(jLabel2)
                    .addComponent(RID, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(jLabel1)
                    .addComponent(PID, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
```

```
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Title_)
                    .addComponent(PaID, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Abstract_)
                    .addComponent(Comments, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Result_)
                    .addComponent(Score, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(29, 29, 29)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(insertButton)
                    .addComponent(updateButton)
                    .addComponent(searchButton))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(deleteButton)
                    .addComponent(clearButton))
                .addGap(47, 47, 47))
        );

        pack();
    }// </editor-fold>

    private void PIDActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void PaIDActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void CommentsActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }
```

```
    private void ScoreActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void insertButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            String sql = "INSERT INTO Review (ReviewID, PaperID, ParticipantID,
Comments, Score) VALUES (?, ?, ?, ?, ?)";
            ps = con.prepareStatement(sql);
            ps.setString(1, RID.getText());
            ps.setString(2, PID.getText());
            ps.setString(3, PaID.getText());
            ps.setString(4, Comments.getText());
            ps.setString(5, Score.getText());
            ps.executeUpdate();
            JOptionPane.showMessageDialog(this, "Inserted!");
        } catch (SQLException ex) {
            Logger.getLogger(review.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        }
    }

    private void updateButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            // Start a transaction
            con.setAutoCommit(false);

            // Prepare the SQL update statement
            String sql = "UPDATE Review SET PaperID = ?, ParticipantID = ?,
Comments = ?, Score = ? WHERE ReviewID = ?";
            PreparedStatement pstmt = con.prepareStatement(sql);

            // Set the parameters for the prepared statement
            pstmt.setString(1, PID.getText());
            pstmt.setString(2, PaID.getText());
            pstmt.setString(3, Comments.getText());
            pstmt.setString(4, Score.getText());
            pstmt.setString(5, RID.getText());

            // Execute the update statement
            int rowsUpdated = pstmt.executeUpdate();

            // Commit the transaction
            con.commit();
```

```
            // Check if the update was successful
            if (rowsUpdated > 0) {
                JOptionPane.showMessageDialog(this, "Record Updated
Successfully!");
            } else {
                JOptionPane.showMessageDialog(this, "Record Not Found!");
            }
        } catch (SQLException ex) {
            try {
                // Rollback in case of an error
                con.rollback();
            } catch (SQLException rollbackEx) {
                Logger.getLogger(review.class.getName()).log(Level.SEVERE, null,
rollbackEx);
            }
            Logger.getLogger(review.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        } finally {
            try {
                // Restore the default autocommit mode
                con.setAutoCommit(true);
            } catch (SQLException ex) {
                Logger.getLogger(review.class.getName()).log(Level.SEVERE, null,
ex);
            }
        }
    }

    private void searchButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            String sql = "SELECT * FROM Review WHERE ReviewID = '" + RID.getText()
+ "'";
            st = con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,
ResultSet.CONCUR_UPDATABLE);
            rs = st.executeQuery(sql);

            if (rs.next()) {
                RID.setText(rs.getString(1));
                PID.setText(rs.getString(2));
                PaID.setText(rs.getString(3));
                Comments.setText(rs.getString(4));
                Score.setText(rs.getString(5));
                JOptionPane.showMessageDialog(this, "Record Found!");
            } else {
                JOptionPane.showMessageDialog(this, "Record Not Found!");
            }
```

```
        } catch (SQLException ex) {
            Logger.getLogger(review.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        }
    }

    private void deleteButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            // Start a transaction
            con.setAutoCommit(false);

            // Delete the record from the Review table
            String deleteReviewSql = "DELETE FROM Review WHERE ReviewID = '" +
RID.getText() + "'";
            st = con.createStatement();
            int rowsDeleted = st.executeUpdate(deleteReviewSql);

            // Commit the transaction
            con.commit();

            if (rowsDeleted > 0) {
                JOptionPane.showMessageDialog(this, "Record Deleted
Successfully!");
                // Optionally, clear the fields
                RID.setText("");
                PID.setText("");
                PaID.setText("");
                Comments.setText("");
                Score.setText("");
            } else {
                JOptionPane.showMessageDialog(this, "Record Not Found!");
            }
        } catch (SQLException ex) {
            try {
                // Rollback in case of an error
                con.rollback();
            } catch (SQLException rollbackEx) {
                Logger.getLogger(review.class.getName()).log(Level.SEVERE, null,
rollbackEx);
            }
            Logger.getLogger(review.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        } finally {
            try {
                // Restore the default autocommit mode
                con.setAutoCommit(true);
            } catch (SQLException ex) {
```

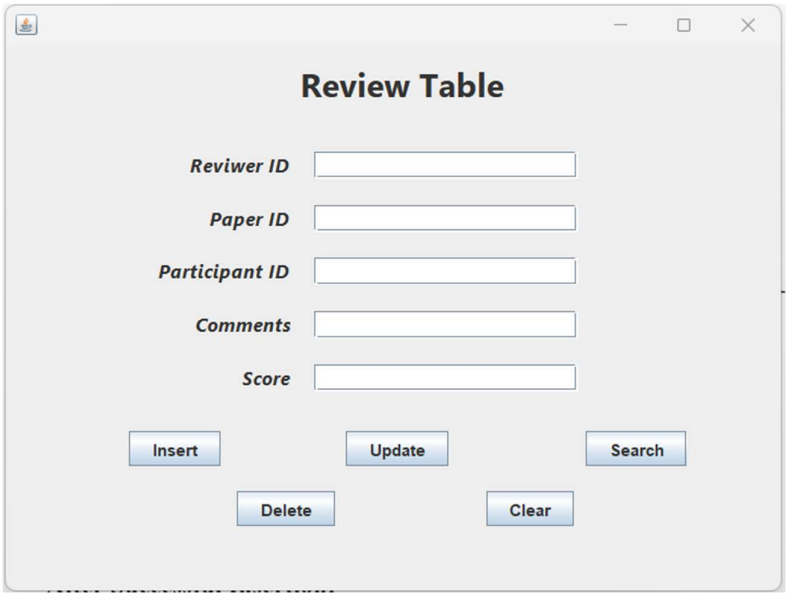
```
                Logger.getLogger(review.class.getName()).log(Level.SEVERE, null,
ex);
            }
        }
    }

    private void clearButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        RID.setText("");
        PID.setText("");
        PaID.setText("");
        Comments.setText("");
        Score.setText("");
    }

    private void RIDActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
            java.util.logging.Logger.getLogger(review.class.getName()).log(java.uti
l.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(review.class.getName()).log(java.uti
l.logging.Level.SEVERE, null, ex);
        } catch (IllegalAccessException ex) {
```

```
            java.util.logging.Logger.getLogger(review.class.getName()).log(java.uti
l.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(review.class.getName()).log(java.uti
l.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new review().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JLabel Abstract_;
    private javax.swing.JTextField Comments;
    private javax.swing.JTextField PID;
    private javax.swing.JTextField PaID;
    private javax.swing.JTextField RID;
    private javax.swing.JLabel Result_;
    private javax.swing.JTextField Score;
    private javax.swing.JLabel Title_;
    private javax.swing.JButton clearButton;
    private javax.swing.JButton deleteButton;
    private javax.swing.JButton insertButton;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel2;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JButton searchButton;
    private javax.swing.JButton updateButton;
    // End of variables declaration
}
```

Selecting and Working on the Review Table:

```
Enter the table to be viewed:
1. Participant
2. Review
3. Paper
2
```

Basic UI

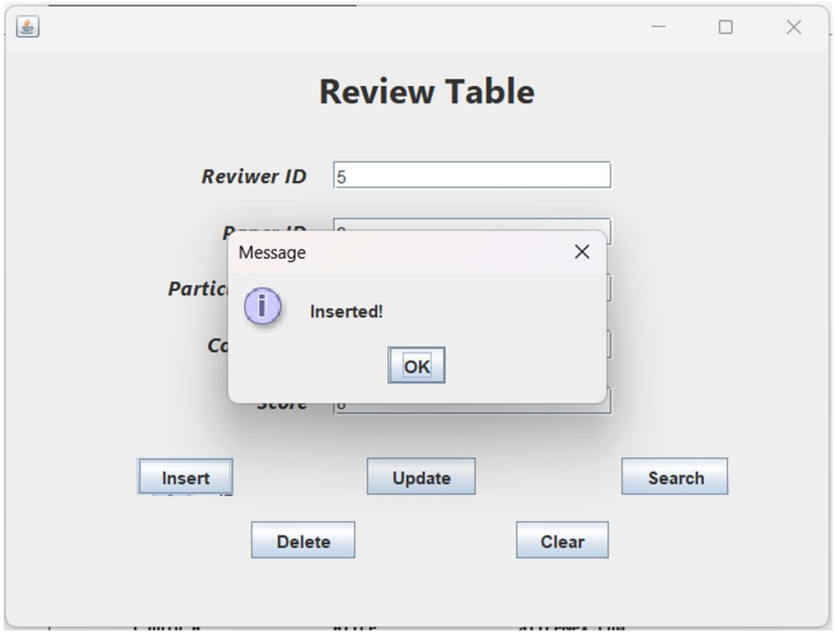


Inserting:

Before Insertion:

REVIEWID	PAPERID	PARTICIPANTID	COMMENTS	SCORE
1	1	2	Excellent.	9
2	2	3	Good.	8
3	3	1	Splendid.	7
4	1	3	Insightful.	8
5	2	1	Great.	6

After Successful Insertion:



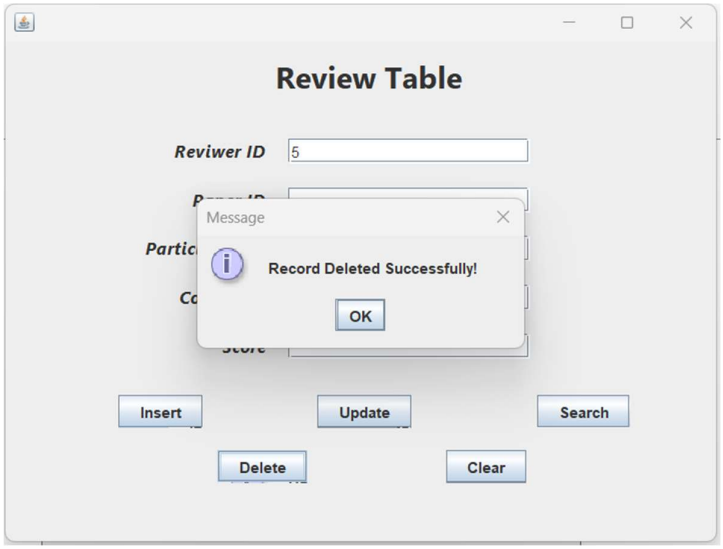
REVIEWID	PAPERID	PARTICIPANTID	COMMENTS	SCORE
1	1	2	Excellent.	9
2	2	3	Good.	8
3	3	1	Splendid.	7
4	1	3	Insightful.	8
5	2	1	Great.	6
5	2	2	Great!	8

Deleting:

Before Deleting a Record:

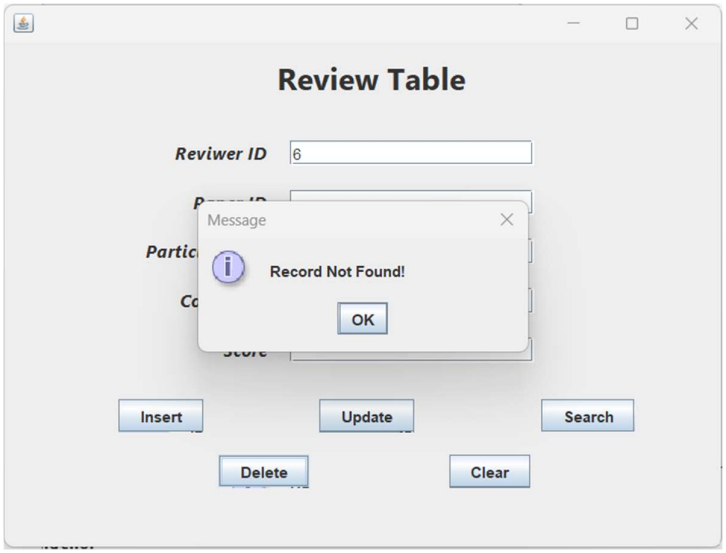
REVIEWID	PAPERID	PARTICIPANTID	COMMENTS	SCORE
1	1	2	Excellent.	9
2	2	3	Good.	8
3	3	1	Splendid.	7
4	1	3	Insightful.	8
5	2	1	Great.	6
5	2	2	Great!	8

After Deleting a Record Successfully:




```
SQL> select * from review;

  REVIEWID    PAPERID PARTICIPANTID COMMENTS                    SCORE
---------- ---------- ------------- -------------------- ----------
         1          1             2 Excellent.                    9
         2          2             3 Good.                         8
         3          3             1 Splendid.                     7
         4          1             3 Insightful.                   8
```

Incorrect Deletion:

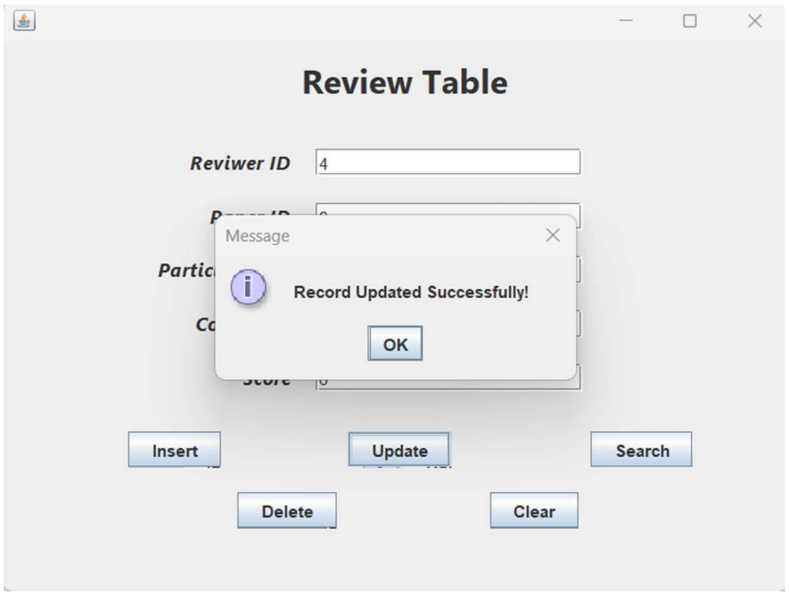


Updating:

Before Updating:

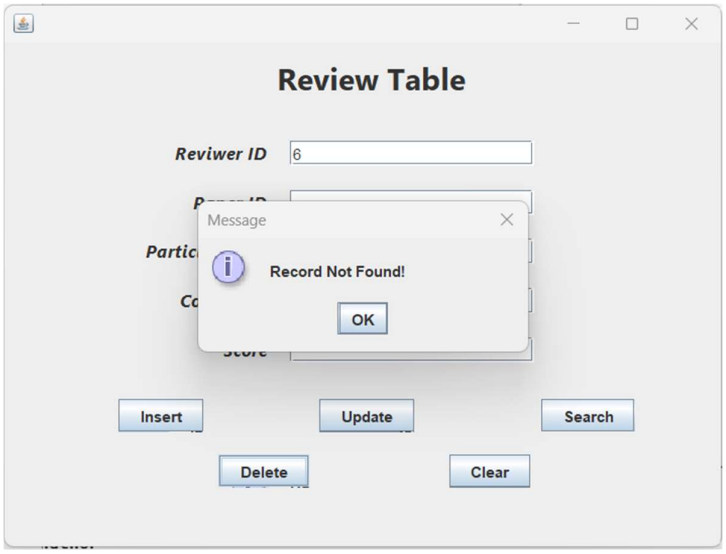
```
SQL> select * from review;

  REVIEWID    PAPERID PARTICIPANTID COMMENTS                    SCORE
---------- ---------- ------------- -------------------- ----------
         1          1             2 Excellent.                    9
         2          2             3 Good.                         8
         3          3             1 Splendid.                     7
         4          1             3 Insightful.                   8
```

After Successful Update:




```
  REVIEWID    PAPERID PARTICIPANTID COMMENTS                    SCORE
---------- ---------- ------------- -------------------- ----------
         1          1             2 Excellent.                    9
         2          2             3 Good.                         8
         3          3             1 Splendid.                     7
         4          2             2 Decently Written              6
```

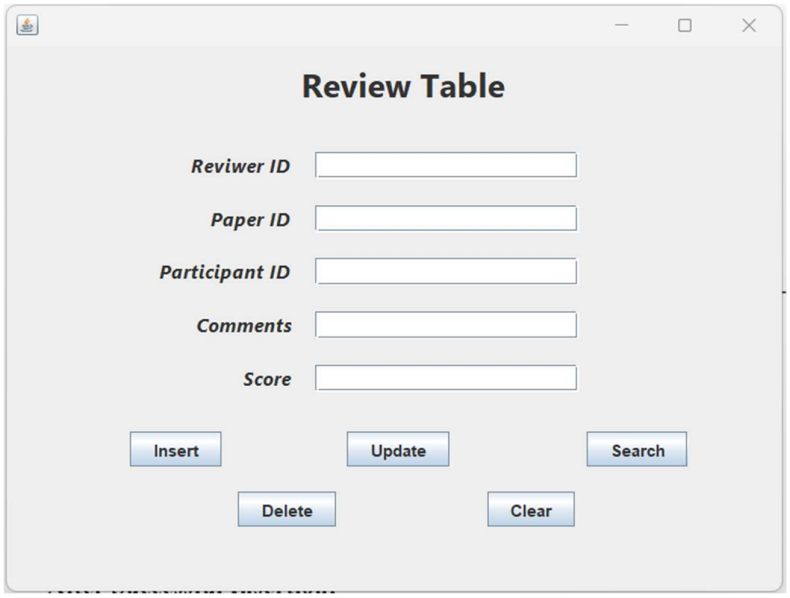
Updating incorrectly:



Clear:

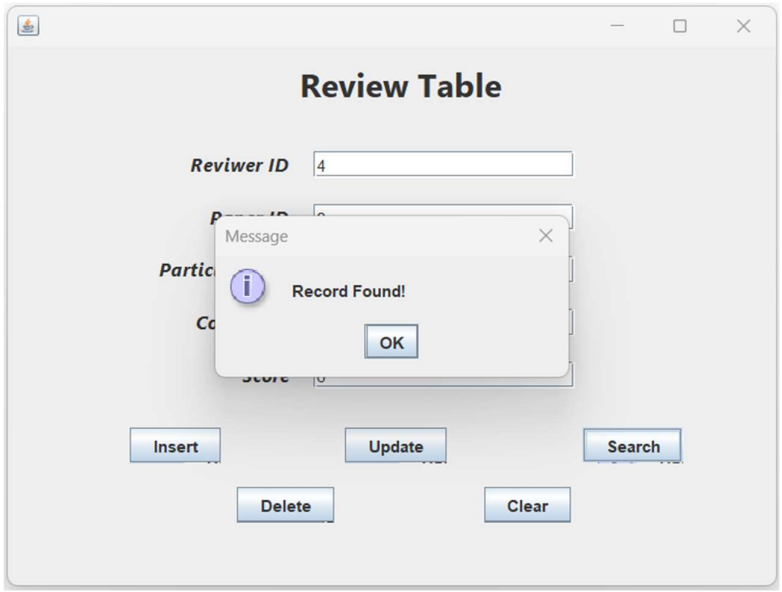
Before:

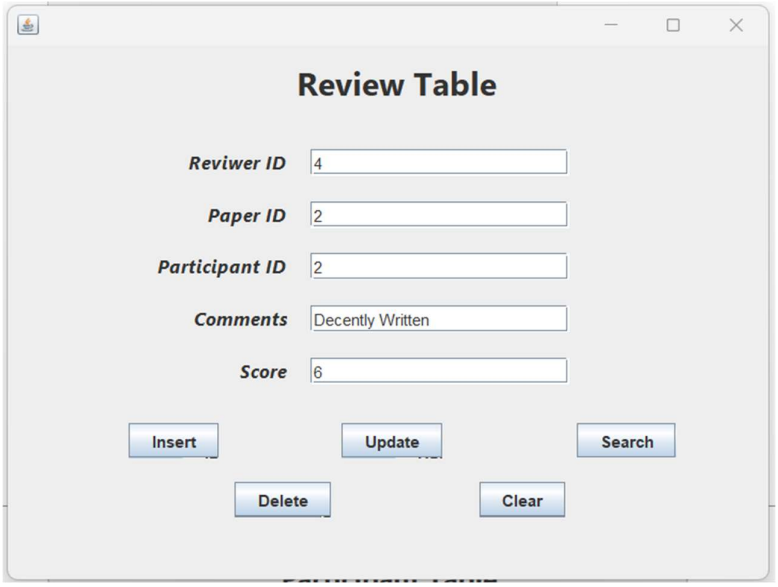
After:



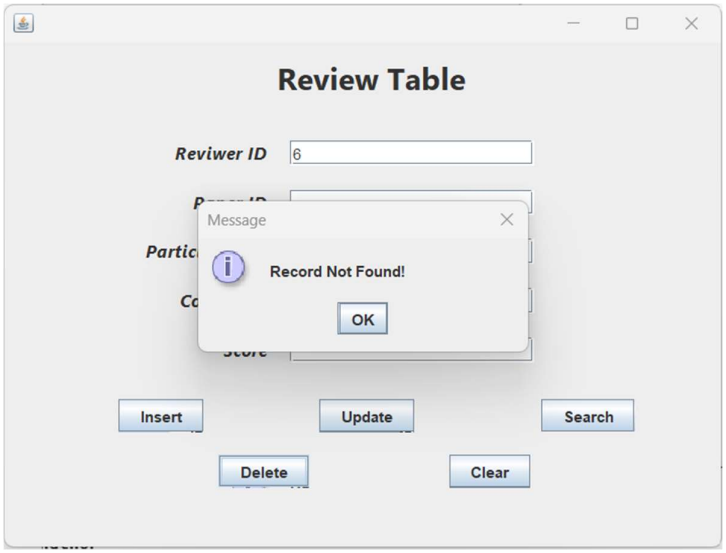
Search:

If Record is Found:





If Record is Not Found:



Code for the Review Table:

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to
change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/GUIForms/JFrame.java to edit this
template
 */
package com.oracle.paper_journal;
import javax.swing.*;
import java.sql.*;
import java.sql.Statement;
import java.util.logging.Level;
import java.util.logging.Logger;



/**
 *
 * @author rohit
 */


public class paper extends javax.swing.JFrame {
    Connection con;
    Statement st;
    PreparedStatement ps;
    ResultSet rs;

    /**
     * Creates new form paper
     */
    public paper() {
        initComponents();

        try {
            Class.forName("oracle.jdbc.OracleDriver");
            JOptionPane.showMessageDialog(this, "Driver Loaded!");

            try {
                con =
DriverManager.getConnection("jdbc:oracle:thin:@Rohith:1521:orcla", "scott",
"tiger");
                JOptionPane.showMessageDialog(this, "Connected to Oracle
database!");
            } catch (SQLException ex) {
                Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null,
ex);
```

```
                JOptionPane.showMessageDialog(this, ex.getMessage());
            }
        } catch (ClassNotFoundException ex) {
            Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        }

    }



    /**
     * This method is called from within the constructor to initialize the form.
     * WARNING: Do NOT modify this code. The content of this method is always
     * regenerated by the Form Editor.
     */
    @SuppressWarnings("unchecked")
    // <editor-fold defaultstate="collapsed" desc="Generated
Code">
    private void initComponents() {

        insertButton = new javax.swing.JButton();
        updateButton = new javax.swing.JButton();
        searchButton = new javax.swing.JButton();
        deleteButton = new javax.swing.JButton();
        clearButton = new javax.swing.JButton();
        jLabel1 = new javax.swing.JLabel();
        Title_ = new javax.swing.JLabel();
        Abstract_ = new javax.swing.JLabel();
        Result_ = new javax.swing.JLabel();
        Task_ = new javax.swing.JLabel();
        jLabel6 = new javax.swing.JLabel();
        PID = new javax.swing.JTextField();
        Title = new javax.swing.JTextField();
        Abstract = new javax.swing.JTextField();
        Task = new javax.swing.JTextField();
        TScore = new javax.swing.JTextField();

        setDefaultCloseOperation(javax.swing.WindowConstants.EXIT_ON_CLOSE);

        insertButton.setText("Insert");
        insertButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                insertButtonActionPerformed(evt);
            }
        });

        updateButton.setText("Update");
```

```
        updateButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                updateButtonActionPerformed(evt);
            }
        });

        searchButton.setText("Search");
        searchButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                searchButtonActionPerformed(evt);
            }
        });

        deleteButton.setText("Delete");
        deleteButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                deleteButtonActionPerformed(evt);
            }
        });

        clearButton.setText("Clear");
        clearButton.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                clearButtonActionPerformed(evt);
            }
        });

        jLabel1.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        jLabel1.setText("Paper ID");

        Title_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Title_.setText("Title");

        Abstract_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Abstract_.setText("Abstract");

        Result_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Result_.setText("Task ID");

        Task_.setFont(new java.awt.Font("Segoe UI", 3, 14)); // NOI18N
        Task_.setText("Total Score");

        jLabel6.setFont(new java.awt.Font("Segoe UI", 1, 24)); // NOI18N
        jLabel6.setText("Paper Table");

        PID.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                PIDActionPerformed(evt);
```

```
            }
        });

        Title.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                TitleActionPerformed(evt);
            }
        });

        Abstract.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                AbstractActionPerformed(evt);
            }
        });

        Task.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                TaskActionPerformed(evt);
            }
        });

        TScore.addActionListener(new java.awt.event.ActionListener() {
            public void actionPerformed(java.awt.event.ActionEvent evt) {
                TScoreActionPerformed(evt);
            }
        });

        javax.swing.GroupLayout layout = new
javax.swing.GroupLayout(getContentPane());
        getContentPane().setLayout(layout);
        layout.setHorizontalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(layout.createSequentialGroup()
                .addGap(67, 67, 67)
                .addComponent(insertButton)
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED
, 104, Short.MAX_VALUE)
                .addComponent(updateButton)
                .addGap(98, 98, 98)
                .addComponent(searchButton)
                .addGap(84, 84, 84))
            .addGroup(layout.createSequentialGroup()
                .addGap(152, 152, 152)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.TRAILING)
                    .addComponent(deleteButton)
                    .addComponent(Task_)
                    .addComponent(jLabel1)
```

```
                    .addComponent(Title_)
                    .addComponent(Abstract_)
                    .addComponent(Result_))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.LEADING)
                    .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
                        .addComponent(jLabel6)
                        .addGroup(layout.createParallelGroup(javax.swing.GroupLayou
t.Alignment.LEADING, false)
                            .addComponent(PID)
                            .addComponent(Title)
                            .addComponent(Abstract)
                            .addComponent(Task)
                            .addComponent(TScore,
javax.swing.GroupLayout.PREFERRED_SIZE, 171,
javax.swing.GroupLayout.PREFERRED_SIZE)))
                    .addComponent(clearButton,
javax.swing.GroupLayout.Alignment.TRAILING))
                .addContainerGap(javax.swing.GroupLayout.DEFAULT_SIZE,
Short.MAX_VALUE))
        );
        layout.setVerticalGroup(
            layout.createParallelGroup(javax.swing.GroupLayout.Alignment.LEADING)
            .addGroup(javax.swing.GroupLayout.Alignment.TRAILING,
layout.createSequentialGroup()
                .addContainerGap()
                .addComponent(jLabel6)
                .addGap(33, 33, 33)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(jLabel1)
                    .addComponent(PID, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Title_)
                    .addComponent(Title, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Abstract_)
                    .addComponent(Abstract, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
```

```
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Result_)
                    .addComponent(Task, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(Task_)
                    .addComponent(TScore, javax.swing.GroupLayout.PREFERRED_SIZE,
javax.swing.GroupLayout.DEFAULT_SIZE, javax.swing.GroupLayout.PREFERRED_SIZE))
                .addPreferredGap(javax.swing.LayoutStyle.ComponentPlacement.RELATED
, 50, Short.MAX_VALUE)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(insertButton)
                    .addComponent(updateButton)
                    .addComponent(searchButton))
                .addGap(18, 18, 18)
                .addGroup(layout.createParallelGroup(javax.swing.GroupLayout.Alignm
ent.BASELINE)
                    .addComponent(deleteButton)
                    .addComponent(clearButton))
                .addGap(47, 47, 47))
        );

        pack();
    }// </editor-fold>

    private void searchButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            String sql = "SELECT * FROM paper WHERE ID = '" + PID.getText() + "'";
            st = con.createStatement(ResultSet.TYPE_SCROLL_SENSITIVE,
ResultSet.CONCUR_UPDATABLE);
            rs = st.executeQuery(sql);

            if (rs.next()) {
                PID.setText(rs.getString(1));
                Title.setText(rs.getString(2));
                Abstract.setText(rs.getString(3));
                Task.setText(rs.getString(4));
                TScore.setText(rs.getString(5));
                JOptionPane.showMessageDialog(this, "Record Found!");
            } else {
                JOptionPane.showMessageDialog(this, "Record Not Found!");
            }
        } catch (SQLException ex) {
```

```
            Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        }



    }

    private void PIDActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void insertButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            String sql = "INSERT INTO Paper (ID, Title, Abstract, TaskID,
TotalScore) VALUES (?, ?, ?, ?, ?)";
            ps = con.prepareStatement(sql);
            ps.setString(1, PID.getText());
            ps.setString(2, Title.getText());
            ps.setString(3, Abstract.getText());
            ps.setString(4, Task.getText());
            ps.setString(5, TScore.getText());
            ps.executeUpdate();
            JOptionPane.showMessageDialog(this, "Inserted!");
        } catch (SQLException ex) {
            Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        }
    }

    private void updateButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            // Start a transaction
            con.setAutoCommit(false);

            // Prepare the SQL update statement
            String sql = "UPDATE Paper SET Title = ?, Abstract = ?, TaskID = ?,
TotalScore = ? WHERE ID = ?";
            PreparedStatement pstmt = con.prepareStatement(sql);

            // Set the parameters for the prepared statement
            pstmt.setString(1, Title.getText());
            pstmt.setString(2, Abstract.getText());
            pstmt.setInt(3, Integer.parseInt(Task.getText()));
            pstmt.setInt(4, Integer.parseInt(TScore.getText()));
```

```
            pstmt.setInt(5, Integer.parseInt(PID.getText()));

            // Execute the update statement
            int rowsUpdated = pstmt.executeUpdate();

            // Commit the transaction
            con.commit();

            // Check if the update was successful
            if (rowsUpdated > 0) {
                JOptionPane.showMessageDialog(this, "Record Updated
Successfully!");
            } else {
                JOptionPane.showMessageDialog(this, "Record Not Found!");
            }
        } catch (SQLException ex) {
            try {
                // Rollback in case of an error
                con.rollback();
            } catch (SQLException rollbackEx) {
                Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null,
rollbackEx);
            }
            Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        } finally {
            try {
                // Restore the default autocommit mode
                con.setAutoCommit(true);
            } catch (SQLException ex) {
                Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null,
ex);
            }
        }
    }

    private void deleteButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        try {
            // Start a transaction
            con.setAutoCommit(false);

            // Delete related records in the Review table
            String deleteReviewSql = "DELETE FROM Review WHERE PaperID = '" +
PID.getText() + "'";
            st = con.createStatement();
            st.executeUpdate(deleteReviewSql);
```

```
            // Delete related records in the Author table
            String deleteAuthorSql = "DELETE FROM Author WHERE PaperID = '" +
PID.getText() + "'";
            st.executeUpdate(deleteAuthorSql);

            // Now delete the record from the Paper table
            String deletePaperSql = "DELETE FROM Paper WHERE ID = '" +
PID.getText() + "'";
            st.executeUpdate(deletePaperSql);

            // Commit the transaction
            con.commit();

            JOptionPane.showMessageDialog(this, "Record Deleted Successfully!");
            // Optionally, clear the fields
            PID.setText("");
            Title.setText("");
            Abstract.setText("");
            Task.setText("");
            TScore.setText("");
        } catch (SQLException ex) {
            try {
                // Rollback in case of an error
                con.rollback();
            } catch (SQLException rollbackEx) {
                Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null,
rollbackEx);
            }
            Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null, ex);
            JOptionPane.showMessageDialog(this, ex.getMessage());
        } finally {
            try {
                // Restore the default autocommit mode
                con.setAutoCommit(true);
            } catch (SQLException ex) {
                Logger.getLogger(paper.class.getName()).log(Level.SEVERE, null,
ex);
            }
        }
    }

    private void clearButtonActionPerformed(java.awt.event.ActionEvent evt)
{
        PID.setText("");
        Title.setText("");
        Abstract.setText("");
        Task.setText("");
        TScore.setText("");
```

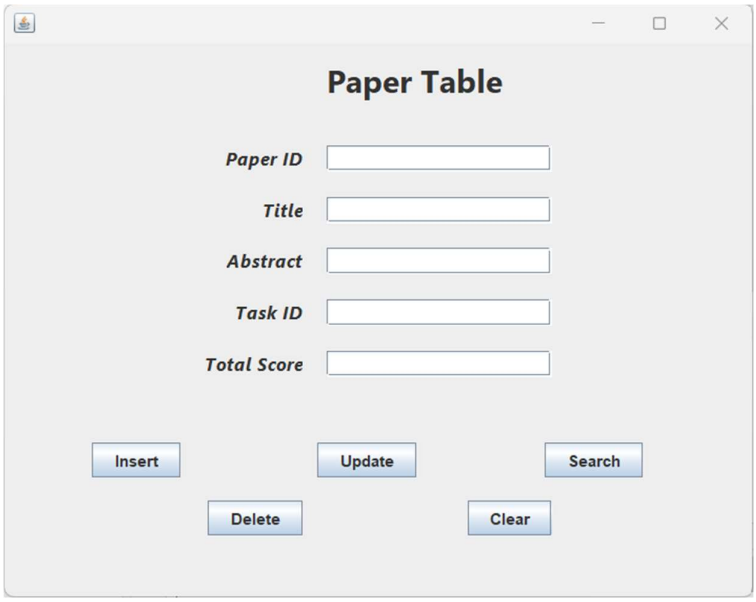
```
    }

    private void TitleActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void AbstractActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void TaskActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    private void TScoreActionPerformed(java.awt.event.ActionEvent evt)
{
        // TODO add your handling code here:
    }

    /**
     * @param args the command line arguments
     */
    public static void main(String args[]) {
        /* Set the Nimbus look and feel */
        //<editor-fold defaultstate="collapsed" desc=" Look and feel setting code
(optional) ">
        /* If Nimbus (introduced in Java SE 6) is not available, stay with the
default look and feel.
         * For details see
http://download.oracle.com/javase/tutorial/uiswing/lookandfeel/plaf.html
         */
        try {
            for (javax.swing.UIManager.LookAndFeelInfo info :
javax.swing.UIManager.getInstalledLookAndFeels()) {
                if ("Nimbus".equals(info.getName())) {
                    javax.swing.UIManager.setLookAndFeel(info.getClassName());
                    break;
                }
            }
        } catch (ClassNotFoundException ex) {
            java.util.logging.Logger.getLogger(paper.class.getName()).log(java.util
.logging.Level.SEVERE, null, ex);
        } catch (InstantiationException ex) {
            java.util.logging.Logger.getLogger(paper.class.getName()).log(java.util
.logging.Level.SEVERE, null, ex);
```

```
        } catch (IllegalAccessException ex) {
            java.util.logging.Logger.getLogger(paper.class.getName()).log(java.util
.logging.Level.SEVERE, null, ex);
        } catch (javax.swing.UnsupportedLookAndFeelException ex) {
            java.util.logging.Logger.getLogger(paper.class.getName()).log(java.util
.logging.Level.SEVERE, null, ex);
        }
        //</editor-fold>

        /* Create and display the form */
        java.awt.EventQueue.invokeLater(new Runnable() {
            public void run() {
                new paper().setVisible(true);
            }
        });
    }

    // Variables declaration - do not modify
    private javax.swing.JTextField Abstract;
    private javax.swing.JLabel Abstract_;
    private javax.swing.JTextField PID;
    private javax.swing.JLabel Result_;
    private javax.swing.JTextField TScore;
    private javax.swing.JTextField Task;
    private javax.swing.JLabel Task_;
    private javax.swing.JTextField Title;
    private javax.swing.JLabel Title_;
    private javax.swing.JButton clearButton;
    private javax.swing.JButton deleteButton;
    private javax.swing.JButton insertButton;
    private javax.swing.JLabel jLabel1;
    private javax.swing.JLabel jLabel6;
    private javax.swing.JButton searchButton;
    private javax.swing.JButton updateButton;
    // End of variables declaration
}
```

Selecting and Working on the Paper Table:

```
Enter the table to be viewed:
1. Participant
2. Review
3. Paper
3
```

Basic UI

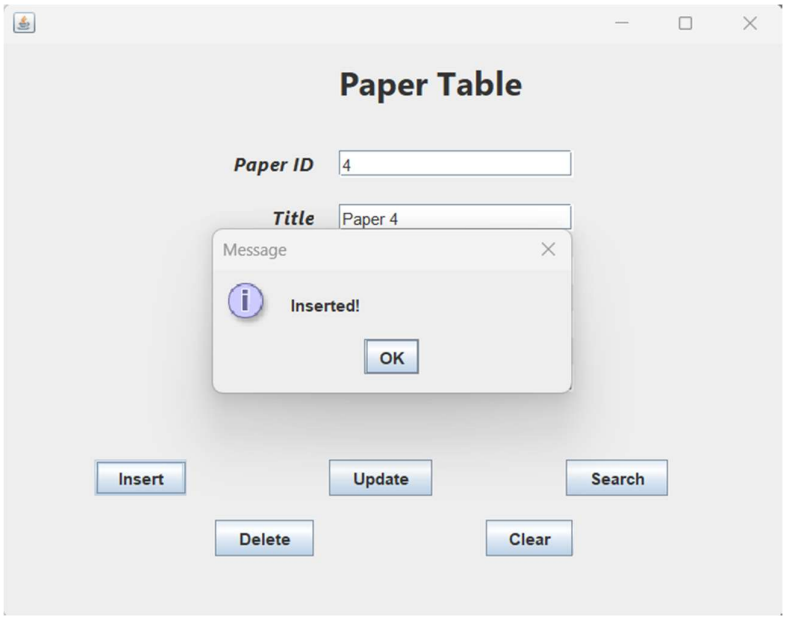


Inserting:

Before Insertion:

```
        ID TITLE                ABSTRACT                          TASKID
---------- -------------------- ------------------------------ ----------
TOTALSCORE
----------
         1 Paper 1              Abstract of Paper 1                    1
        17

         2 Paper 2              Abstract of Paper 2                    2
        14

         3 Paper 3              Abstract of Paper 3                    3
         7
```

After Successful Insertion:




```
        ID TITLE               ABSTRACT                         TASKID
---------- ------------------- ------------------------------ ----------
TOTALSCORE
----------
         1 Paper 1             Abstract of Paper 1                   1
        17

         2 Paper 2             Abstract of Paper 2                   2
        14

         3 Paper 3             Abstract of Paper 3                   3
         7


        ID TITLE               ABSTRACT                         TASKID
---------- ------------------- ------------------------------ ----------
TOTALSCORE
----------
         4 Paper 4             Abstract of Paper 4                   3
         0
```

Deleting:

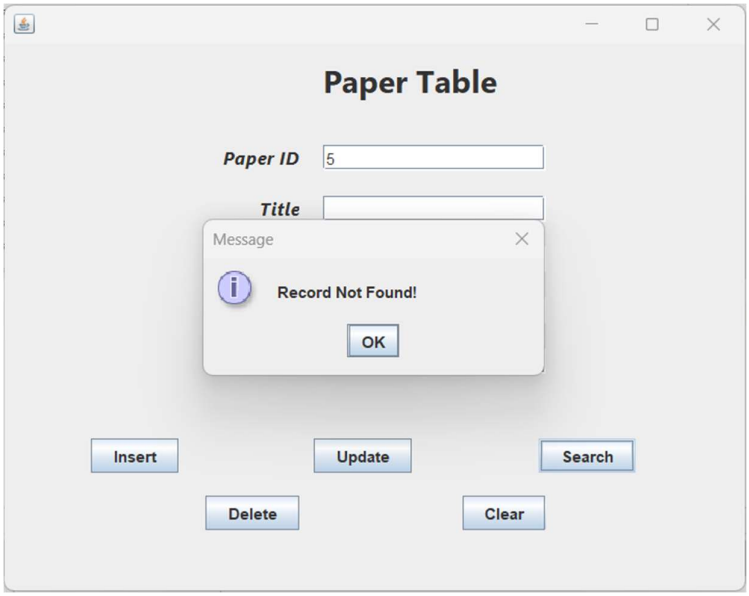
Before Deleting a Record:

```
        ID TITLE               ABSTRACT                          TASKID
---------- ------------------- ------------------------------ ----------
TOTALSCORE
----------
         1 Paper 1             Abstract of Paper 1                    1
        17

         2 Paper 2             Abstract of Paper 2                    2
        14

         3 Paper 3             Abstract of Paper 3                    3
         7


        ID TITLE               ABSTRACT                          TASKID
---------- ------------------- ------------------------------ ----------
TOTALSCORE
----------
         4 Paper 4             Abstract of Paper 4                    3
         0
```

After Deleting a Record Successfully:

```
        ID TITLE               ABSTRACT                          TASKID
---------- ------------------- ------------------------------ ----------
TOTALSCORE
----------
         1 Paper 1             Abstract of Paper 1                    1
        17

         2 Paper 2             Abstract of Paper 2                    2
        14

         3 Paper 3             Abstract of Paper 3                    3
         7
```

Incorrect Deletion:

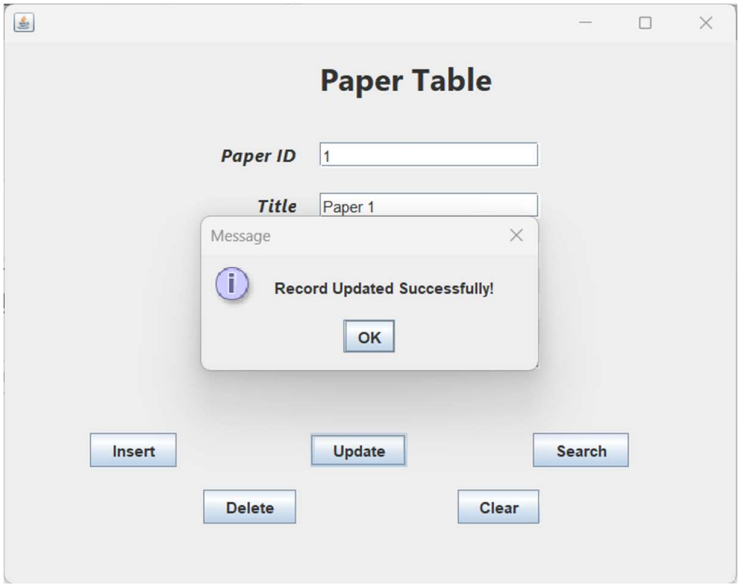


Updating:

Before Updating:

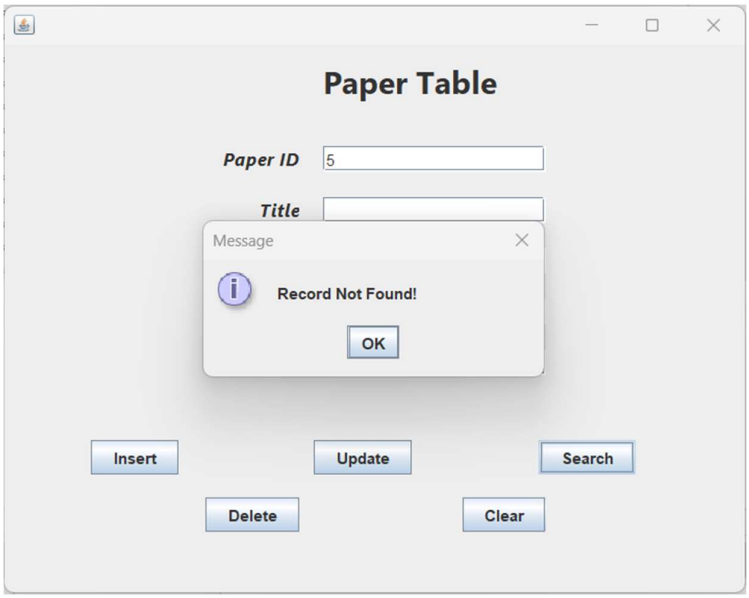
ID	TITLE	ABSTRACT	TASKID	TOTALSCORE
1	Paper 1	Abstract of Paper 1	1	17
2	Paper 2	Abstract of Paper 2	2	14
3	Paper 3	Abstract of Paper 3	3	7

After Successful Update:



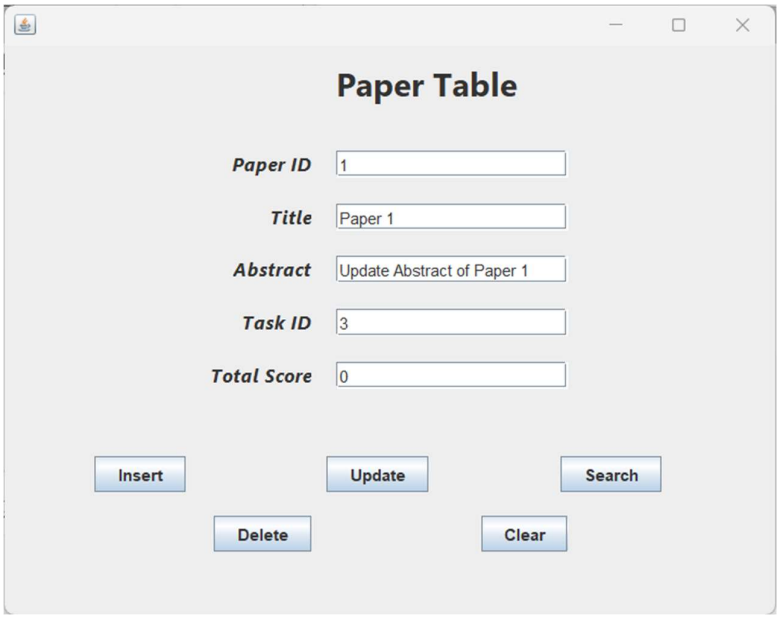
ID	TITLE	ABSTRACT	TASKID	TOTALSCORE
1	Paper 1	Update Abstract of Paper 1	3	0
2	Paper 2	Abstract of Paper 2	2	8
3	Paper 3	Abstract of Paper 3	3	7

Updating incorrectly:

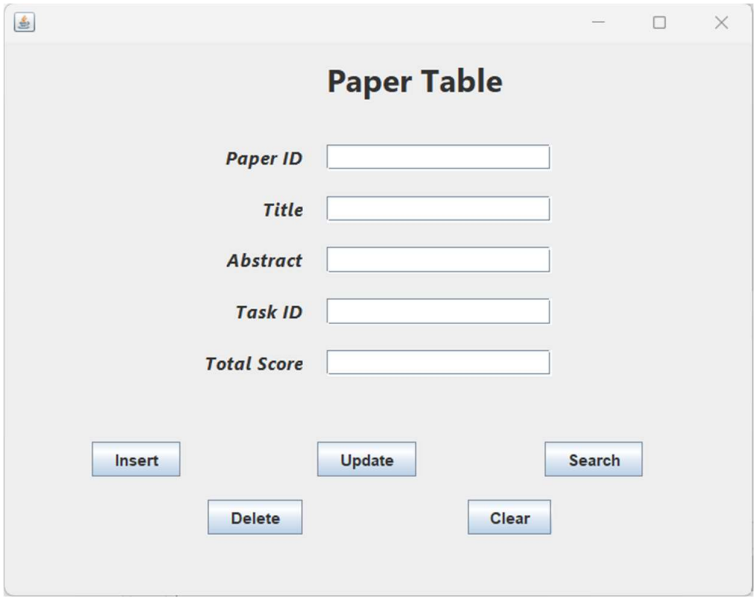


Clear:

Before:

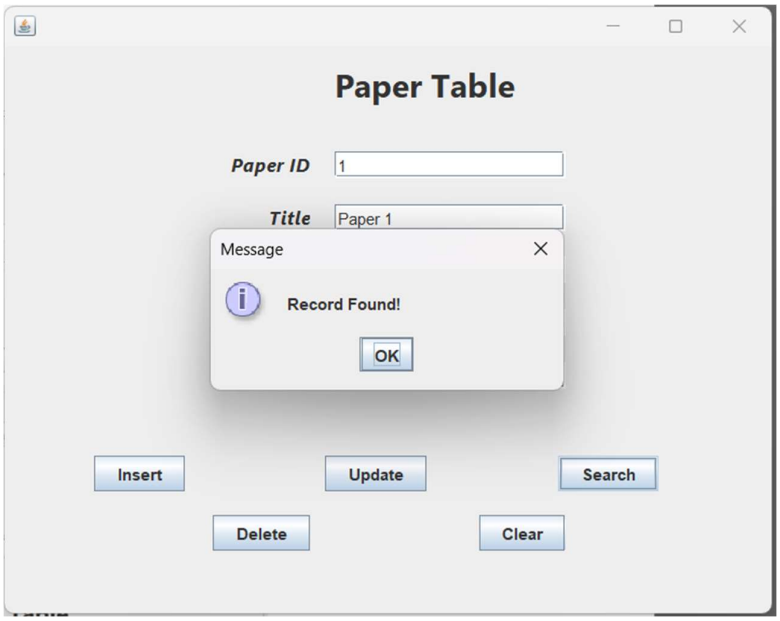


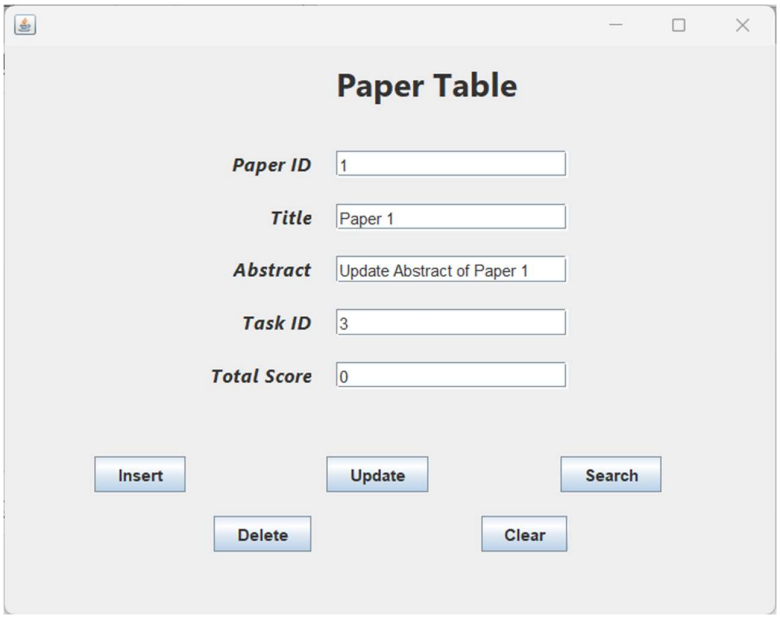
After:



Search:

If Record is Found:





If Record is Not Found: