

Project Report

Title Page

- **Project Title : Startup Ecosystem**
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- **Institution : Dhirubhai Ambani Institute of Information and Communication Technology**
- **Date of Submission : 13/11/2024**

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Chapter 1: Software Requirements Specification (SRS)

1. Problem Description

- **Lack of Networking Opportunities:** Young entrepreneurs struggle to connect with essential mentors, investors, and co-founders, limiting access to professional guidance and financial support.
- **Difficulty in Tracking Market Trends:** Startups often lack tools to monitor industry trends, customer preferences, and competitor activities, making it challenging to stay competitive and meet market demands.
- **Financial Management Challenges:** Many startups have innovative ideas but face difficulties managing finances effectively, leading to potential funding issues and cash flow problems.
- **Limited Access to Educational Resources:** Aspiring entrepreneurs lack structured educational content and real-world learning opportunities that cover foundational business and financial concepts.
- **Complex and Unfamiliar Interfaces:** Many platforms are overly complicated, making it difficult for beginners to navigate and find essential resources.
- **Need for Advanced Analytical Tools:** Entrepreneurs lack access to advanced analytics and AI-driven insights that could help with market analysis, performance evaluation, and customer segmentation.
- **Absence of Mobile-Friendly Design:** A lack of responsive, mobile-friendly interfaces restricts entrepreneurs from accessing tools and resources on the go.

2. Requirement Collection

1. Background Reading

1 : In the initial phase of the entrepreneurial journey, securing investment is of paramount importance. Angel-list, a prominent platform, caters to this need by providing funding opportunities to budding startups.

link:-<https://www.angellist.com/startups>

2 : Market research which is very important for new start up because now there are many things are work on the market trends;

link:<https://www.askattest.com/blog/articles/market-research-for-a-startup>

3 : Market trends are very important now, because without the market knowledge any startup is not able to compete with others. So 'CBinsights' tool gives this type of tools which is run using the AI and it gives the market trends. Link :-

<https://www.cbinsights.com/how-we-help/understand-tech-markets/>

4 : The Global Startup Ecosystem Report 2023 (GSER 2023) is a comprehensive analysis of the current state of startup ecosystems worldwide.

Link:- <https://startupgenome.com/report/gser2023>

5 : Market research is about analyzing the market you are in or are about to enter. It involves closely examining market trends, industry trends, market dynamics, your target audience, and other potential customers. Market research includes competitor analysis to see how similar businesses are selling and identify any indirect competitors you can learn from.

Link : <https://fastercapital.com>

2. Interview :

ITSolutions: Interview Plan

System: Startup Ecosystem Database

Project Reference: SF/SJ/2003/12

Participants:

Vraj Sanghavi (Startup Ecosystem)

Harsh Parakh (Startup Ecosystem)

Harsh Joshi (ITSolutions)

Date: 10/9/2024

Time: 14:15

Duration: 45 minutes

Place: Taj Office

Purpose of Interview:

Preliminary meeting to identify problems and requirements regarding funding, Market trends for startup Ecosystem.

Agenda:

- 1) Problems regarding the documentation of the startup.
- 2) Problems with Funding and any other concerns
- 3) Current market trends procedures
- 4) Initial ideas
- 5) Follow-up actions
- 6) Common challenges encountered on a daily basis.

Documents to be brought to the interview:

- Rough plan of building
- Any documents relating to Funding and current market trends,
- Requirement for tools

ITSolutions: Interview Summary

System: Startup Ecosystem

Project Reference: SF/SJ/2003/12

Participants:

Vraj Sanghavi (Startup Ecosystem)

Harsh Parakh (Startup Ecosystem)

Harsh Joshi (ITSolutions)

Date: 10/9/2024

Time: 14:15

Duration: 45 minutes

Place: Taj Office

Purpose of Interview:

*Preliminary meeting to identify problems and requirements regarding
The startup ecosystem database.*

1. In my professional opinion, there is a significant amount of documentation, such as : company name, date of establishment, and industry sector, which is of utmost importance for the comprehensive startup database.
2. There are lots of startups which have very good Potential for the market so at that point of time it gives some data regarding the funding.
3. Also add the new founders which give some opportunities to this type of startup.
 - Inconsistent funding rounds and terms.
 - Nowadays there are lots of companies which are lacking in this part so if they focus on market trends like.
 - Growth in remote work and digital solutions.
 - Increasing focus on AI and sustainability.
4. Validate the idea through market research.
 - Ensure alignment with current trends and demands.

5. Refine the business plan based on feedback.

- Network with potential investors and partners.

6. In the start the common challenges like handling the cash flow or buyers.

- Also balancing the growth rate of the company.

Questionnaires/Surveys

Summary of questions asked :

- We have created a Google form and we asked questions about:
- responders's age group
- How familiar they are with this kind of softwares
- if the responder has use this kind of tools or not
- which feature in the software is most useful
- if they need a particular feature like finance or not
- if the market trends tracking tools are required or not
- which kind of collaboration do they require the most
- any additional feature they want

- **Survey of Responses :**

Common issues identified and responses received :

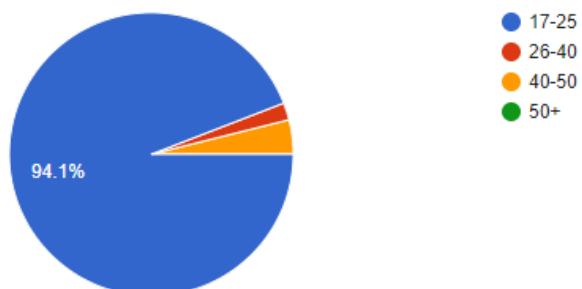
- We got around **50 Responses** and based on that we have identify that :

1. Age Group:

Majority of respondents fall into the 17-25 age group, indicating that the platform's primary users are young entrepreneurs.

What is your age group?

51 responses

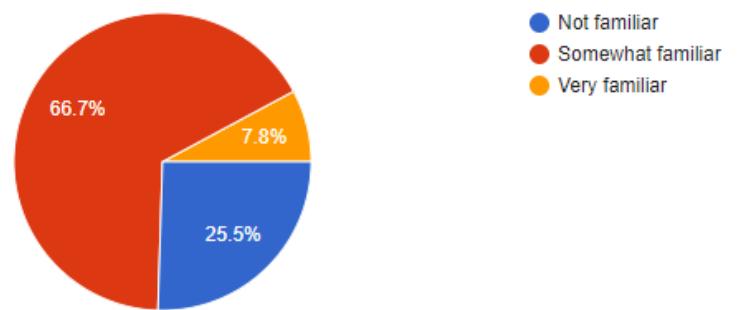


2. Familiarity with Startup Resource Platforms:

Most users are "Somewhat familiar" with platforms that provide startup resources, indicating a need for user education and platform accessibility.

How familiar are you with platforms that provide startup resources (mentors, investors, funding data, etc.)?

51 responses

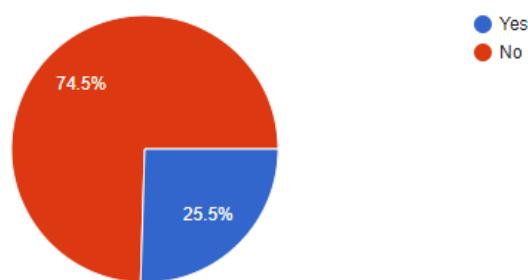


3. Previous Platform Use:

Many respondents have not used similar platforms before, implying that the platform needs to be user-friendly and introductory for new users.

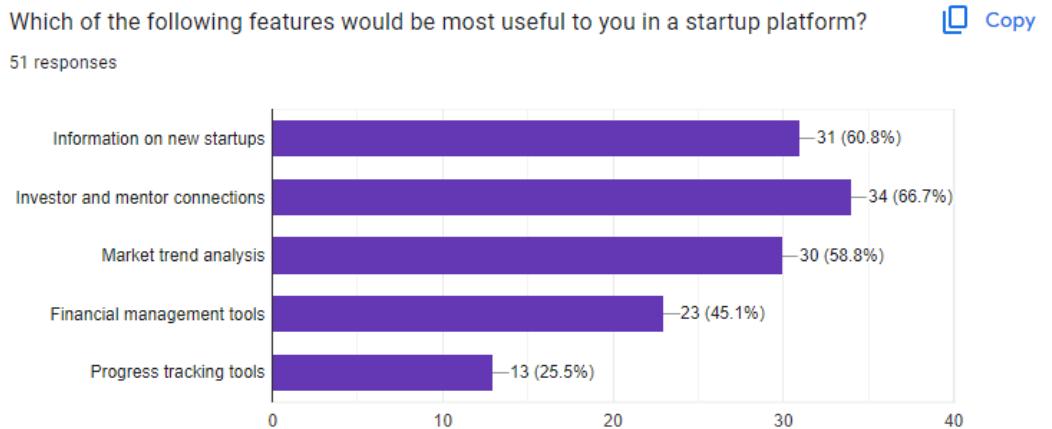
Have you used any similar platforms before?

51 responses



4. Preferred Features:

The most requested features are investor and mentor connections, market trend analysis, and progress tracking tools.

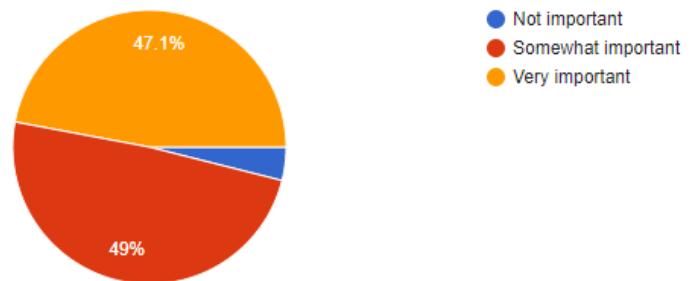


5. Financial Management Tools:

While financial management tools are considered "Somewhat important," a portion of respondents rated them as "Very important," suggesting they are essential for certain users.

How important is it for a startup platform to offer financial management tools?

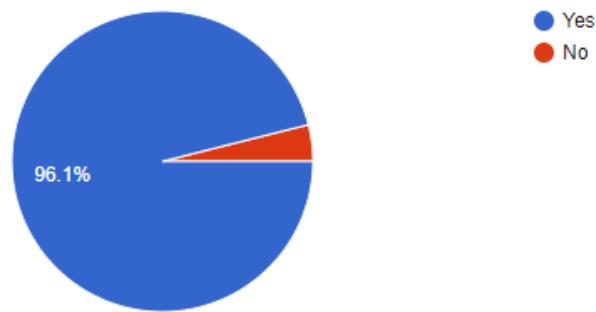
51 responses



6. Market Trend Tracking:

A large majority of respondents see tools for tracking market trends as valuable, underscoring their importance in the startup journey.

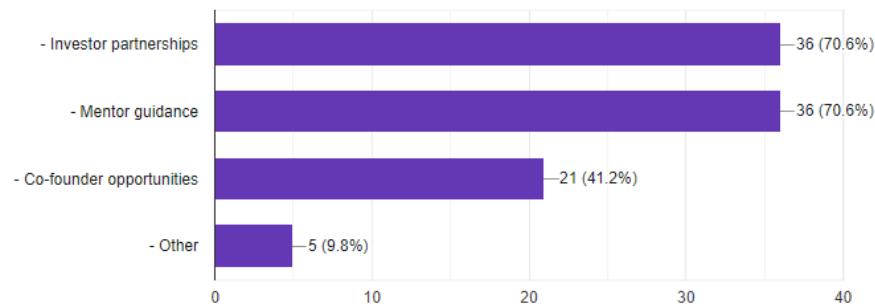
Would tools for tracking market trends be valuable for your startup journey?
51 responses



7. Collaboration Preferences:

Respondents look for investor partnerships, mentor guidance and co-founder opportunities when starting new businesses.

What kind of collaborations do you typically look for when starting a new business? [Copy](#)
51 responses



8. Additional Features Desired:

Users expressed interest in features such as analytics, community building, AI integration, risk assessment tools, and networking opportunities.

Observation

- From the Responses, we have observed these 7 points:

1. Young Audience Focus:

The majority of respondents are in the 17-25 age group, suggesting that the platform should cater to young, aspiring entrepreneurs with potentially limited experience.

2. Moderate Familiarity with Startup Tools:

Most users are "Somewhat familiar" with platforms providing startup resources, indicating that the platform should offer easy-to-use features with educational content for beginners.

3. Limited Prior Use of Similar Platforms:

A significant portion of respondents has not used similar platforms before, highlighting the importance of a user-friendly and intuitive interface.

4. High Demand for Networking Features:

Investor and mentor connections are the most requested features, showing that users prioritize networking and mentorship opportunities to support their startup journey.

5. Importance of Market Trend Tracking:

Tools for tracking market trends are seen as valuable by most respondents, indicating that startups are focused on staying updated with industry changes and opportunities.

6. Mixed Views on Financial Management Tools:

Financial management tools are important to many, though their priority varies, suggesting that while they should be included, they might not be the primary focus for all users.

7. Need for Advanced Features:

Respondents expressed interest in additional features like analytics, community engagement, and AI integration, pointing to a desire for more robust tools beyond the basics of startup management.

3. Fact-Finding Chart :

Objective	Technique	Subject(s)	Time Commitment
To get knowledge on Startup Ecosystem	Background Reading	Angle List Startup Report, Askattest Article on Market Research for a Startup	1 Day
To identify Problems and requirements regarding Funding, Market Trend and Startup Ecosystem at IT Solutions Co.	Interview	Harsh Joshi (CEO of IT Solutions)	45 Minutes
To identify Problems & challenges and faced by IT Solutions	Interview	Directors of IT Solutions	45 Minutes
To Identify whether, adapt new technologies like AI should be used in Every Startup	Interview	CTO of IT Solutions	45 Minutes
To understand more about startup	Background Reading	Eli David Startupblink Article, Cbinsights Team Blog	0.5 Day
To identify how industry specific Startup Works	Background Reading	Findexable Articles, Startupblink Blogs	0.5 Day

4. Requirements List :

1. User-Friendly Interface:

The platform must have an intuitive and easy-to-navigate interface, designed especially for users who may be new to similar platforms and seeking a straightforward experience.

2. Educational Content:

Features should include comprehensive educational resources and support to assist young, aspiring entrepreneurs with varying levels of prior knowledge and experience.

3. Networking Opportunities:

Robust functionalities for connecting with investors, mentors, and potential co-founders are essential to support users in building valuable professional relationships.

4. Market Trend Tracking Tools:

The platform should provide advanced tools for monitoring and analyzing market trends to ensure users can stay informed and make data-driven decisions.

5. Financial Management Tools:

Financial management features should be included to address diverse user needs, offering varying levels of complexity based on individual priorities and requirements.

6. Advanced Features:

Additional functionalities such as analytics, community engagement, and AI integration are needed to offer a more comprehensive and dynamic platform experience beyond basic startup management.

5. User Privileges

1. Startup CEO / Founder (Admin Role)

- Full Control: The CEO has access to everything—team management, financials, project oversight, market data, and investor relations.
- Team Leadership: Can create and assign tasks, manage the team, and make high-level business decisions.

2. Team Lead

- Department Focused: Leads a specific team or project with access to manage tasks and members within their group.
- Limited Financial Access: Can see budget info relevant to their team but not the entire startup's finances.

3. Team Member

- Task Execution: Handles assigned tasks, collaborates with teammates, and updates progress.
- No Financial Access: Focuses on work execution without seeing sensitive financial data.

4. Investor

- Investment Focused: Can view startup profiles, financial reports, and engage directly with CEOs about funding.
- Limited Market Data: Has access to market insights related to their investments, but not operational details.

5. Mentor

- Guidance Role: Helps startups by providing advice, viewing their progress, and offering recommendations.
- No Financial Access: Provides mentorship without access to financials unless given permission by the CEO.

6. Educational Institution

- Content Creator: Manages learning resources and courses, assigning them to users.
- No Startup Data: Focuses solely on education without access to startup financials or operations.

7. Platform Admin (System Admin)

- Full Access: Manages the entire system, users, and security.
- Technical Oversight: Ensures the platform runs smoothly and securely.

8. Guest User

- Limited Access: Can browse public content and resources but doesn't see financial or private data.

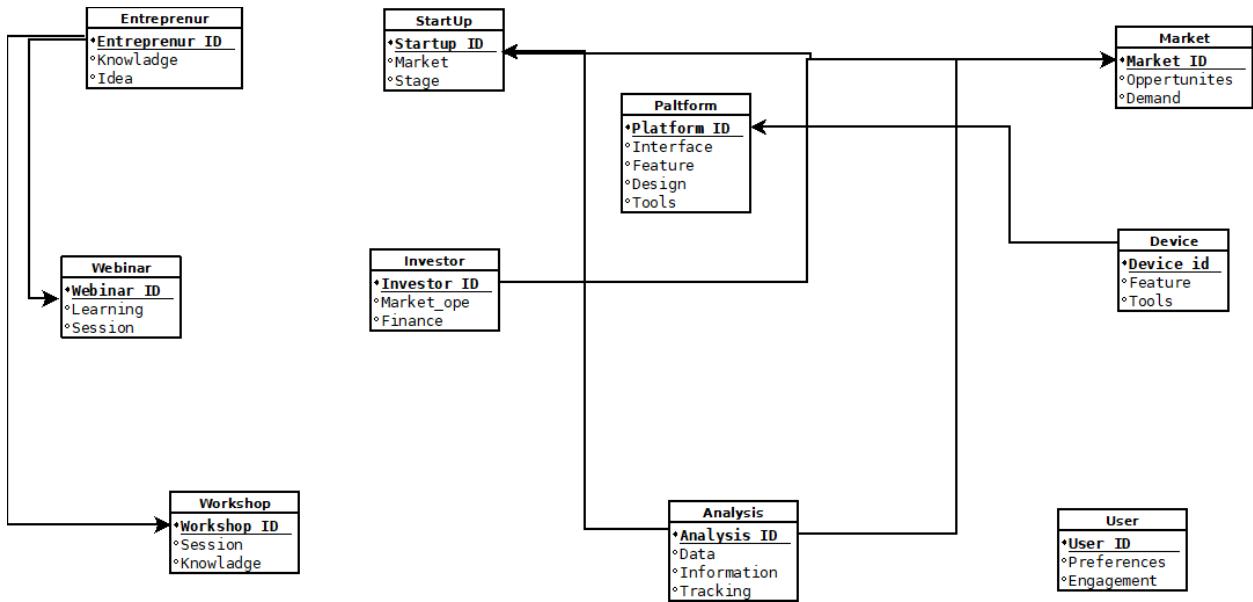
Chapter 2: Database Design

1. Noun Analysis

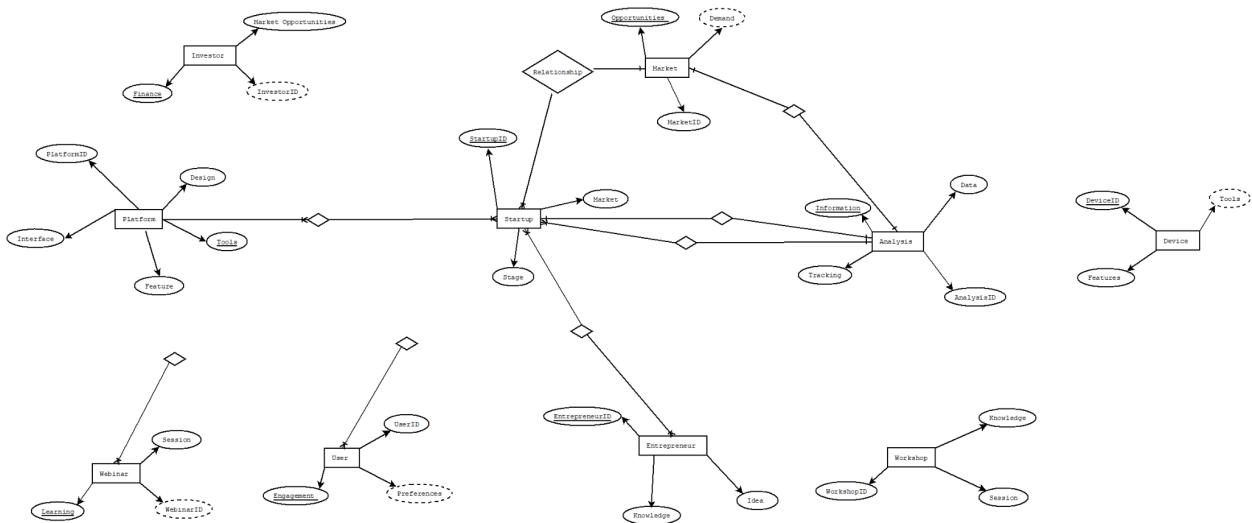
Candidate Entity Set (Table Name)	Candidate Attribute Set	Candidate Relationship Set
Platform	PlatformID, Interface, Design, Tools, Feature.	Supports, Includes, allows
User	UserID, Preferences, Engagement, Activity Level	Uses, Navigates, Interacts
Startup	StartupID, Stage, Market Funding, Team Size	Engages, Operates
Entrepreneur	EntrepreneurID, Knowledge, Idea Experience, Network	Owns, Starts
Webinar	WebinarID, Session, Learning	Provides, Teaches
Workshop	WorkshopID, Knowledge, Location, Participants	Conducts, Provides
Device	DeviceID, Tools, Features, Insights, Frequency	Accesses, Supports
Analysis	AnalysisID, Data, Information, Tracking	Performs, Monitors
Market	MarketID, Demand, Opportunities, Trends, Competition	Generates, Provides
Investor	InvestorID, Finance, Market Opportunities	Invests, Supports

2. Schema and ER Diagram Design

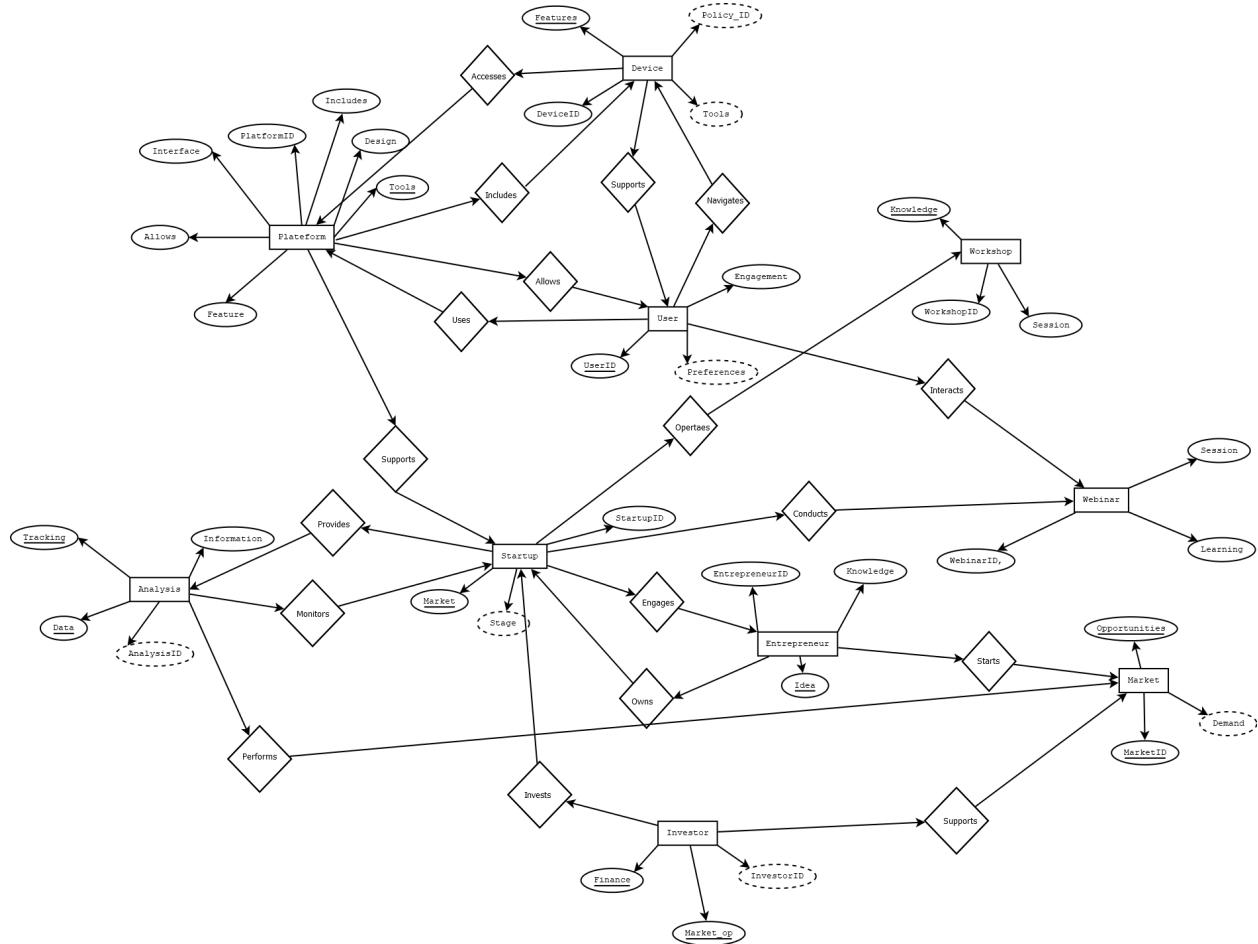
Schema Diagram :



ER Diagram :



3. ER Diagram Improvement



4. Mapping ER Model to Relational Model

1) **Platform** (PlatformID,Interface, Design, Tools, Feature)

2)**User**(UserID,Preferences, Engagement,Activity Level)

3)**Startup**(StartupID,Stage, Market Funding, Team Size)

4)**Entrepreneur**(EntrepreneurID, Knowledge, Idea, Experience, Network)

5)**Webinar** (WebinarID,Session, Learning)

6)Workshop(WorkshopID, Knowledge, Location, Participants)

7)Device(DeviceID,Tools, Features, Insights, Frequency)

8)Analysis(AnalysisID,Data, Information, Tracking)

9)Market(MarketID,Demand, Opportunities,Trends, Competition)

10)Investor(InvestorID,Finance, Market Opportunities)

5. Create DDL Scripts :

Table: Platform

```
CREATE TABLE Platform ( PlatformID INT PRIMARY KEY,
Interface VARCHAR(255) NOT NULL,Design VARCHAR(255) NOT NULL,Tools
VARCHAR(255), Feature VARCHAR(255));
```

Table: User

```
CREATE TABLE User (UserID INT PRIMARY KEY,Preferences
VARCHAR(255),Engagement VARCHAR(255),ActivityLevel VARCHAR(255));
```

Table: Startup

```
CREATE TABLE Startup ( StartupID INT PRIMARY KEY, Stage VARCHAR(255)
NOT NULL, MarketFunding DECIMAL(15,2),
TeamSize INT);
```

Table: Entrepreneur

```
CREATE TABLE Entrepreneur (EntrepreneurID INT PRIMARY KEY, Knowledge
VARCHAR(255),Idea VARCHAR(255),Experience VARCHAR(255),Network
VARCHAR(255));
```

Table: Webinar

```
CREATE TABLE Webinar (WebinarID INT PRIMARY KEY, Session VARCHAR(255),
Learning VARCHAR(255));
```

Table: Workshop

```
CREATE TABLE Workshop ( WorkshopID INT PRIMARY KEY,Knowledge
VARCHAR(255), Location VARCHAR(255), Participants INT);
```

Table: Device

```
CREATE TABLE Device (DeviceID INT PRIMARY KEY,Tools
VARCHAR(255),Features VARCHAR(255), Insights VARCHAR(255), Frequency
VARCHAR(255));
```

Table: Analysis

```
CREATE TABLE Analysis (AnalysisID INT PRIMARY KEY, Data VARCHAR(255),  
Information VARCHAR(255), Tracking VARCHAR(255));
```

Table: Market

```
CREATE TABLE Market (MarketID INT PRIMARY KEY,Demand  
VARCHAR(255),Opportunities VARCHAR(255), Trends VARCHAR(255),Competition  
VARCHAR(255));
```

Table: Investor

```
CREATE TABLE Investor (InvestorID INT PRIMARY KEY, Finance DECIMAL(15,2),  
MarketOpportunities VARCHAR(255));
```

Chapter 3: Normalization of Database

1. Normalization and Schema Refinement ◦

Original Design of Database

- List of initial relations and schemas with details.

1) Platform :-PlatformID, Interface, Design, Tools, Feature.

2) User:-UserID, Preferences, Engagement, Activity Level.

3) Startup:-StartupID, Stage, Market Funding, Team Size.

4) Entrepreneur:- EntrepreneurID, Knowledge, Idea, Experience, Network.

5) Webinar :-WebinarID, Session, Learning.

6) Workshop:- WorkshopID, Knowledge, Location, Participants.

7) Device:- DeviceID, Tools, Features, Insights, Frequency.

8) Analysis:-AnalysisID, Data, Information, Tracking.

9) Market:- MarketID, Demand, Opportunities, Trends, Competition.

10) Investor:-InvestorID, Finance, Market Opportunities.

• Dependency Analysis

- Identification of primary keys, foreign keys, and functional dependencies.

Candidate Entity Set	Primary Key (PK)	Foreign Key (FK)	Functional Dependencies (FD)
Platform	PlatformID	None	PlatformID → Interface, Design, Tools, Feature
User	UserID	None	UserID → Preferences, Engagement, Activity Level

Startup	StartupID	EntrepreneurID	StartupID → Stage, Market Funding, Team Size
Entrepreneur	EntrepreneurID	None	EntrepreneurID → Knowledge, Idea, Experience, Network
Webinar	WebinarID	PlatformID	WebinarID → Session, Learning
Workshop	WorkshopID	PlatformID	WorkshopID → Knowledge, Location, Participants
Device	DeviceID	UserID	DeviceID → Tools, Features, Insights, Frequency
Analysis	AnalysisID	StartupID	AnalysisID → Data, Information, Tracking
Market	MarketID	StartupID, InvestorID	MarketID → Demand, Opportunities, Trends, Competition
Investor	InvestorID	None	InvestorID → Finance, Market Opportunities

2. Redundancy and Anomalies Documentation

o Redundancies

- List existing redundancies for each schema.

1. Platform Entity Redundancy

- **Repeated Attributes:** Tools and Features appear in both the Platform and device entities, which results in unnecessary duplication.
- **Storage Inefficiency:** Storing platform-related attributes multiple times in different tables consumes extra storage space.
- **Inconsistent Data Updates:** If platform features are modified, changes need to be reflected in multiple places like Platform and Device.
- **Poor Scalability:** Repeating features across entities makes it harder to scale the system, especially as new devices or tools are added.
- **Lack of Flexibility:** Any updates to platform tools or features must be applied across multiple tables, adding unnecessary maintenance complexity.

2. User Entity Redundancy :

- **Overlapping Relationships:** The relationships "Navigates" and "Interacts" already capture user behavior.
- **Inconsistent Data:** Having both attributes and relationships track user behavior can lead to conflicting data, complicating the user activity record.
- **Duplication of User Interaction Data:** Storing similar interaction metrics in different forms increases data duplication and complexity in managing user behavior.
- **Extra Maintenance:** Keeping both attributes and relationships in sync requires additional work, leading to a higher maintenance burden.
- **Confusion in Data Analysis:** Tracking the same behavior (like engagement or interaction) through both attributes and relationships makes it harder to perform consolidated data analysis.

3. Startup Entity Redundancy :

- **Duplication of Market Data:** The Market attribute appears in both the Startup and Market entities, creating unnecessary duplication.
- **Inconsistent Market Information:** Changes made to the market data in the Startup entity might not reflect in the market entity, causing inconsistency.
- **Storage Overhead:** Repeated storage of market-related information for each startup unnecessarily increases database size.
- **Lack of Referential Integrity:** Storing market information in multiple places makes it harder to ensure data integrity and accuracy.
- **Complex Maintenance:** When market data changes, it must be updated in several places, increasing the complexity of maintenance and the risk of missing updates.

4. Device Entity Redundancy :

- **Duplicated Feature Data:** Tools and features are stored both for platforms and devices, leading to unnecessary redundancy.
- **Inconsistent Data Updates:** When device features or tools change, corresponding platform features need to be updated.
- **Unnecessary Data Storage:** Storing the same tools and features in both the device and platform tables results in extra, avoidable storage use.
- **Complicated Queries:** Queries become more complex as tools or features are stored in different tables depending on whether they belong to a device or a platform.
- **Lack of Modularity:** A more modular approach storing features and tools in their own table and referencing them would eliminate redundancy and improve flexibility.

5. Investor Entity Redundancy :

- **Redundant Market Information:** The market opportunity attribute is stored in both the investor and market entities, leading to unnecessary duplication.
- **Inconsistent Market Opportunities:** The investor's perspective on market opportunities might not align with the actual market data in the market entity, causing inconsistent insights.

- **Wasted Storage:** Repeating the same market-related data across different entities increases the size of the database unnecessarily.
 - **Difficult Maintenance:** Updating market opportunities in multiple places leads to a higher risk of errors and inconsistencies.
 - **Limited Flexibility:** Storing market opportunities redundantly restricts the system's flexibility when it comes to refining the investor's perspective or introducing new market data
- Document update, delete, and insert anomalies.

1. Platform Entity Redundancy :

- **Update Anomalies:**
 - If platform tools or features are updated in the platform table, corresponding updates must also be made in the device table
- **Delete Anomalies:**
 - Deleting a platform entry might require deleting the corresponding tools or features in multiple places
- **Insert Anomalies:**
 - When adding a new platform or device, the same tools and features need to be inserted in both the platform and device entities. This repetitive data entry creates room for errors and data inconsistency if one entity is updated while the other is not.

2. User Entity Redundancy :

- **Update Anomalies:**
 - Updating user interaction data in the attribute set may not automatically update related relationship data like "Navigates" or "Interacts". This can result in conflicting records between attributes and relationships.
- **Delete Anomalies:**
 - Deleting a user's interaction attributes without removing corresponding relationship data can lead to inconsistent data or dangling references in the relationships.
- **Insert Anomalies:**
 - When inserting a new user, interactions and engagement metrics must be added in both the attribute set and the

relationship set which increases the chance of incomplete data entry or duplicate information.

3. Startup Entity Redundancy :

- **Update Anomalies:**
 - If market data changes in either the startup or market table, failing to update the other entity will cause inconsistent market information between startups and the market entity.
- **Delete Anomalies:**
 - Deleting a market record from the market entity may leave orphaned or incomplete data in the startup entity if market references aren't removed.
- **Insert Anomalies:**
 - Inserting a new startup requires market data to be added in both the startup and market tables, increasing the likelihood of inconsistent entries or duplicate market data being recorded in both entities.

4. Device Entity Redundancy :

- **Update Anomalies:**
 - Any updates to tools and features in the Device entity must also be reflected in the platform entity. If not done correctly, this creates inconsistent data between devices and platforms.
- **Delete Anomalies:**
 - Deleting a device entry without removing associated platform tools or features can leave orphaned feature records that no longer have a valid reference.
- **Insert Anomalies:**
 - When adding a new device, the same tools and features need to be entered in both the Device and platform entities. This creates an insert anomaly where data duplication increases the risk of errors or inconsistencies.

5. Investor Entity Redundancy :

- **Update Anomalies:**
 - Changes to market opportunities must be reflected in both the investor and Market entities. If only one is

updated, it can lead to misaligned views of market opportunities between investors and the actual market.

- **Delete Anomalies:**
 - Deleting a market opportunity from the market entity without removing corresponding records from the Investor.
- **Insert Anomalies:**
 - When adding new market opportunities, the same information needs to be entered in both the Market and Investor entities. This can lead to data duplication and increases the risk of inconsistent entries..

3. Normalization Process

- 1NF – Enforcing scalar values.

Candidate Entity Set	Primary Key (PK)	Foreign Key (FK)	Functional Dependencies (FD)
Platform	PlatformID	None	PlatformID → Interface, Design, Tools, Feature
User	UserID	None	UserID → Preferences, Engagement, Activity Level
Startup	StartupID	EntrepreneurID	StartupID → Stage, Market Funding, Team Size
Entrepreneur	EntrepreneurID	None	EntrepreneurID → Knowledge, Idea, Experience, Network
Webinar	WebinarID	PlatformID	WebinarID → Session, Learning
Workshop	WorkshopID	PlatformID	WorkshopID → Knowledge, Location, Participants

Device	DeviceID	UserID	DeviceID → Tools, Features, Insights, Frequency
Analysis	AnalysisID	StartupID	AnalysisID → Data, Information, Tracking
Market	MarketID	StartupID, InvestorID	MarketID → Demand, Opportunities, Trends, Competition
Investor	InvestorID	None	InvestorID → Finance, Market Opportunities

- 2NF – Eliminating partial dependencies.

Entity	Primary Key (pK)	Foreign Key (FK)	Functional Dependency Attribute
Platform	PlatformID	None	Interface, Design, Tools, Feature
User	UserID	None	Preferences, Engagement, Activity Level
Startup	StartupID	EntrepreneurID	Stage, Market Funding, Team Size
Entrepreneur	EntrepreneurID	None	Knowledge, Idea, Experience, Network

Webinar	WebinarID	PlatformID	Session, Learning
Workshop	WorkshopID	PlatformID	Knowledge, Location, Participants
Device	DeviceID	UserID	Tools, Features, Insights, Frequency
Analysis	AnalysisID	StartupID	Data, Information, Tracking
Market	MarketID	StartupID, InvestorID	Demand, Opportunities, Trends, Competition
Investor	InvestorID	None	Finance, Market Opportunities

- **Redundancy Analysis for 2NF**

- Document any redundancies in 2NF.

1. Platform Features

- Platform Table, this can lead to repeated storage of feature descriptions.

2. User Engagement

- Redundancy: If multiple users share the same 'Engagement' and 'Activity Level' attributes, this leads to repetition.

3. Startup Market Attributes :

- Redundancy: If multiple startups exist within the same market with similar 'Demand', 'Opportunities', 'Trends', and 'Competition', this can result in repeated data.

4. Entrepreneur Attributes :

- Redundancy: If multiple entrepreneurs have the same 'Knowledge' or 'Network', this can lead to duplicate entries.

5. Investor Information :

- Redundancy: If multiple investors are investing in the same sectors with similar `Market Opportunities`, it leads to redundancy.

6. Workshop and Webinar Attributes :

- Redundancy: If several workshops and webinars occur in the same location or involve the same session topics, this could result in repeated entries.

- 3NF – Removing transitive dependencies.

Entity	Primary Key (pK)	Foreign Key (FK)	Functional Dependency Attribute
Platform	PlatformID	None	Interface, Design, Tools, Feature
User	UserID	None	Preferences, Engagement, Activity Level
Startup	StartupID	EntrepreneurID	Stage, Market Funding, Team Size
Entrepreneur	EntrepreneurID	None	Knowledge, Idea, Experience, Network
Webinar	WebinarID	PlatformID	Session, Learning
Workshop	WorkshopID	PlatformID	Knowledge, Location, Participants
Device	DeviceID	UserID	Tools, Features, Insights, Frequency

Analysis	AnalysisID	StartupID	Data, Information, Tracking
Market	MarketID	StartupID, InvestorID	Demand, Opportunities, Trends, Competition
Investor	InvestorID	None	Finance, Market Opportunities

BCNF:

1. Platform :

- **Primary Key:** PlatformID
- **Attributes:** Interface, Design, Tools, Feature

2. User :

- **Primary Key:** UserID
- **Attributes:** Preferences, Engagement, Activity Level

3. Entrepreneur :

- **Primary Key:** EntrepreneurID
- **Attributes:** Knowledge, Idea, Experience, Network

4. Startup :

- **Primary Key:** StartupID
- **Foreign Key:** EntrepreneurID
- **Attributes:** Stage, Market Funding, Team Size

5. Investor :

- **Primary Key:** InvestorID
- **Attributes:** Finance, Market Opportunities

6. Webinar :

- **Primary Key:** WebinarID
- **Foreign Key:** PlatformID
- **Attributes:** Session, Learning

7. Workshop :

- **Primary Key:** WorkshopID
- **Foreign Key:** PlatformID
- **Attributes:** Knowledge, Location, Participants

8. Device :

- **Primary Key:** DeviceID
- **Foreign Key:** UserID
- **Attributes:** Tools, Features, Insights, Frequency

9. Market :

- o **Primary Key:** MarketID
- o **Foreign Keys:** StartupID, InvestorID
- o **Attributes:** Demand, Opportunities, Trends, Competition

10. Analysis :

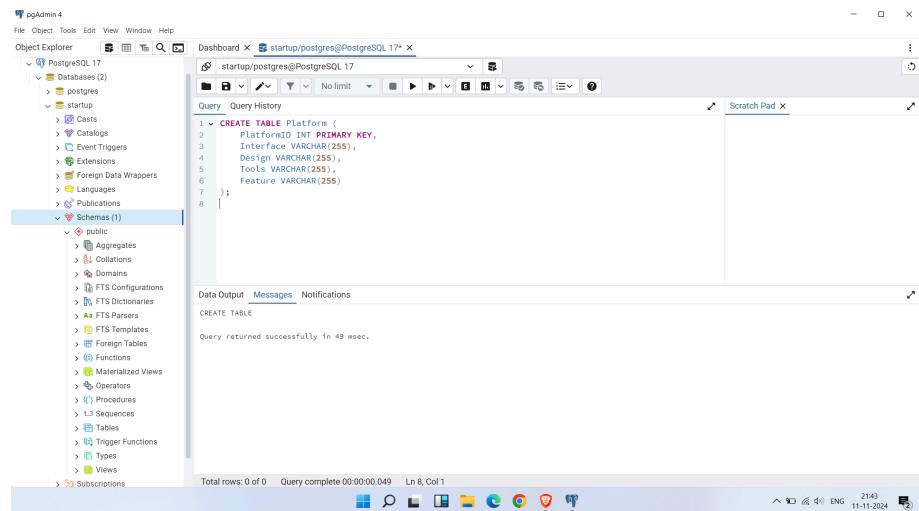
- o **Primary Key:** AnalysisID
- o **Foreign Key:** StartupID
- o **Attributes:** Data, Information, Tracking

Chapter 4: Implementation of Database

1. Revised DDL Scripts

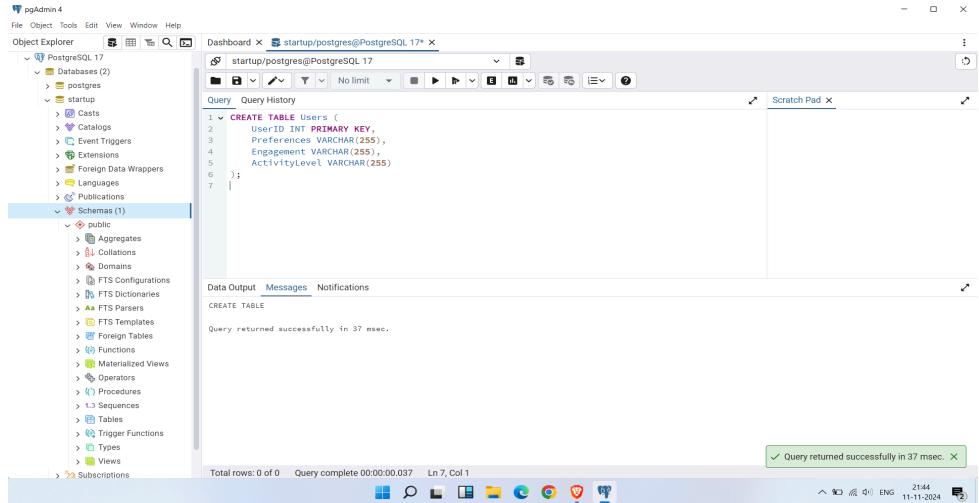
1. Platform table:

```
CREATE TABLE Platform (
    PlatformID INT PRIMARY KEY,
    Interface VARCHAR(255),
    Design VARCHAR(255),
    Tools VARCHAR(255),
    Feature VARCHAR(255)
);
```



2. Users table:

```
CREATE TABLE Users (
    UserID INT PRIMARY KEY,
    Preferences VARCHAR(255),
    Engagement VARCHAR(255),
    ActivityLevel VARCHAR(255)
);
```



The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer pane displays the database structure under 'PostgreSQL 17'. In the center, the 'Dashboard' tab shows a query window with the following SQL code:

```

CREATE TABLE Users (
    UserID INT PRIMARY KEY,
    Name VARCHAR(255),
    Engagement VARCHAR(255),
    ActivityLevel VARCHAR(255)
);

```

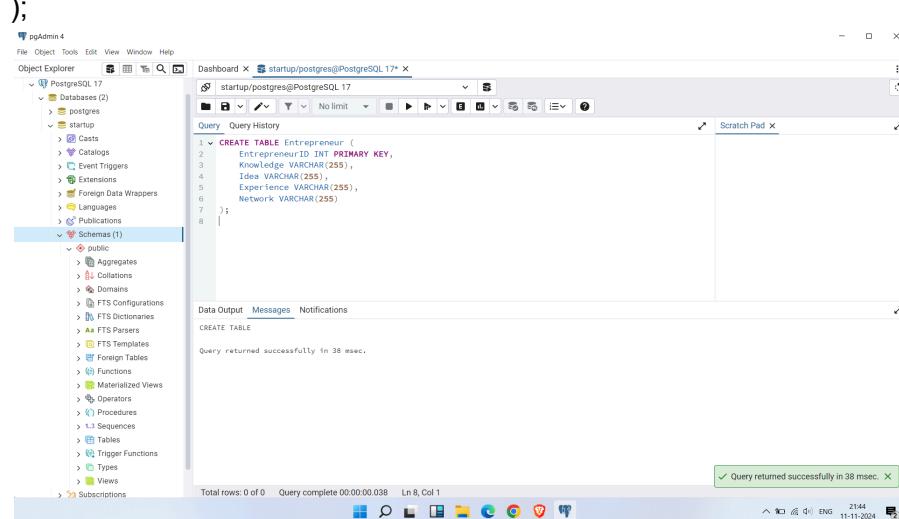
The status bar at the bottom indicates 'Query returned successfully in 37 msec.'

3. Entrepreneur table:

```

CREATE TABLE Entrepreneur (
    EntrepreneurID INT PRIMARY KEY,
    Knowledge VARCHAR(255),
    Idea VARCHAR(255),
    Experience VARCHAR(255),
    Network VARCHAR(255)
);

```



The screenshot shows the pgAdmin 4 interface. On the left, the Object Explorer pane displays the database structure under 'PostgreSQL 17'. In the center, the 'Dashboard' tab shows a query window with the following SQL code:

```

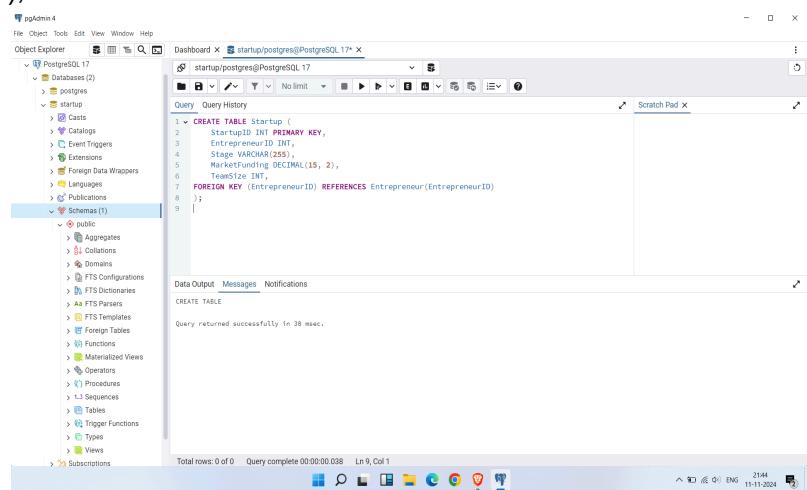
CREATE TABLE Entrepreneur (
    EntrepreneurID INT PRIMARY KEY,
    Knowledge VARCHAR(255),
    Idea VARCHAR(255),
    Experience VARCHAR(255),
    Network VARCHAR(255)
);

```

The status bar at the bottom indicates 'Query returned successfully in 38 msec.'

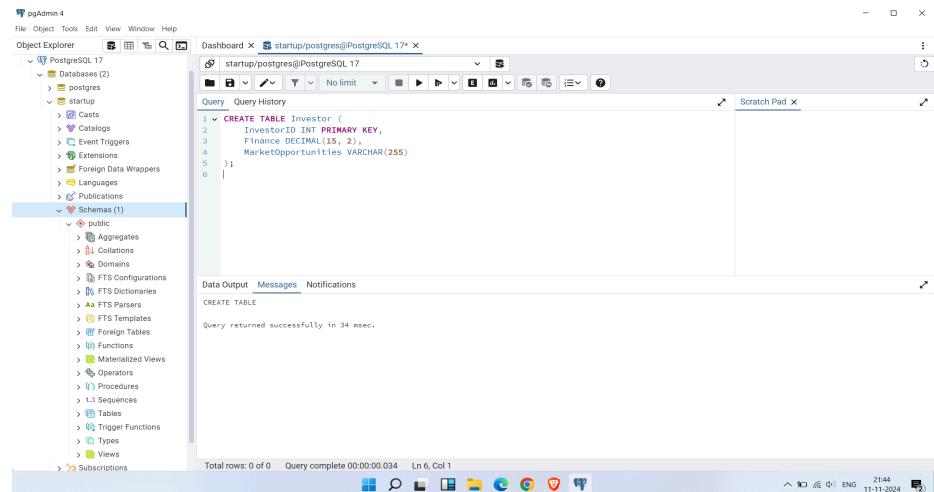
4. Startup table:

```
CREATE TABLE Startup (
    StartupID INT PRIMARY KEY,
    EntrepreneurID INT,
    Stage VARCHAR(255),
    MarketFunding DECIMAL(15, 2),
    TeamSize INT,
    FOREIGN KEY (EntrepreneurID) REFERENCES
    Entrepreneur(EntrepreneurID)
);
```



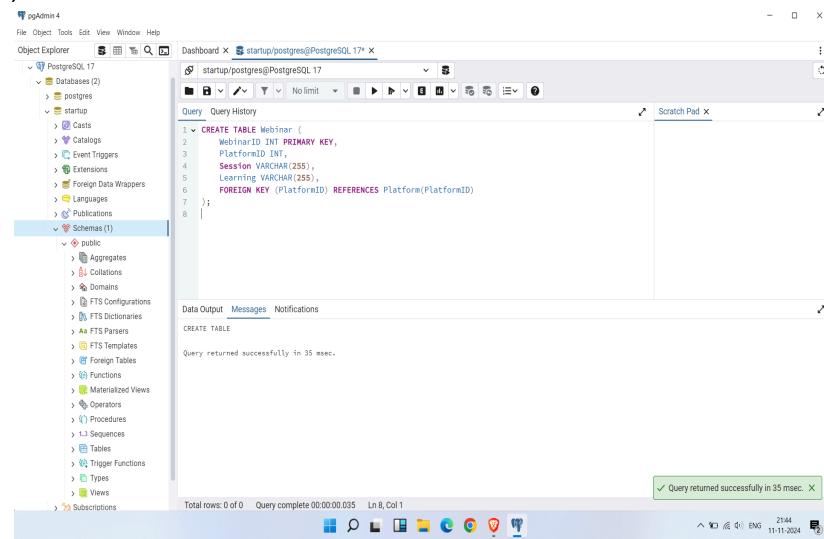
5. Investor table:

```
CREATE TABLE Investor (
    InvestorID INT PRIMARY KEY,
    Finance DECIMAL(15, 2),
    MarketOpportunities VARCHAR(255)
);
```



6. Webinar table :

```
CREATE TABLE Webinar (
    WebinarID INT PRIMARY KEY,
    PlatformID INT,
    Session VARCHAR(255),
    Learning VARCHAR(255),
    FOREIGN KEY (PlatformID) REFERENCES
    Platform(PlatformID)
);
```



7. Workshop table:

```
CREATE TABLE Workshop (
    WorkshopID INT PRIMARY KEY,
    PlatformID INT,
    Knowledge VARCHAR(255),
    Location VARCHAR(255),
    Participants INT,
    FOREIGN KEY (PlatformID) REFERENCES
    Platform(PlatformID)
);
```

The screenshot shows the pgAdmin 4 interface. In the Object Explorer, under the 'Schemas (1)' node, there is a single entry: 'public'. In the main query editor window, a SQL script is being run:

```

1 ✓ CREATE TABLE Workshop (
2   WorkshopID INT PRIMARY KEY,
3   PlatformID INT,
4   Knowledge VARCHAR(255),
5   Location VARCHAR(255),
6   Participants INT,
7   FOREIGN KEY (PlatformID) REFERENCES Platform(PlatformID)
8 );
9

```

The status bar at the bottom indicates: 'Total rows: 0 of 0 Query complete 00:00:00.035 Ln 9, Col 1'.

8. Device table :

```

CREATE TABLE Device (
  DeviceID INT PRIMARY KEY,
  UserID INT,
  Tools VARCHAR(255),
  Features VARCHAR(255),
  Insights VARCHAR(255),
  Frequency INT,
  FOREIGN KEY (UserID) REFERENCES Users(UserID)
);

```

The screenshot shows the pgAdmin 4 interface. In the Object Explorer, under the 'Schemas (1)' node, there is a single entry: 'public'. In the main query editor window, a SQL script is being run:

```

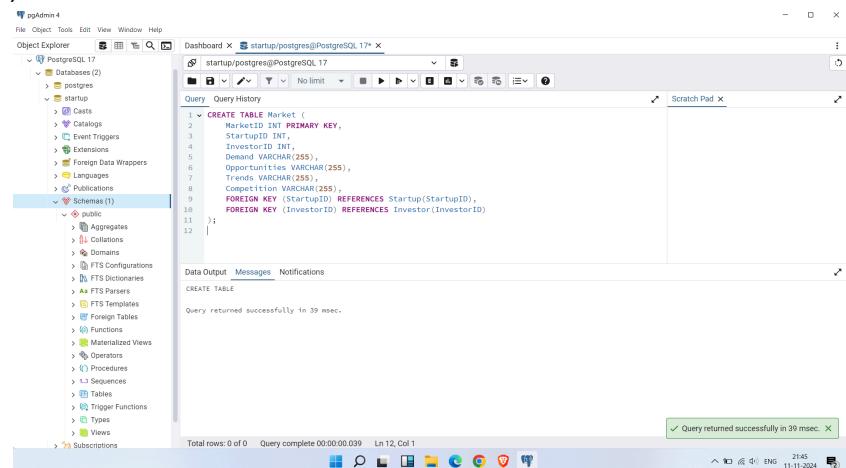
1 ✓ CREATE TABLE Device (
2   DeviceID INT PRIMARY KEY,
3   UserID INT,
4   Tools VARCHAR(255),
5   Features VARCHAR(255),
6   Insights VARCHAR(255),
7   Frequency INT,
8   FOREIGN KEY (UserID) REFERENCES Users(UserID)
9 );
10

```

The status bar at the bottom indicates: 'Total rows: 0 of 0 Query complete 00:00:00.035 Ln 10, Col 1'. A green message box appears stating: '✓ Query returned successfully in 35 msec.'.

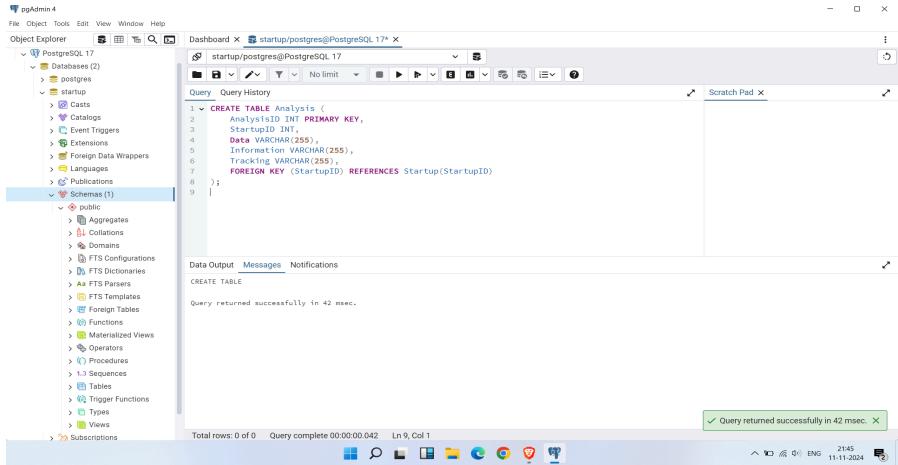
9. Market table:

```
CREATE TABLE Market (
    MarketID INT PRIMARY KEY,
    StartupID INT,
    InvestorID INT,
    Demand VARCHAR(255),
    Opportunities VARCHAR(255),
    Trends VARCHAR(255),
    Competition VARCHAR(255),
    FOREIGN KEY (StartupID) REFERENCES
    Startup(StartupID),
    FOREIGN KEY (InvestorID) REFERENCES
    Investor(InvestorID)
);
```



10. Analysis table:

```
CREATE TABLE Analysis (
    AnalysisID INT PRIMARY KEY,
    StartupID INT,
    Data VARCHAR(255),
    Information VARCHAR(255),
    Tracking VARCHAR(255),
    FOREIGN KEY (StartupID) REFERENCES
    Startup(StartupID)
);
```



2. Database Population

- **INSERT Statements**

- 1) Analysis Table:

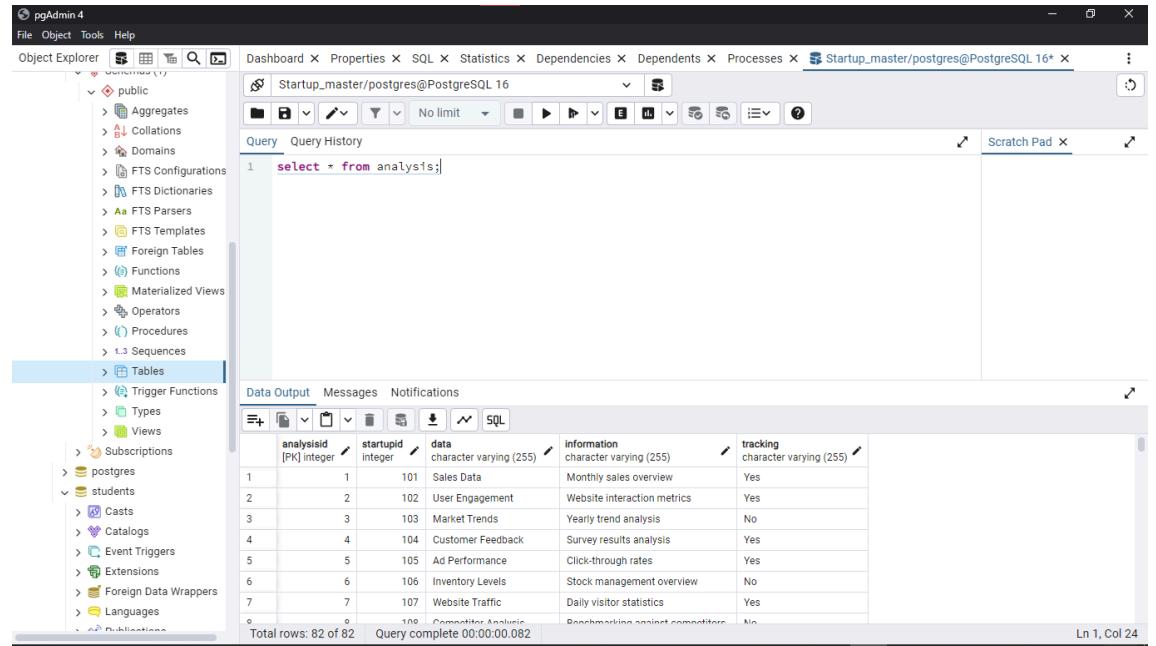
```

INSERT INTO Analysis (AnalysisID, StartupID, Data, Information, Tracking) VALUES
(1, 101, 'Sales Data', 'Monthly sales overview', 'Yes'),
(2, 102, 'User Engagement', 'Website interaction metrics', 'Yes'),
(3, 103, 'Market Trends', 'Yearly trend analysis', 'No'),
(4, 104, 'Customer Feedback', 'Survey results analysis', 'Yes'),
(5, 105, 'Ad Performance', 'Click-through rates', 'Yes'),
(6, 106, 'Inventory Levels', 'Stock management overview', 'No'),
(7, 107, 'Website Traffic', 'Daily visitor statistics', 'Yes'),
(8, 108, 'Competitor Analysis', 'Benchmarking against competitors', 'No'),
(9, 109, 'Social Media Metrics', 'Engagement rates', 'Yes'),
(10, 110, 'Product Performance', 'Sales by product line', 'Yes'),
(11, 111, 'Customer Demographics', 'Age and location data', 'No'),
(12, 112, 'Churn Rate', 'Customer retention statistics', 'Yes'),
(13, 113, 'ROI Analysis', 'Return on investment calculation', 'Yes'),
(14, 114, 'Email Campaigns', 'Open and click rates', 'No'),
(15, 115, 'Sales Forecast', 'Projected revenue analysis', 'Yes'),
(16, 116, 'User Journey', 'Path analysis on website', 'Yes'),
(17, 117, 'A/B Testing', 'Performance comparison', 'Yes'),
(18, 118, 'Customer Acquisition Cost', 'Cost per new customer', 'No'),
(19, 119, 'Website Conversion Rate', 'Percentage of visitors converting', 'Yes'),
(20, 120, 'Event Attendance', 'Participation metrics', 'Yes'),

```

- (21, 121, 'User Feedback', 'Qualitative data analysis', 'No'),
- (22, 122, 'Customer Loyalty', 'Repeat purchase analysis', 'Yes'),
- (23, 123, 'Market Share', 'Percentage of market owned', 'No'),
- (24, 124, 'Search Trends', 'Keyword performance metrics', 'Yes'),
- (25, 125, 'Product Returns', 'Return rates and reasons', 'No'),
- (26, 126, 'Customer Segmentation', 'Groups based on behavior', 'Yes'),
- (27, 127, 'Financial Statements', 'Profit and loss overview', 'No'),
- (28, 128, 'Sales Pipeline', 'Lead conversion metrics', 'Yes'),
- (29, 129, 'Supplier Performance', 'Evaluation metrics', 'No'),
- (30, 130, 'E-commerce Metrics', 'Shopping cart abandonment rates', 'Yes'),
- (31, 131, 'User Acquisition', 'Growth rates analysis', 'No'),
- (32, 132, 'Performance Benchmarks', 'Key performance indicators', 'Yes'),
- (33, 133, 'Product Development', 'Feedback analysis for new products', 'No'),
- (34, 134, 'Event Impact', 'Success metrics for events', 'Yes'),
- (35, 135, 'Ad Spend Efficiency', 'Cost-effectiveness of campaigns', 'No'),
- (36, 136, 'Lead Scoring', 'Prioritization metrics', 'Yes'),
- (37, 137, 'Partnership Effectiveness', 'Success of partnerships', 'No'),
- (38, 138, 'Customer Engagement', 'Interaction metrics', 'Yes'),
- (39, 139, 'Product Lifecycle', 'Stages of product development', 'No'),
- (40, 140, 'Web Performance', 'Loading time metrics', 'Yes'),
- (41, 141, 'Content Effectiveness', 'Engagement metrics for content', 'No'),
- (42, 142, 'Customer Surveys', 'Analysis of survey data', 'Yes'),
- (43, 143, 'Sales Region Performance', 'Comparative analysis of regions', 'No'),
- (44, 144, 'Product Usage', 'Frequency of use metrics', 'Yes'),
- (45, 145, 'Training Effectiveness', 'Metrics for training sessions', 'No'),
- (46, 146, 'User Onboarding', 'Success metrics for onboarding', 'Yes'),
- (47, 147, 'Affiliate Performance', 'Analysis of affiliate contributions', 'No'),
- (48, 148, 'Cost Analysis', 'Breakdown of expenses', 'Yes'),
- (49, 149, 'Sales Funnel', 'Stage conversion metrics', 'No'),
- (50, 150, 'Brand Awareness', 'Recognition and recall metrics', 'Yes'),
- (51, 151, 'Market Entry', 'Feasibility analysis', 'No'),
- (52, 152, 'Operational Efficiency', 'Efficiency metrics', 'Yes'),
- (53, 153, 'Strategic Planning', 'SWOT analysis', 'No'),
- (54, 154, 'Customer Interaction', 'Channels of communication', 'Yes'),
- (55, 155, 'Product Innovations', 'Impact of new features', 'No'),
- (56, 156, 'Seasonal Trends', 'Analysis of seasonal sales', 'Yes'),
- (57, 157, 'Crisis Management', 'Response strategies', 'No'),

- (58, 158, 'Loyalty Programs', 'Effectiveness metrics', 'Yes'),
- (59, 159, 'Resource Allocation', 'Efficiency of resource use', 'No'),
- (60, 160, 'Public Relations', 'Media impact analysis', 'Yes'),
- (61, 161, 'Technology Adoption', 'Rate of new technology integration', 'No'),
- (62, 162, 'Customer Support', 'Analysis of support tickets', 'Yes'),
- (63, 163, 'Competitor Pricing', 'Comparison of prices', 'No'),
- (64, 164, 'Market Segmentation', 'Detailed analysis of market groups', 'Yes'),
- (65, 165, 'User Retention', 'Analysis of returning users', 'No'),
- (66, 166, 'Pricing Strategies', 'Effectiveness of pricing models', 'Yes'),
- (67, 167, 'Sustainability Practices', 'Evaluation of eco-friendly initiatives', 'No'),
- (68, 168, 'Team Performance', 'Analysis of team metrics', 'Yes'),
- (69, 169, 'Digital Transformation', 'Impact of digital initiatives', 'No'),
- (70, 170, 'Health and Safety', 'Compliance metrics', 'Yes'),
- (71, 171, 'Employee Satisfaction', 'Analysis of employee feedback', 'No'),
- (72, 172, 'Product Feedback', 'User suggestions and improvements', 'Yes'),
- (73, 173, 'Innovation Metrics', 'Rate of new ideas generated', 'No'),
- (74, 174, 'Sales Tactics', 'Effectiveness of sales strategies', 'Yes'),
- (75, 175, 'Business Continuity', 'Plans and risk assessments', 'No'),
- (76, 176, 'Financial Ratios', 'Profitability and liquidity analysis', 'Yes'),
- (77, 177, 'Technology Performance', 'Efficiency of tech solutions', 'No'),
- (78, 178, 'Brand Positioning', 'Market perception analysis', 'Yes'),
- (79, 179, 'Sales Events', 'Impact of promotional events', 'No'),
- (80, 180, 'Supply Chain Analysis', 'Evaluation of supply chain efficiency', 'Yes'),
- (81, 181, 'Cultural Fit', 'Analysis of company culture', 'No'),
- (82, 182, 'Brand Equity', 'Value of the brand in the market', 'Yes');



2) Device Table :

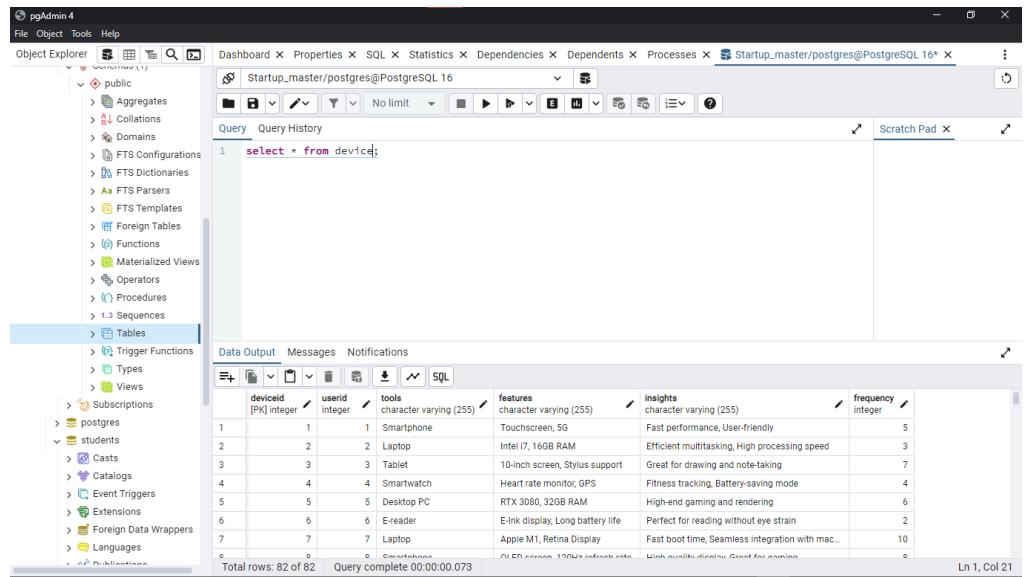
INSERT INTO Device (DeviceID, UserID, Tools, Features, Insights, Frequency)

VALUES

(1, 1, 'Smartphone', 'Touchscreen, 5G', 'Fast performance, User-friendly', 5),
(2, 2, 'Laptop', 'Intel i7, 16GB RAM', 'Efficient multitasking, High processing speed', 3),
(3, 3, 'Tablet', '10-inch screen, Stylus support', 'Great for drawing and note-taking', 7),
(4, 4, 'Smartwatch', 'Heart rate monitor, GPS', 'Fitness tracking, Battery-saving mode', 4),
(5, 5, 'Desktop PC', 'RTX 3080, 32GB RAM', 'High-end gaming and rendering', 6),
(6, 6, 'E-reader', 'E-Ink display, Long battery life', 'Perfect for reading without eye strain', 2),
(7, 7, 'Laptop', 'Apple M1, Retina Display', 'Fast boot time, Seamless integration with macOS', 10),
(8, 8, 'Smartphone', 'OLED screen, 120Hz refresh rate', 'High-quality display, Great for gaming', 8),
(9, 9, 'Tablet', 'Large display, Split-screen feature', 'Great for productivity and entertainment', 12),
(10, 10, 'Smartwatch', 'Sleep tracking, Notifications', 'Helps with health monitoring and reminders', 9),
(83, 83, 'Laptop', 'Intel i5, 8GB RAM', 'Affordable, Great for office work', 11),
(12, 12, 'Desktop PC', 'Intel i9, 64GB RAM', 'Ideal for gaming and 3D modeling', 14),
(13, 13, 'Smartphone', 'Quad-core processor, 48MP camera', 'Clear pictures, Great for photography', 3),
(14, 14, 'Smartwatch', 'GPS, Heart rate monitor', 'Fitness tracking, Long battery life', 5),
(15, 15, 'Laptop', 'AMD Ryzen 7, 16GB RAM', 'Powerful for video editing', 6),
(16, 16, 'Smartphone', 'Snapdragon 888, 5G', 'Fast performance, Reliable network connection', 8),

- (17, 17, 'E-reader', 'Water-resistant, Built-in light', 'Perfect for reading anywhere, Anytime', 7),
(18, 18, 'Tablet', '10.2-inch screen, 128GB storage', 'Great for media consumption and apps', 9),
(19, 19, 'Desktop PC', 'Intel Core i5, 8GB RAM', 'Basic tasks and internet browsing', 4),
(20, 20, 'Laptop', 'Dell XPS 13, 16GB RAM', 'Sleek design, Ultra-portable', 10),
(21, 21, 'Smartphone', '64GB storage, Dual SIM', 'Affordable, Dual SIM support', 12),
(22, 22, 'Smartwatch', 'Blood oxygen level sensor', 'Health-focused, Accurate metrics', 6),
(23, 23, 'Smartphone', '6GB RAM, 64GB storage', 'Mid-range, Good for daily use', 7),
(24, 24, 'Laptop', 'Asus ROG, RTX 3070', 'Gaming laptop, Smooth gaming experience', 5),
(25, 25, 'Smartphone', 'AMOLED display, 6GB RAM', 'High-resolution display, Reliable performance', 3),
(26, 26, 'Tablet', '8MP rear camera, 10.5-inch screen', 'Affordable, Perfect for casual use', 4),
(27, 27, 'Desktop PC', 'AMD Ryzen 5, 16GB RAM', 'Great for multitasking', 8),
(28, 28, 'Smartwatch', 'Fitness tracker, Waterproof', 'Perfect for athletes', 9),
(29, 29, 'Laptop', 'HP Spectre x360, Intel i7', 'Convertible design, Powerful battery life', 11),
(30, 30, 'Smartphone', '5G, Face recognition', 'Secure, Future-proof connectivity', 6),
(31, 31, 'Smartwatch', 'Step counter, Heart rate sensor', 'Fitness-oriented, Comfortable', 4),
(32, 32, 'Tablet', '9-inch display, 256GB storage', 'Great for media and work', 2),
(33, 33, 'Laptop', 'MacBook Air, M1 chip', 'Ultra-portable, Long battery life', 7),
(34, 34, 'Desktop PC', 'Core i9, 64GB RAM', 'High-end gaming, Professional design', 10),
(35, 35, 'Smartphone', '128GB storage, Dual camera', 'Solid performance, Good photography', 3),
(36, 36, 'Smartwatch', 'Smart notifications, Sleep monitor', 'Health-focused, Comfortable fit', 6),
(37, 37, 'Laptop', 'Lenovo ThinkPad, i7', 'Durable, Great for work', 8),
(38, 38, 'Smartphone', '5.5-inch screen, 4GB RAM', 'Compact, Affordable', 5),
(39, 39, 'Tablet', '7-inch screen, 64GB storage', 'Compact for reading and casual use', 3),
(40, 40, 'Desktop PC', 'NVIDIA GTX 1650, 8GB RAM', 'Affordable gaming, Decent performance', 9),
(41, 41, 'Smartphone', '6.5-inch screen, 128GB storage', 'Affordable, Ideal for daily tasks', 4),
(42, 42, 'Smartwatch', 'Pedometer, Heart rate monitor', 'Great for health tracking', 10),
(43, 43, 'Laptop', 'MacBook Pro, 16GB RAM', 'Ideal for professional work', 8),
(44, 44, 'Tablet', '12.9-inch screen, Face ID', 'Premium display, Powerful processing', 11),
(45, 45, 'Desktop PC', 'Intel Xeon, 64GB RAM', 'Ideal for virtual machines', 3),
(46, 46, 'Smartphone', '6.2-inch screen, AMOLED display', 'Brilliant color reproduction, Great for videos', 7),
(47, 47, 'Laptop', 'Microsoft Surface Laptop, i5', 'Ultra-portable, Good for productivity', 9),
(48, 48, 'Smartwatch', 'GPS, Heart rate sensor', 'Helps with fitness and outdoor tracking', 6),
(49, 49, 'Tablet', '8-inch screen, 32GB storage', 'Affordable, Casual use', 4),
(50, 50, 'Smartphone', 'Dual SIM, 4G LTE', 'Great for international travel', 8),
(51, 51, 'Laptop', 'HP Envy, i7, 16GB RAM', 'Ideal for programming, Smooth multitasking', 10),

- (52, 52, 'Smartphone', '5.5-inch OLED, 6GB RAM', 'Excellent display, Budget-friendly', 4),
(53, 53, 'Smartwatch', 'Fitness tracker, Bluetooth', 'Ideal for daily activity monitoring', 6),
(54, 54, 'Tablet', '8-inch display, Android', 'Compact and versatile for media', 5),
(55, 55, 'Desktop PC', 'AMD Ryzen 9, 32GB RAM', 'Powerful for creative work, Smooth video editing', 9),
(56, 56, 'Smartphone', '6.7-inch display, 128GB storage', 'Great for gaming and media', 7),
(57, 57, 'Laptop', 'Microsoft Surface Pro 7, Intel i5', 'Ultra-light, Perfect for traveling', 8),
(58, 58, 'Smartwatch', 'Heart rate monitor, Waterproof', 'Track fitness and health metrics', 6),
(59, 59, 'Smartphone', 'Quad-core processor, 64GB storage', 'Budget device with essential features', 5),
(60, 60, 'Tablet', '10.5-inch screen, 64GB storage', 'Good for casual browsing and reading', 8),
(61, 61, 'Smartphone', 'OLED display, Dual rear camera', 'Great performance, Affordable', 4),
(62, 62, 'Smartwatch', 'GPS tracking, Sleep monitoring', 'Best for outdoor activities and health tracking', 3),
(63, 63, 'Laptop', 'MacBook Pro, M1 chip', 'Efficient, High battery life for work tasks', 9),
(64, 64, 'Desktop PC', 'Intel Core i7, 16GB RAM', 'Perfect for heavy workloads, Gaming-ready', 12),
(65, 65, 'Smartphone', '5.2-inch display, 3GB RAM', 'Compact, Great for simple tasks', 4),
(66, 66, 'Smartwatch', 'Fitness tracker, Call notifications', 'Track health, Stay connected', 8),
(67, 67, 'Laptop', 'Asus ZenBook, i7, 16GB RAM', 'Portable, Great for work and study', 7),
(68, 68, 'Smartphone', '5.5-inch AMOLED, 128GB storage', 'High resolution, Great for media consumption', 6),
(69, 69, 'Smartwatch', 'Water-resistant, Pedometer', 'Great for fitness enthusiasts', 9),
(70, 70, 'Laptop', 'HP Pavilion, i5, 8GB RAM', 'Affordable, Good for basic work tasks', 5),
(71, 71, 'Smartphone', 'Quad-core, 16GB storage', 'Budget device, Simple usage', 3),
(72, 72, 'Smartwatch', 'Step tracking, Heart rate', 'Comfortable, Helps improve fitness', 6),
(73, 73, 'Laptop', 'Lenovo Legion, i9, 32GB RAM', 'Gaming laptop, Powerful and fast', 7),
(74, 74, 'Tablet', '11-inch display, 128GB storage', 'Perfect for media and productivity', 10),
(75, 75, 'Smartphone', 'Dual SIM, 64GB storage', 'Ideal for personal and business use', 8),
(76, 76, 'Smartwatch', 'Blood pressure monitor, Pedometer', 'Perfect for health tracking', 12),
(77, 77, 'Desktop PC', 'Core i5, 8GB RAM', 'Budget PC, Great for office work', 4),
(78, 78, 'Smartphone', 'Snapdragon 780G, 256GB storage', 'Mid-range device, Great for multitasking', 6),
(79, 79, 'Laptop', 'Dell Inspiron, i5, 8GB RAM', 'Affordable, Ideal for students', 7),
(80, 80, 'Smartwatch', 'Sleep tracker, Call alerts', 'Smart features for everyday use', 10),
(81, 81, 'Tablet', '13-inch display, Stylus support', 'Good for creative work and note-taking', 8),
(82, 82, 'Smartphone', '5G, 128GB storage', 'Top performance, Future-ready', 12);



3) Entrepreneur Table :

INSERT INTO Entrepreneur (EntrepreneurID, Knowledge, Idea, Experience, Network)
VALUES

- (1, 'Business Management', 'E-commerce Platform', '6 years', 'Strong'),
- (2, 'Marketing', 'Social Media Consultancy', '3 Years', 'Moderate'),
- (3, 'Finance', 'Investment App', '7 Years', 'Extensive'),
- (4, 'Technology', 'Health Tech Startup', '4 Years', 'Strong'),
- (5, 'Product Development', 'Subscription Box Service', '2 Years', 'Weak'),
- (6, 'Data Analytics', 'Data Visualization Tool', '6 Years', 'Strong'),
- (7, 'Education', 'Online Learning Platform', '5 Years', 'Moderate'),
- (8, 'Healthcare', 'Telehealth Service', '8 Years', 'Extensive'),
- (9, 'Retail', 'Mobile Shopping App', '3 Years', 'Weak'),
- (10, 'Marketing', 'Affiliate Marketing Program', '4 Years', 'Moderate'),
- (11, 'Technology', 'AI-driven Analytics', '6 Years', 'Strong'),
- (12, 'Finance', 'Crowdfunding Platform', '5 Years', 'Moderate'),
- (13, 'Hospitality', 'Travel Booking Site', '2 Years', 'Weak'),
- (14, 'Social Impact', 'Non-profit Organization', '3 Years', 'Moderate'),
- (15, 'Sustainability', 'Eco-friendly Products', '4 Years', 'Strong'),
- (16, 'Retail', 'Custom Merchandise Shop', '5 Years', 'Extensive'),
- (17, 'Tech', 'Blockchain Solution', '3 Years', 'Moderate'),
- (18, 'Education', 'Skill Development Workshops', '4 Years', 'Weak'),
- (19, 'Health', 'Fitness Application', '6 Years', 'Strong'),
- (20, 'Food', 'Healthy Meal Delivery', '4 Years', 'Moderate'),

- (21, 'Real Estate', 'Property Management App', '7 Years', 'Extensive'),
- (22, 'Finance', 'Personal Finance App', '5 Years', 'Strong'),
- (23, 'Retail', 'Augmented Reality Shopping', '3 Years', 'Weak'),
- (24, 'E-commerce', 'Niche Market Platform', '6 Years', 'Moderate'),
- (25, 'Tech', 'IoT Solutions', '4 Years', 'Strong'),
- (26, 'Education', 'Tutoring Services', '5 Years', 'Weak'),
- (27, 'Fashion', 'Sustainable Fashion Line', '3 Years', 'Moderate'),
- (28, 'Travel', 'Adventure Tourism', '6 Years', 'Extensive'),
- (29, 'Finance', 'Investment Consultancy', '5 Years', 'Strong'),
- (30, 'Social Media', 'Influencer Marketing', '3 Years', 'Moderate'),
- (31, 'Healthcare', 'Mental Health App', '7 Years', 'Weak'),
- (32, 'Tech', 'Cloud Computing Services', '5 Years', 'Strong'),
- (33, 'Retail', 'Online Clothing Store', '4 Years', 'Moderate'),
- (34, 'Food', 'Organic Farm', '6 Years', 'Weak'),
- (35, 'Tech', 'FinTech Solutions', '5 Years', 'Extensive'),
- (36, 'Education', 'Language Learning App', '3 Years', 'Strong'),
- (37, 'Travel', 'Travel Planning Services', '4 Years', 'Moderate'),
- (38, 'Real Estate', 'Smart Home Solutions', '6 Years', 'Weak'),
- (39, 'Finance', 'Cryptocurrency Exchange', '5 Years', 'Strong'),
- (40, 'Health', 'Telemedicine Platform', '7 Years', 'Moderate'),
- (41, 'Marketing', 'Digital Marketing Agency', '3 Years', 'Weak'),
- (42, 'E-commerce', 'Online Grocery Delivery', '5 Years', 'Strong'),
- (43, 'Tech', 'AI-Powered CRM', '4 Years', 'Moderate'),
- (44, 'Education', 'Online Certification Courses', '6 Years', 'Extensive'),
- (45, 'Healthcare', 'Wearable Health Tech', '5 Years', 'Strong'),
- (46, 'Finance', 'Budgeting App', '3 Years', 'Moderate'),
- (47, 'Travel', 'Eco-Tourism', '4 Years', 'Weak'),
- (48, 'Food', 'Vegan Meal Plans', '6 Years', 'Strong'),
- (49, 'Retail', 'Online Marketplace', '5 Years', 'Moderate'),
- (50, 'Tech', 'Blockchain Development', '4 Years', 'Weak'),
- (51, 'Healthcare', 'Fitness Tracker', '5 Years', 'Strong'),
- (52, 'Education', 'STEM Workshops', '3 Years', 'Moderate'),
- (53, 'Finance', 'Retirement Planning', '6 Years', 'Weak'),
- (54, 'Social Impact', 'Community Development', '5 Years', 'Strong'),
- (55, 'Travel', 'Cultural Tours', '4 Years', 'Moderate'),
- (56, 'Retail', 'Personalized Shopping', '3 Years', 'Weak'),
- (57, 'Food', 'Meal Prep Services', '5 Years', 'Strong'),

- (58, 'Tech', 'Cybersecurity Solutions', '4 Years', 'Moderate'),
- (59, 'Education', 'Interactive Learning Tools', '6 Years', 'Weak'),
- (60, 'Healthcare', 'Health and Wellness Coaching', '5 Years', 'Strong'),
- (61, 'Finance', 'Investment Research', '3 Years', 'Moderate'),
- (62, 'Social Media', 'Content Creation Services', '4 Years', 'Weak'),
- (63, 'E-commerce', 'Dropshipping Business', '5 Years', 'Strong'),
- (64, 'Tech', 'AR/VR Applications', '3 Years', 'Moderate'),
- (65, 'Travel', 'Luxury Travel Services', '4 Years', 'Weak'),
- (66, 'Retail', 'Pop-up Shops', '5 Years', 'Strong'),
- (67, 'Finance', 'Wealth Management', '6 Years', 'Moderate'),
- (68, 'Healthcare', 'Nutrition Consulting', '3 Years', 'Weak'),
- (69, 'Education', 'Professional Development Courses', '5 Years', 'Strong'),
- (70, 'Tech', 'Mobile App Development', '4 Years', 'Moderate'),
- (71, 'Food', 'Food Truck Business', '5 Years', 'Weak'),
- (72, 'Travel', 'Remote Work Retreats', '3 Years', 'Strong'),
- (73, 'Retail', 'Subscription Services', '4 Years', 'Moderate'),
- (74, 'Finance', 'Insurance Brokerage', '6 Years', 'Weak'),
- (75, 'Healthcare', 'Virtual Wellness Programs', '5 Years', 'Strong'),
- (76, 'Tech', 'Smart Home Devices', '4 Years', 'Moderate'),
- (77, 'Education', 'Career Coaching', '5 Years', 'Weak'),
- (78, 'Social Impact', 'Microfinance Services', '3 Years', 'Strong'),
- (79, 'Travel', 'Sustainable Tourism', '4 Years', 'Moderate'),
- (80, 'Retail', 'Secondhand Marketplace', '5 Years', 'Weak'),
- (81, 'Finance', 'Tax Consultancy', '6 Years', 'Strong'),
- (82, 'Healthcare', 'Fitness App', '3 Years', 'Moderate'),
- (83, 'Education', 'Online Tutoring', '4 Years', 'Weak'),
- (84, 'Tech', 'Wearable Technology', '5 Years', 'Strong'),
- (85, 'Food', 'Meal Kit Delivery', '6 Years', 'Moderate'),
- (86, 'Travel', 'Group Travel Experiences', '3 Years', 'Weak'),
- (87, 'Retail', 'Experience-based Shopping', '5 Years', 'Strong'),
- (88, 'Finance', 'Financial Literacy Programs', '4 Years', 'Moderate'),
- (89, 'Healthcare', 'Health Coaching', '3 Years', 'Weak'),
- (90, 'Education', 'Online Skill Development', '5 Years', 'Strong'),
- (91, 'Tech', 'Data Security Solutions', '4 Years', 'Moderate'),
- (92, 'Social Media', 'Social Media Monitoring', '6 Years', 'Weak');

The screenshot shows the pgAdmin 4 interface. In the Object Explorer on the left, under the 'Tables' section, there is a table named 'entrepreneur'. In the central SQL tab, the query `select * from entrepreneur;` is run, and the results are displayed in the Data Output tab below.

entrepreneurid [PK] integer	knowledge character varying (255)	idea character varying (255)	experience character varying (255)	network character varying (255)
1	Marketing	Social Media Consultancy	3 Years	Moderate
2	Finance	Investment App	7 Years	Extensive
3	Technology	Health Tech Startup	4 Years	Strong
4	Product Development	Subscription Box Service	2 Years	Weak
5	Data Analytics	Data Visualization Tool	6 Years	Strong
6	Education	Online Learning Platform	5 Years	Moderate
7	Healthcare	Telehealth Service	8 Years	Extensive
8	Retail	Mobile Shopping App	9 Years	Weak

Total rows: 92 of 92 Query complete 00:00:00.158 Ln 1, Col 27

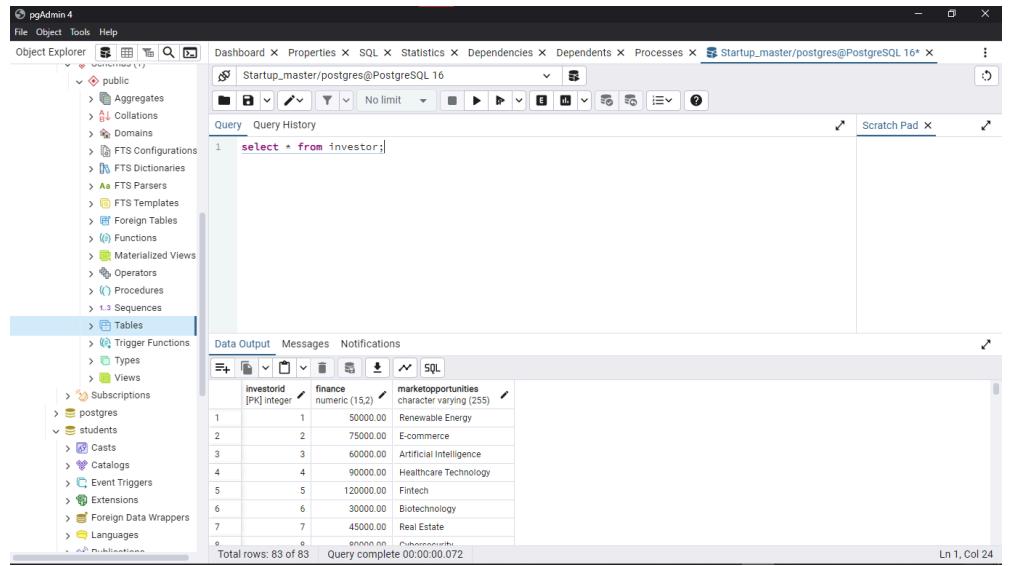
4) Investor Table :

```
INSERT INTO Entrepreneur (EntrepreneurID, Knowledge, Idea, Experience, Network)
VALUES
```

- (1, 'Business Management', 'E-commerce Platform', '6 years', 'Strong'),
- (2, 'Marketing', 'Social Media Consultancy', '3 Years', 'Moderate'),
- (3, 'Finance', 'Investment App', '7 Years', 'Extensive'),
- (4, 'Technology', 'Health Tech Startup', '4 Years', 'Strong'),
- (5, 'Product Development', 'Subscription Box Service', '2 Years', 'Weak'),
- (6, 'Data Analytics', 'Data Visualization Tool', '6 Years', 'Strong'),
- (7, 'Education', 'Online Learning Platform', '5 Years', 'Moderate'),
- (8, 'Healthcare', 'Telehealth Service', '8 Years', 'Extensive'),
- (9, 'Retail', 'Mobile Shopping App', '3 Years', 'Weak'),
- (10, 'Marketing', 'Affiliate Marketing Program', '4 Years', 'Moderate'),
- (11, 'Technology', 'AI-driven Analytics', '6 Years', 'Strong'),
- (12, 'Finance', 'Crowdfunding Platform', '5 Years', 'Moderate'),
- (13, 'Hospitality', 'Travel Booking Site', '2 Years', 'Weak'),
- (14, 'Social Impact', 'Non-profit Organization', '3 Years', 'Moderate'),
- (15, 'Sustainability', 'Eco-friendly Products', '4 Years', 'Strong'),
- (16, 'Retail', 'Custom Merchandise Shop', '5 Years', 'Extensive'),
- (17, 'Tech', 'Blockchain Solution', '3 Years', 'Moderate'),
- (18, 'Education', 'Skill Development Workshops', '4 Years', 'Weak'),
- (19, 'Health', 'Fitness Application', '6 Years', 'Strong'),

- (20, 'Food', 'Healthy Meal Delivery', '4 Years', 'Moderate'),
- (21, 'Real Estate', 'Property Management App', '7 Years', 'Extensive'),
- (22, 'Finance', 'Personal Finance App', '5 Years', 'Strong'),
- (23, 'Retail', 'Augmented Reality Shopping', '3 Years', 'Weak'),
- (24, 'E-commerce', 'Niche Market Platform', '6 Years', 'Moderate'),
- (25, 'Tech', 'IoT Solutions', '4 Years', 'Strong'),
- (26, 'Education', 'Tutoring Services', '5 Years', 'Weak'),
- (27, 'Fashion', 'Sustainable Fashion Line', '3 Years', 'Moderate'),
- (28, 'Travel', 'Adventure Tourism', '6 Years', 'Extensive'),
- (29, 'Finance', 'Investment Consultancy', '5 Years', 'Strong'),
- (30, 'Social Media', 'Influencer Marketing', '3 Years', 'Moderate'),
- (31, 'Healthcare', 'Mental Health App', '7 Years', 'Weak'),
- (32, 'Tech', 'Cloud Computing Services', '5 Years', 'Strong'),
- (33, 'Retail', 'Online Clothing Store', '4 Years', 'Moderate'),
- (34, 'Food', 'Organic Farm', '6 Years', 'Weak'),
- (35, 'Tech', 'FinTech Solutions', '5 Years', 'Extensive'),
- (36, 'Education', 'Language Learning App', '3 Years', 'Strong'),
- (37, 'Travel', 'Travel Planning Services', '4 Years', 'Moderate'),
- (38, 'Real Estate', 'Smart Home Solutions', '6 Years', 'Weak'),
- (39, 'Finance', 'Cryptocurrency Exchange', '5 Years', 'Strong'),
- (40, 'Health', 'Telemedicine Platform', '7 Years', 'Moderate'),
- (41, 'Marketing', 'Digital Marketing Agency', '3 Years', 'Weak'),
- (42, 'E-commerce', 'Online Grocery Delivery', '5 Years', 'Strong'),
- (43, 'Tech', 'AI-Powered CRM', '4 Years', 'Moderate'),
- (44, 'Education', 'Online Certification Courses', '6 Years', 'Extensive'),
- (45, 'Healthcare', 'Wearable Health Tech', '5 Years', 'Strong'),
- (46, 'Finance', 'Budgeting App', '3 Years', 'Moderate'),
- (47, 'Travel', 'Eco-Tourism', '4 Years', 'Weak'),
- (48, 'Food', 'Vegan Meal Plans', '6 Years', 'Strong'),
- (49, 'Retail', 'Online Marketplace', '5 Years', 'Moderate'),
- (50, 'Tech', 'Blockchain Development', '4 Years', 'Weak'),
- (51, 'Healthcare', 'Fitness Tracker', '5 Years', 'Strong'),
- (52, 'Education', 'STEM Workshops', '3 Years', 'Moderate'),
- (53, 'Finance', 'Retirement Planning', '6 Years', 'Weak'),
- (54, 'Social Impact', 'Community Development', '5 Years', 'Strong'),
- (55, 'Travel', 'Cultural Tours', '4 Years', 'Moderate'),
- (56, 'Retail', 'Personalized Shopping', '3 Years', 'Weak'),

- (57, 'Food', 'Meal Prep Services', '5 Years', 'Strong'),
- (58, 'Tech', 'Cybersecurity Solutions', '4 Years', 'Moderate'),
- (59, 'Education', 'Interactive Learning Tools', '6 Years', 'Weak'),
- (60, 'Healthcare', 'Health and Wellness Coaching', '5 Years', 'Strong'),
- (61, 'Finance', 'Investment Research', '3 Years', 'Moderate'),
- (62, 'Social Media', 'Content Creation Services', '4 Years', 'Weak'),
- (63, 'E-commerce', 'Dropshipping Business', '5 Years', 'Strong'),
- (64, 'Tech', 'AR/VR Applications', '3 Years', 'Moderate'),
- (65, 'Travel', 'Luxury Travel Services', '4 Years', 'Weak'),
- (66, 'Retail', 'Pop-up Shops', '5 Years', 'Strong'),
- (67, 'Finance', 'Wealth Management', '6 Years', 'Moderate'),
- (68, 'Healthcare', 'Nutrition Consulting', '3 Years', 'Weak'),
- (69, 'Education', 'Professional Development Courses', '5 Years', 'Strong'),
- (70, 'Tech', 'Mobile App Development', '4 Years', 'Moderate'),
- (71, 'Food', 'Food Truck Business', '5 Years', 'Weak'),
- (72, 'Travel', 'Remote Work Retreats', '3 Years', 'Strong'),
- (73, 'Retail', 'Subscription Services', '4 Years', 'Moderate'),
- (74, 'Finance', 'Insurance Brokerage', '6 Years', 'Weak'),
- (75, 'Healthcare', 'Virtual Wellness Programs', '5 Years', 'Strong'),
- (76, 'Tech', 'Smart Home Devices', '4 Years', 'Moderate'),
- (77, 'Education', 'Career Coaching', '5 Years', 'Weak'),
- (78, 'Social Impact', 'Microfinance Services', '3 Years', 'Strong'),
- (79, 'Travel', 'Sustainable Tourism', '4 Years', 'Moderate'),
- (80, 'Retail', 'Secondhand Marketplace', '5 Years', 'Weak'),
- (81, 'Finance', 'Tax Consultancy', '6 Years', 'Strong'),
- (82, 'Healthcare', 'Fitness App', '3 Years', 'Moderate'),
- (83, 'Education', 'Online Tutoring', '4 Years', 'Weak'),
- (84, 'Tech', 'Wearable Technology', '5 Years', 'Strong'),
- (85, 'Food', 'Meal Kit Delivery', '6 Years', 'Moderate'),
- (86, 'Travel', 'Group Travel Experiences', '3 Years', 'Weak'),
- (87, 'Retail', 'Experience-based Shopping', '5 Years', 'Strong'),
- (88, 'Finance', 'Financial Literacy Programs', '4 Years', 'Moderate'),
- (89, 'Healthcare', 'Health Coaching', '3 Years', 'Weak'),
- (90, 'Education', 'Online Skill Development', '5 Years', 'Strong'),
- (91, 'Tech', 'Data Security Solutions', '4 Years', 'Moderate'),
- (92, 'Social Media', 'Social Media Monitoring', '6 Years', 'Weak');



5) Market Table :

INSERT INTO Market (MarketID, StartupID, InvestorID, Demand, Opportunities, Trends, Competition) VALUES

- (1, 101, 1, 'High', 'Tech Innovations', 'Remote Work', 'Low'),
- (2, 102, 2, 'Moderate', 'E-commerce Growth', 'Sustainable Products', 'Medium'),
- (3, 103, 3, 'High', 'AI Development', 'Machine Learning', 'High'),
- (4, 104, 4, 'High', 'Health Tech', 'Telehealth', 'Medium'),
- (5, 105, 5, 'Moderate', 'Fintech Solutions', 'Digital Banking', 'High'),
- (6, 106, 6, 'Low', 'Green Energy', 'Solar Power', 'Low'),
- (7, 107, 7, 'Moderate', 'Real Estate Tech', 'Smart Homes', 'Medium'),
- (8, 108, 8, 'High', 'Cybersecurity', 'Data Protection', 'High'),
- (9, 109, 9, 'Low', 'Blockchain', 'Cryptocurrency', 'Medium'),
- (10, 110, 10, 'High', 'Logistics Solutions', 'Last-Mile Delivery', 'Low'),
- (11, 111, 11, 'Moderate', 'Food Delivery', 'Healthy Options', 'Medium'),
- (12, 112, 12, 'High', 'Gaming Industry', 'eSports', 'High'),
- (13, 113, 13, 'Low', 'Augmented Reality', 'AR Apps', 'Medium'),
- (14, 114, 14, 'High', 'Wearable Tech', 'Health Monitoring', 'Low'),
- (15, 115, 15, 'Moderate', 'Personal Finance', 'Budgeting Apps', 'High'),
- (16, 116, 16, 'Low', 'Agritech', 'Vertical Farming', 'Medium'),
- (17, 117, 17, 'High', 'Digital Health', 'Wearable Devices', 'Medium'),
- (18, 118, 18, 'Moderate', 'Travel Tech', 'Travel Apps', 'High'),
- (19, 119, 19, 'High', 'Smart City Solutions', 'IoT Integration', 'Low'),
- (20, 120, 20, 'Moderate', 'Home Improvement', 'DIY Trends', 'Medium'),

- (21, 121, 21, 'High', 'Insurance Tech', 'Policy Automation', 'High'),
- (22, 122, 22, 'Low', 'Music Streaming', 'Personalized Playlists', 'Medium'),
- (23, 123, 23, 'Moderate', 'Online Dating', 'Niche Markets', 'High'),
- (24, 124, 24, 'High', 'Digital Advertising', 'Social Media Ads', 'Low'),
- (25, 125, 25, 'Moderate', 'Freelancing Platforms', 'Remote Work', 'Medium'),
- (26, 126, 26, 'High', 'Smart Appliances', 'Energy Efficiency', 'High'),
- (27, 127, 27, 'Moderate', 'Elderly Care', 'Aging Population', 'Medium'),
- (28, 128, 28, 'Low', 'Digital Art', 'NFTs', 'High'),
- (29, 129, 29, 'Moderate', 'Legal Tech', 'Document Automation', 'Medium'),
- (30, 130, 30, 'High', 'Voice Technology', 'Smart Assistants', 'Low'),
- (31, 131, 31, 'Moderate', 'Customer Experience', 'Feedback Tools', 'High'),
- (32, 132, 32, 'Low', 'Fitness Tech', 'Home Workouts', 'Medium'),
- (33, 133, 33, 'High', 'Chatbots', 'Customer Support', 'High'),
- (34, 134, 34, 'Moderate', 'Social Media', 'Influencer Marketing', 'Medium'),
- (35, 135, 35, 'Low', 'Content Creation', 'YouTube Channels', 'High'),
- (36, 136, 36, 'High', 'Crowdfunding', 'Equity Crowdfunding', 'Low'),
- (37, 137, 37, 'Moderate', 'Online Communities', 'Niche Forums', 'Medium'),
- (38, 138, 38, 'High', 'Pet Technology', 'Pet Care Apps', 'High'),
- (39, 139, 39, 'Moderate', 'Blockchain', 'Smart Contracts', 'Medium'),
- (40, 140, 40, 'Low', 'Remote Work Solutions', 'Virtual Collaboration', 'High'),
- (41, 141, 41, 'High', 'Health Monitoring', 'Wearable Devices', 'Low'),
- (42, 142, 42, 'Moderate', 'Travel Booking', 'Dynamic Pricing', 'Medium'),
- (43, 143, 43, 'High', 'SaaS', 'Subscription Models', 'High'),
- (44, 144, 44, 'Moderate', 'EdTech', 'Online Learning', 'Medium'),
- (45, 145, 45, 'Low', 'Home Automation', 'Smart Homes', 'High'),
- (46, 146, 46, 'High', 'HR Tech', 'Employee Engagement', 'Low'),
- (47, 147, 47, 'Moderate', 'Subscription Boxes', 'Curated Experiences', 'Medium'),
- (48, 148, 48, 'High', 'Artificial Intelligence', 'Data Analysis', 'High'),
- (49, 149, 49, 'Moderate', 'Digital Marketing', 'SEO Tools', 'Medium'),
- (50, 150, 50, 'High', 'Online Retail', 'Personalization', 'Low'),
- (51, 151, 51, 'Moderate', 'Wearable Fitness', 'Health Tracking', 'Medium'),
- (52, 152, 52, 'High', 'Educational Apps', 'Learning at Home', 'High'),
- (53, 153, 53, 'Low', 'Food Tech', 'Alternative Proteins', 'Medium'),
- (54, 154, 54, 'Moderate', 'Mobile Payments', 'Contactless Transactions', 'High'),
- (55, 155, 55, 'High', 'Remote Learning', 'Skill Development', 'Low'),
- (56, 156, 56, 'Moderate', 'Freelancing', 'Gig Economy', 'Medium'),
- (57, 157, 57, 'High', 'Social Impact', 'Community Development', 'High'),

(58, 158, 58, 'Moderate', 'Digital Currency', 'Central Bank Digital Currencies', 'Medium'),
(59, 159, 59, 'Low', 'Telemedicine', 'Remote Consultations', 'High'),
(60, 160, 60, 'High', 'Gaming Tech', 'Mobile Gaming', 'Low'),
(61, 161, 61, 'Moderate', 'Smart Wearables', 'Fitness Monitoring', 'Medium'),
(62, 162, 62, 'High', 'Data Analytics', 'Predictive Analysis', 'High'),
(63, 163, 63, 'Moderate', 'Augmented Reality', 'Training Simulations', 'Medium'),
(64, 164, 64, 'High', 'Fintech', 'Digital Payment Solutions', 'Low'),
(65, 165, 65, 'Moderate', 'Health and Wellness', 'Mental Health Apps', 'Medium'),
(66, 166, 66, 'High', 'Cloud Computing', 'Hybrid Cloud', 'High'),
(67, 167, 67, 'Moderate', 'Remote Collaboration', 'Virtual Reality', 'Medium'),
(68, 168, 68, 'High', 'Digital Identity', 'Online Security', 'Low'),
(69, 169, 69, 'Moderate', 'Home Fitness', 'Online Classes', 'High'),
(70, 170, 70, 'Low', 'Smart Cities', 'Urban Mobility', 'Medium'),
(71, 171, 71, 'High', 'Elderly Care', 'Assistive Technologies', 'High'),
(72, 172, 72, 'Moderate', 'Sustainability', 'Eco-friendly Products', 'Medium'),
(73, 173, 73, 'High', 'Food Delivery', 'Gourmet Services', 'Low'),
(74, 174, 74, 'Moderate', 'Streaming Services', 'Live Events', 'Medium'),
(75, 175, 75, 'High', 'Education', 'Skill Enhancement', 'High'),
(76, 176, 76, 'Moderate', 'Telecommunications', '5G Services', 'Medium'),
(77, 177, 77, 'Low', 'Drone Technology', 'Aerial Solutions', 'High'),
(78, 178, 78, 'High', 'Mental Health', 'Therapy Apps', 'Low'),
(79, 179, 79, 'Moderate', 'Property Management', 'Smart Solutions', 'Medium'),
(80, 180, 80, 'High', 'Blockchain', 'Decentralized', 'High');

The screenshot shows the pgAdmin 4 interface. In the Object Explorer, the 'Tables' node under the 'public' schema is selected. In the main window, a query is run:

```
1 select * from market;
```

The results are displayed in the Data Output tab:

marketid [PK] integer	startupid integer	inventorid integer	demand character varying (255)	opportunities character varying (255)	trends character varying (255)	competition character varying (255)
1	1	101	1 High	Tech Innovations	Remote Work	Low
2	2	102	2 Moderate	E-commerce Growth	Sustainable Products	Medium
3	3	103	3 High	AI Development	Machine Learning	High
4	4	104	4 High	Health Tech	Telehealth	Medium
5	5	105	5 Moderate	Fintech Solutions	Digital Banking	High
6	6	106	6 Low	Green Energy	Solar Power	Low
7	7	107	7 Moderate	Real Estate Tech	Smart Homes	Medium

Total rows: 80 of 80 Query complete 00:00:00.092 Ln 1, Col 22

6) Platform Table :

```
INSERT INTO Platform (PlatformID, Interface, Design, Tools, Feature) VALUES
(1, 'Web', 'Minimalist', 'React', 'Chat'),
(2, 'Mobile', 'Minimal', 'Flutter', 'Notifications'),
(3, 'Desktop', 'Classic', 'Electron', 'Analytics'),
(4, 'Tablet', 'Responsive', 'Vue.js', 'Collaboration'),
(5, 'E-commerce', 'Simple', 'Django', 'Online Shopping'),
(6, 'Education', 'Interactive', 'Node.js', 'Live Classes'),
(7, 'Health', 'User-friendly', 'Angular', 'Health Tracking'),
(8, 'Food Delivery', 'Easy', 'Ionic', 'Order Tracking'),
(9, 'Travel Booking', 'Engaging', 'Swift', 'Booking Management'),
(10, 'Local Services', 'Community-based', 'PHP', 'Service Listings'),
(11, 'News', 'Dynamic', 'JavaScript', 'Real-time Updates'),
(12, 'Social Media', 'Vibrant', 'Ruby on Rails', 'User Interaction'),
(13, 'Gaming', 'Immersive', 'Unity', 'Multi-player'),
(14, 'Finance', 'Secure', 'C#', 'Investment Tracking'),
(15, 'Streaming', 'High-Quality', 'HTML5', 'Video On Demand'),
(16, 'Event Management', 'User-friendly', 'Node.js', 'Ticket Booking'),
(17, 'Marketplace', 'Clean', 'React', 'Bidding System'),
(18, 'Photography', 'Sleek', 'Django', 'Portfolio Display'),
(19, 'Blogging', 'Minimalist', 'WordPress', 'Content Management'),
```

- (20, 'Portfolio', 'Elegant', 'PHP', 'Project Showcase'),
- (21, 'Fitness', 'Energetic', 'Angular', 'Workout Tracking'),
- (22, 'E-learning', 'Engaging', 'Moodle', 'Course Management'),
- (23, 'Real Estate', 'Modern', 'Laravel', 'Property Listings'),
- (24, 'Online Grocery', 'Convenient', 'React Native', 'Shopping Cart'),
- (26, 'Local Guides', 'Informative', 'Django', 'Guide Listings'),
- (27, 'Music Streaming', 'Interactive', 'Node.js', 'Playlist Creation'),
- (28, 'Job Portal', 'Professional', 'PHP', 'Resume Builder'),
- (29, 'Investment Tracking', 'Secure', 'Java', 'Portfolio Analysis'),
- (30, 'Crowdfunding', 'User-friendly', 'Ruby on Rails', 'Campaign Management'),
- (31, 'Language Learning', 'Interactive', 'HTML5', 'Practice Exercises'),
- (32, 'Virtual Tours', 'Immersive', 'Unity', '360° Views'),
- (33, 'Pet Adoption', 'Friendly', 'React', 'Adoption Process'),
- (34, 'Personal Finance', 'Simple', 'Python', 'Budgeting Tools'),
- (35, 'Weather Forecasting', 'Dynamic', 'JavaScript', 'Real-time Updates'),
- (36, 'Recipe Sharing', 'Community-driven', 'Moodle', 'User Submissions'),
- (37, 'Fitness Coaching', 'Personalized', 'Django', 'Progress Tracking'),
- (38, 'Art Gallery', 'Elegant', 'React', 'Exhibition Management'),
- (39, 'Local Events', 'Engaging', 'PHP', 'Event Listings'),
- (40, 'Tech News', 'Modern', 'Node.js', 'Breaking News'),
- (41, 'Online Courses', 'Structured', 'Laravel', 'Course Tracking'),
- (42, 'Digital Marketing', 'Comprehensive', 'Angular', 'Analytics Tools'),
- (43, 'Online Counseling', 'Supportive', 'React Native', 'Session Booking'),
- (44, 'Virtual Classroom', 'Interactive', 'Moodle', 'Live Sessions'),
- (45, 'Stock Market', 'Real-time', 'Python', 'Market Analysis'),
- (46, 'Dating', 'Simple', 'Ruby on Rails', 'Matchmaking System'),
- (47, 'Travel Reviews', 'User-generated', 'WordPress', 'Review Management'),
- (48, 'Bookstore', 'Friendly', 'Django', 'Inventory Management'),
- (49, 'Online Auctions', 'Competitive', 'PHP', 'Bid Management'),
- (50, 'Charity', 'Impactful', 'React', 'Donation Tracking'),
- (51, 'Remote Work', 'Collaborative', 'Zoom', 'Meeting Scheduling'),
- (52, 'Subscription Services', 'Flexible', 'Node.js', 'User Management'),
- (53, 'Podcasting', 'Engaging', 'HTML5', 'Episode Management'),
- (54, 'Freelancing', 'Professional', 'Laravel', 'Project Listings'),
- (55, 'Travel Community', 'Connected', 'React', 'Discussion Boards'),
- (56, 'Grocery Delivery', 'Convenient', 'Angular', 'Order Management'),
- (57, 'Online Tutoring', 'Personalized', 'Moodle', 'Session Scheduling'),

- (58, 'Community Forums', 'Interactive', 'Django', 'User Engagement'),
- (59, 'Music Sharing', 'Collaborative', 'Ruby on Rails', 'Playlist Sharing'),
- (60, 'Online Gaming', 'Interactive', 'Unity', 'Matchmaking'),
- (61, 'Movie Reviews', 'Community-driven', 'WordPress', 'Rating System'),
- (62, 'Online Learning', 'Flexible', 'PHP', 'Course Catalog'),
- (63, 'News Aggregator', 'Dynamic', 'Node.js', 'Feed Management'),
- (64, 'Event Ticketing', 'User-friendly', 'Laravel', 'Booking System'),
- (65, 'Online Surveys', 'Simple', 'JavaScript', 'Response Management'),
- (66, 'Fitness Tracker', 'Motivational', 'Angular', 'Progress Reports'),
- (67, 'Travel Deals', 'Exclusive', 'React', 'Offer Management'),
- (68, 'Personal Blogging', 'Creative', 'WordPress', 'Content Creation'),
- (69, 'Culinary School', 'Hands-on', 'Django', 'Class Scheduling'),
- (70, 'Charity Events', 'Impactful', 'PHP', 'Event Management'),
- (71, 'Skill Sharing', 'Community-driven', 'Node.js', 'User Profiles'),
- (72, 'Travel Tips', 'Informative', 'React', 'Content Sharing'),
- (73, 'Lifestyle Blog', 'Personal', 'WordPress', 'Post Management'),
- (74, 'Social Networking', 'Connected', 'Ruby on Rails', 'User Profiles'),
- (75, 'Fitness Community', 'Supportive', 'Moodle', 'Member Interaction'),
- (76, 'Digital Portfolio', 'Visual', 'Django', 'Project Showcase'),
- (77, 'Home Services', 'Convenient', 'PHP', 'Service Listings'),
- (78, 'Pet Services', 'Friendly', 'React Native', 'Appointment Booking'),
- (79, 'Wellness', 'Holistic', 'Angular', 'Resource Management'),
- (80, 'Fashion Store', 'Trendy', 'Laravel', 'Product Catalog'),
- (81, 'Personal Finance', 'Insightful', 'Python', 'Budget Tracking'),
- (82, 'Travel Management', 'Comprehensive', 'Node.js', 'Itinerary Planning'),
- (83, 'Freelance Marketplace', 'Dynamic', 'React', 'Job Listings'),
- (84, 'Online Workshops', 'Interactive', 'Zoom', 'Participant Management'),
- (85, 'Digital Art', 'Creative', 'HTML5', 'Gallery Display'),
- (86, 'Cultural Events', 'Engaging', 'PHP', 'Event Listings'),
- (87, 'Sustainable Living', 'Informative', 'Moodle', 'Resource Sharing'),
- (88, 'Mindfulness', 'Supportive', 'Django', 'Guided Sessions'),
- (89, 'Investment Hub', 'Informative', 'Ruby on Rails', 'Portfolio Tracking'),
- (90, 'Gourmet Food', 'Luxurious', 'React', 'Order Management'),
- (91, 'Web', 'Modern', 'React', 'Real-time chat');

The screenshot shows the pgAdmin 4 interface. In the Object Explorer on the left, the 'Tables' node under the 'public' schema is selected. In the central Query Editor, the following SQL query is run:

```
1 select * from platform
```

The Data Output tab displays the results of the query:

platformid [PK] integer	interface character varying (255)	design character varying (255)	tools character varying (255)	feature character varying (255)
1	2 Mobile	Minimal	Flutter	Notifications
2	3 Desktop	Classic	Electron	Analytics
3	4 Tablet	Responsive	Vue.js	Collaboration
4	5 E-commerce	Simple	Django	Online Shopping
5	6 Education	Interactive	Node.js	Live Classes
6	7 Health	User-friendly	Angular	Health Tracking
7	8 Food Delivery	Easy	Ionic	Order Tracking
8	9 Banking	Custom	React Native	Banking Management

Total rows: 90 of 90 Query complete 00:00:00.303 Ln 1, Col 23

7) Startup Table :

```
INSERT INTO Startup (StartupID, EntrepreneurID, Stage, MarketFunding, TeamSize)
VALUES
(101, 1, 'seed', 75000.00, 6),
(102, 2, 'early stage', 150000.00, 5),
(103, 3, 'growth', 300000.00, 10),
(104, 4, 'late stage', 500000.00, 12),
(105, 5, 'seed', 90000.00, 4),
(106, 6, 'early stage', 120000.00, 8),
(107, 7, 'growth', 350000.00, 15),
(108, 8, 'late stage', 700000.00, 20),
(109, 9, 'seed', 65000.00, 3),
(110, 10, 'early stage', 140000.00, 7),
(111, 11, 'growth', 400000.00, 18),
(112, 12, 'late stage', 950000.00, 22),
(113, 13, 'seed', 80000.00, 5),
(114, 14, 'early stage', 300000.00, 11),
(115, 15, 'growth', 500000.00, 16),
(116, 16, 'late stage', 1000000.00, 30),
(117, 17, 'seed', 75000.00, 7),
```

(118, 18, 'early stage', 220000.00, 10),
(119, 19, 'growth', 450000.00, 14),
(120, 20, 'late stage', 1050000.00, 27),
(121, 21, 'seed', 80000.00, 5),
(122, 22, 'early stage', 300000.00, 11),
(123, 23, 'growth', 500000.00, 16),
(124, 24, 'late stage', 1100000.00, 26),
(125, 25, 'seed', 82000.00, 8),
(126, 26, 'early stage', 230000.00, 10),
(127, 27, 'growth', 390000.00, 15),
(128, 28, 'late stage', 1150000.00, 23),
(129, 29, 'seed', 91000.00, 4),
(130, 30, 'early stage', 210000.00, 12),
(131, 31, 'growth', 480000.00, 17),
(132, 32, 'late stage', 1200000.00, 28),
(133, 33, 'seed', 95000.00, 9),
(134, 34, 'early stage', 290000.00, 13),
(135, 35, 'growth', 460000.00, 18),
(136, 36, 'late stage', 1350000.00, 29),
(137, 37, 'seed', 77000.00, 6),
(138, 38, 'early stage', 280000.00, 14),
(139, 39, 'growth', 450000.00, 16),
(140, 40, 'late stage', 1420000.00, 30),
(141, 41, 'seed', 84000.00, 8),
(142, 42, 'early stage', 260000.00, 12),
(143, 43, 'growth', 470000.00, 15),
(144, 44, 'late stage', 1300000.00, 27),
(145, 45, 'seed', 78000.00, 7),
(146, 46, 'early stage', 240000.00, 11),
(147, 47, 'growth', 520000.00, 19),
(148, 48, 'late stage', 1500000.00, 31),
(149, 49, 'seed', 89000.00, 5),
(150, 50, 'early stage', 310000.00, 14),
(151, 51, 'growth', 480000.00, 20),
(152, 52, 'late stage', 1250000.00, 25),
(153, 53, 'seed', 83000.00, 6),
(154, 54, 'early stage', 270000.00, 12),

(155, 55, 'growth', 510000.00, 19),
(156, 56, 'late stage', 1400000.00, 28),
(157, 57, 'seed', 95000.00, 8),
(158, 58, 'early stage', 350000.00, 15),
(159, 59, 'growth', 490000.00, 18),
(160, 60, 'late stage', 1550000.00, 30),
(161, 61, 'seed', 78000.00, 6),
(162, 62, 'early stage', 260000.00, 12),
(163, 63, 'growth', 470000.00, 20),
(164, 64, 'late stage', 1390000.00, 29),
(165, 65, 'seed', 80000.00, 5),
(166, 66, 'early stage', 230000.00, 11),
(167, 67, 'growth', 500000.00, 15),
(168, 68, 'late stage', 1100000.00, 26),
(169, 69, 'seed', 82000.00, 9),
(170, 70, 'early stage', 220000.00, 10),
(171, 71, 'growth', 400000.00, 15),
(172, 72, 'late stage', 960000.00, 24),
(173, 73, 'seed', 76000.00, 8),
(174, 74, 'early stage', 150000.00, 6),
(175, 75, 'growth', 450000.00, 12),
(176, 76, 'late stage', 1250000.00, 30),
(177, 77, 'seed', 68000.00, 5),
(178, 78, 'early stage', 200000.00, 7),
(179, 79, 'growth', 500000.00, 15),
(180, 80, 'late stage', 1400000.00, 26),
(181, 81, 'seed', 73000.00, 4),
(182, 82, 'early stage', 310000.00, 10),
(183, 83, 'seed', 40000.00, 15);

The screenshot shows the pgAdmin 4 interface. In the Object Explorer on the left, several databases are listed under the 'public' schema, including 'public', 'Aggregates', 'Collations', 'Domains', 'FTS Configurations', 'FTS Dictionaries', 'FTS Parsers', 'FTS Templates', 'Foreign Tables', 'Functions', 'Materialized Views', 'Operators', 'Procedures', 'Sequences', 'Tables', 'Trigger Functions', 'Types', and 'Views'. A specific table named 'startup' is selected.

In the main window, the SQL tab contains the query: `select * from startup;`. The Data Output tab displays the results of this query:

startupid	entrepreneurid	stage	marketfunding	teamsize
1	183	83	Seed	40000.00
2	101	1	seed	75000.00
3	102	2	early stage	150000.00
4	103	3	growth	300000.00
5	104	4	late stage	500000.00
6	105	5	seed	90000.00
7	106	6	early stage	120000.00
8	107	7	proto-type	90000.00

Total rows: 83 of 83 Query complete 00:00:00.074 Ln 1, Col 22

8) Users Table :

```
INSERT INTO Users (UserID, Preferences, Engagement, ActivityLevel) VALUES
(1, 'Health', 'High', 'Active'),
(2, 'Technology', 'Moderate', 'Inactive'),
(3, 'Movies', 'Low', 'Active'),
(4, 'Music', 'Moderate', 'Inactive'),
(5, 'Fashion', 'High', 'Active'),
(6, 'News', 'Low', 'Inactive'),
(7, 'Sports', 'Moderate', 'Active'),
(8, 'Health', 'High', 'Inactive'),
(9, 'E-commerce', 'Low', 'Active'),
(10, 'Social Media', 'Moderate', 'Inactive'),
(12, 'Gaming', 'Low', 'Inactive'),
(13, 'Education', 'Moderate', 'Active'),
(14, 'Travel', 'High', 'Inactive'),
(15, 'Technology', 'Low', 'Active'),
(16, 'Movies', 'Moderate', 'Inactive'),
(17, 'Music', 'High', 'Active'),
(18, 'Fashion', 'Low', 'Inactive'),
(19, 'News', 'Moderate', 'Active'),
(20, 'Sports', 'High', 'Inactive'),
(21, 'Health', 'Low', 'Active'),
```

- (22, 'E-commerce', 'Moderate', 'Inactive'),
- (23, 'Social Media', 'High', 'Active'),
- (24, 'Fintech', 'Low', 'Inactive'),
- (25, 'Gaming', 'Moderate', 'Active'),
- (26, 'Education', 'High', 'Inactive'),
- (27, 'Travel', 'Low', 'Active'),
- (28, 'Technology', 'Moderate', 'Inactive'),
- (29, 'Movies', 'High', 'Active'),
- (30, 'Music', 'Low', 'Inactive'),
- (31, 'Fashion', 'Moderate', 'Active'),
- (32, 'News', 'High', 'Inactive'),
- (33, 'Sports', 'Low', 'Active'),
- (34, 'Health', 'Moderate', 'Inactive'),
- (35, 'E-commerce', 'High', 'Active'),
- (36, 'Social Media', 'Low', 'Inactive'),
- (37, 'Fintech', 'Moderate', 'Active'),
- (38, 'Gaming', 'High', 'Inactive'),
- (39, 'Education', 'Low', 'Active'),
- (40, 'Travel', 'Moderate', 'Inactive'),
- (41, 'Technology', 'High', 'Active'),
- (42, 'Movies', 'Low', 'Inactive'),
- (43, 'Music', 'Moderate', 'Active'),
- (44, 'Fashion', 'High', 'Inactive'),
- (45, 'News', 'Low', 'Active'),
- (46, 'Sports', 'Moderate', 'Inactive'),
- (47, 'Health', 'High', 'Active'),
- (48, 'E-commerce', 'Low', 'Inactive'),
- (49, 'Social Media', 'Moderate', 'Active'),
- (50, 'Fintech', 'High', 'Inactive'),
- (51, 'Gaming', 'Low', 'Active'),
- (52, 'Education', 'Moderate', 'Inactive'),
- (53, 'Travel', 'High', 'Active'),
- (54, 'Technology', 'Low', 'Inactive'),
- (55, 'Movies', 'Moderate', 'Active'),
- (56, 'Music', 'High', 'Inactive'),
- (57, 'Fashion', 'Low', 'Active'),
- (58, 'News', 'Moderate', 'Inactive'),

- (59, 'Sports', 'High', 'Active'),
- (60, 'Health', 'Low', 'Inactive'),
- (61, 'E-commerce', 'Moderate', 'Active'),
- (62, 'Social Media', 'High', 'Inactive'),
- (63, 'Fintech', 'Low', 'Active'),
- (64, 'Gaming', 'Moderate', 'Inactive'),
- (65, 'Education', 'High', 'Active'),
- (66, 'Travel', 'Low', 'Inactive'),
- (67, 'Technology', 'Moderate', 'Active'),
- (68, 'Movies', 'High', 'Inactive'),
- (69, 'Music', 'Low', 'Active'),
- (70, 'Fashion', 'Moderate', 'Inactive'),
- (71, 'News', 'High', 'Active'),
- (72, 'Sports', 'Low', 'Inactive'),
- (73, 'Health', 'Moderate', 'Active'),
- (74, 'E-commerce', 'High', 'Inactive'),
- (75, 'Social Media', 'Low', 'Active'),
- (76, 'Fintech', 'Moderate', 'Inactive'),
- (77, 'Gaming', 'High', 'Active'),
- (78, 'Education', 'Low', 'Inactive'),
- (79, 'Travel', 'Moderate', 'Active'),
- (80, 'Technology', 'High', 'Inactive'),
- (81, 'Movies', 'Low', 'Active'),
- (82, 'Music', 'Moderate', 'Inactive'),
- (83, 'Fashion', 'High', 'Active'),
- (84, 'News', 'Low', 'Inactive'),
- (85, 'Sports', 'Moderate', 'Active'),
- (86, 'Health', 'High', 'Inactive'),
- (87, 'E-commerce', 'Low', 'Active'),
- (88, 'Social Media', 'Moderate', 'Inactive'),
- (89, 'Fintech', 'High', 'Active'),
- (90, 'Gaming', 'Low', 'Inactive'),
- (91, 'Education', 'Moderate', 'Active'),
- (92, 'Travel', 'High', 'Inactive'),
- (93, 'Technology', 'Low', 'Active'),
- (94, 'Movies', 'Moderate', 'Inactive'),
- (95, 'Music', 'High', 'Active'),

(96, 'Technology', 'High', 'Active');

user_id [PK]	preferences	engagement	activity_level
1	Technology	Moderate	Inactive
2	Movies	Low	Active
3	Music	Moderate	Inactive
4	Fashion	High	Active
5	News	Low	Inactive
6	Sports	Moderate	Active
7	Health	High	Inactive
8	Books	Low	Active
9	Technology	Moderate	Inactive

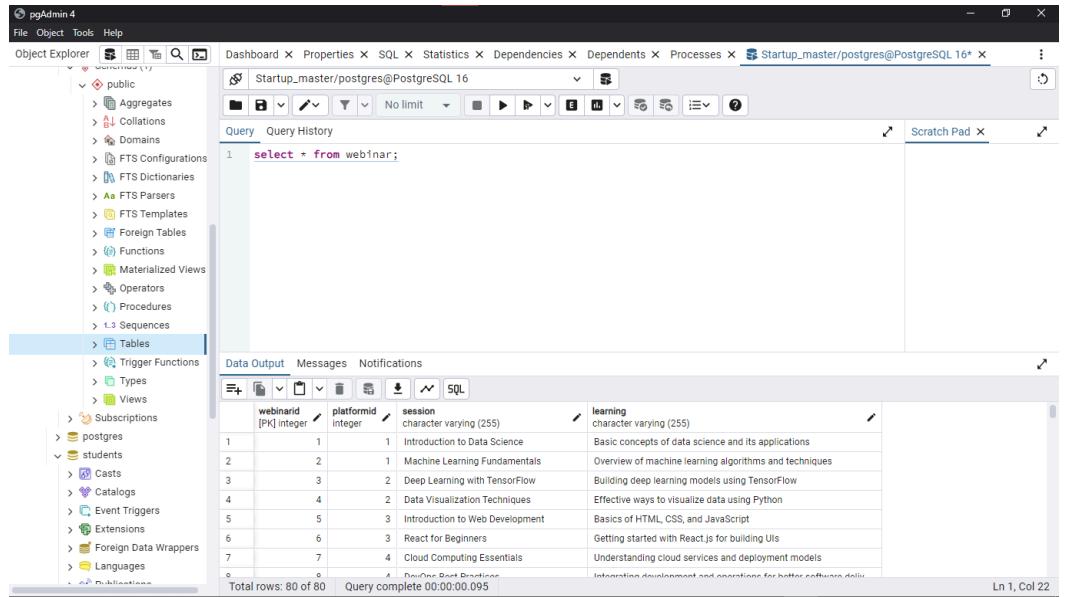
9) Webinar Table :

```
INSERT INTO Webinar (WebinarID, PlatformID, Session, Learning) VALUES
(1, 1, 'Introduction to Data Science', 'Basic concepts of data science and its applications'),
(2, 1, 'Machine Learning Fundamentals', 'Overview of machine learning algorithms and techniques'),
(3, 2, 'Deep Learning with TensorFlow', 'Building deep learning models using TensorFlow'),
(4, 2, 'Data Visualization Techniques', 'Effective ways to visualize data using Python'),
(5, 3, 'Introduction to Web Development', 'Basics of HTML, CSS, and JavaScript'),
(6, 3, 'React for Beginners', 'Getting started with React.js for building UIs'),
(7, 4, 'Cloud Computing Essentials', 'Understanding cloud services and deployment models'),
(8, 4, 'DevOps Best Practices', 'Integrating development and operations for better software delivery'),
(9, 5, 'Cybersecurity Basics', 'Introduction to cybersecurity principles and practices'),
(10, 5, 'Ethical Hacking', 'Techniques and tools used in ethical hacking'),
(11, 1, 'Artificial Intelligence in Business', 'AI applications in the business landscape'),
(12, 1, 'Natural Language Processing', 'Basics of NLP and its applications in AI'),
(13, 2, 'Big Data Technologies', 'Overview of big data frameworks and tools'),
(14, 2, 'Predictive Analytics', 'Using data to predict future outcomes'),
(15, 3, 'Mobile App Development', 'Introduction to developing mobile applications'),
(16, 3, 'JavaScript Frameworks', 'Exploring popular JavaScript frameworks'),
```

- (17, 4, 'Introduction to Blockchain', 'Understanding blockchain technology and its uses'),
- (18, 4, 'Internet of Things (IoT)', 'Basics of IoT and its impact on industries'),
- (19, 5, 'Data Privacy Regulations', 'Understanding GDPR and data privacy laws'),
- (20, 5, 'Network Security Fundamentals', 'Principles of securing networks and systems'),
- (21, 1, 'Software Development Lifecycle', 'Overview of the software development process'),
- (22, 1, 'Agile Methodologies', 'Introduction to Agile principles and practices'),
- (23, 2, 'Data Mining Techniques', 'Exploring techniques for data mining and analysis'),
- (24, 2, 'Image Processing with Python', 'Using Python for image processing tasks'),
- (25, 3, 'Creating RESTful APIs', 'Building APIs using REST principles'),
- (26, 3, 'Front-End Frameworks', 'Overview of front-end development frameworks'),
- (27, 4, 'Containerization with Docker', 'Getting started with Docker for container management'),
- (28, 4, 'Kubernetes for Beginners', 'Introduction to Kubernetes for orchestration'),
- (29, 5, 'Introduction to SQL', 'Basics of SQL and database management'),
- (30, 5, 'Advanced SQL Techniques', 'Exploring complex SQL queries and optimization'),
- (31, 1, 'Digital Marketing Strategies', 'Understanding digital marketing channels and strategies'),
- (32, 1, 'Content Marketing Best Practices', 'Creating and distributing valuable content'),
- (33, 2, 'User Experience (UX) Design', 'Principles of designing user-centered experiences'),
- (34, 2, 'Graphic Design Fundamentals', 'Basics of graphic design and tools used'),
- (35, 3, 'Java Programming Basics', 'Introduction to Java programming language'),
- (36, 3, 'Advanced Python Techniques', 'Deep dive into advanced features of Python'),
- (37, 4, 'Software Testing Strategies', 'Overview of software testing methodologies'),
- (38, 4, 'Continuous Integration and Delivery', 'Implementing CI/CD in software projects'),
- (39, 5, 'Introduction to Agile Project Management', 'Managing projects using Agile frameworks'),
- (40, 5, 'Risk Management in Projects', 'Identifying and managing risks in projects'),
- (41, 1, 'Financial Analysis for Startups', 'Understanding financial metrics for startups'),
- (42, 1, 'Fundraising Strategies', 'Approaches for raising capital for businesses'),
- (43, 2, 'Sustainable Business Practices', 'Exploring sustainability in business models'),
- (44, 2, 'Startup Pitching Techniques', 'How to effectively pitch your startup idea'),
- (45, 3, 'Understanding Cryptocurrency', 'Basics of cryptocurrency and blockchain technology'),
- (46, 3, 'Data Analytics for Business', 'Leveraging data analytics for business decisions'),

- (47, 4, 'Augmented Reality (AR) Basics', 'Introduction to AR technology and applications'),
(48, 4, 'Virtual Reality (VR) Development', 'Creating immersive experiences using VR'),
(49, 5, 'Introduction to APIs', 'Understanding what APIs are and how they work'),
(50, 5, 'API Security Best Practices', 'How to secure APIs against threats'),
(51, 1, 'Introduction to Graphic Design', 'Basics of graphic design and composition'),
(52, 1, 'Video Production Basics', 'Fundamentals of producing and editing videos'),
(53, 2, 'Introduction to Project Management', 'Understanding the principles of project management'),
(54, 2, 'Time Management Techniques', 'Strategies for managing time effectively'),
(55, 3, 'Principles of Marketing', 'Basics of marketing and its strategies'),
(56, 3, 'Branding Strategies', 'Creating and maintaining a strong brand'),
(57, 4, 'Web Security Fundamentals', 'Understanding web security threats and mitigation'),
(58, 4, 'Penetration Testing Basics', 'Introduction to penetration testing techniques'),
(59, 5, 'Data Analysis with R', 'Using R for data analysis and visualization'),
(60, 5, 'Statistics for Data Science', 'Key statistical concepts for data analysis'),
(61, 1, 'Email Marketing Strategies', 'Effective email marketing techniques'),
(62, 1, 'Search Engine Optimization (SEO)', 'Basics of optimizing websites for search engines'),
(63, 2, 'Leadership Skills for Managers', 'Developing leadership skills in management'),
(64, 2, 'Effective Communication Skills', 'Improving communication in the workplace'),
(65, 3, 'Fundamentals of Finance', 'Basics of financial management and analysis'),
(66, 3, 'Investing in Stocks', 'Introduction to stock market investing'),
(67, 4, 'Introduction to Game Development', 'Basics of creating video games'),
(68, 4, 'Unity Game Engine Basics', 'Getting started with Unity for game development'),
(69, 5, 'Scripting with Python', 'Learning to script and automate tasks with Python'),
(70, 5, 'Data Structures and Algorithms', 'Understanding data structures and algorithm concepts'),
(71, 1, 'Creating a Personal Brand', 'Building and managing your personal brand'),
(72, 1, 'Networking Skills', 'Effective networking strategies for professionals'),
(73, 2, 'Ethics in Technology', 'Understanding ethical considerations in technology'),
(74, 2, 'Digital Transformation', 'How businesses are transforming with digital technologies'),
(75, 3, 'Sales Strategies for Startups', 'Developing effective sales strategies'),
(76, 3, 'Customer Relationship Management', 'Basics of CRM systems and their benefits'),
(77, 4, 'Supply Chain Management Basics', 'Understanding supply chain processes'),

- (78, 4, 'Lean Management Principles', 'Implementing lean practices in business operations'),
 (79, 5, 'Public Speaking Skills', 'Improving public speaking and presentation skills'),
 (80, 5, 'Conflict Resolution Techniques', 'Strategies for resolving workplace conflicts');



The screenshot shows the pgAdmin 4 interface. In the Object Explorer on the left, under the 'public' schema, the 'Tables' node is selected, showing a list of tables including 'webinar'. In the central Query Editor window, the SQL command `select * from webinar;` is run, and the results are displayed in a Data Output grid. The grid has columns: webinarid [PK] integer, platformid integer, session character varying (255), and learning character varying (255). The data shows 80 rows of workshop details.

webinarid	platformid	session	learning
1	1	1	Introduction to Data Science Basic concepts of data science and its applications
2	2	1	Machine Learning Fundamentals Overview of machine learning algorithms and techniques
3	3	2	Deep Learning with TensorFlow Building deep learning models using TensorFlow
4	4	2	Data Visualization Techniques Effective ways to visualize data using Python
5	5	3	Introduction to Web Development Basics of HTML, CSS, and JavaScript
6	6	3	React for Beginners Getting started with React.js for building UIs
7	7	4	Cloud Computing Essentials Understanding cloud services and deployment models
8	8	4	DevOps Best Practices Integrating development and operations for better software delivery

10) Workshop Table :

```
INSERT INTO Workshop (WorkshopID, PlatformID, Knowledge, Location, Participants)
VALUES
(1, 1, 'Data Science Basics', 'New York', 25),
(2, 1, 'Machine Learning Workshop', 'San Francisco', 30),
(3, 2, 'Deep Learning Techniques', 'Los Angeles', 20),
(4, 2, 'Data Visualization Workshop', 'Chicago', 15),
(5, 3, 'Web Development Essentials', 'Houston', 40),
(6, 3, 'React Development', 'Phoenix', 35),
(7, 4, 'Cloud Computing Fundamentals', 'Seattle', 50),
(8, 4, 'DevOps Integration', 'Boston', 45),
(9, 5, 'Cybersecurity Essentials', 'Miami', 30),
(10, 5, 'Ethical Hacking Workshop', 'Dallas', 25),
(11, 1, 'AI in Business', 'Denver', 40),
(12, 1, 'Natural Language Processing', 'Atlanta', 20),
(13, 2, 'Big Data Analytics', 'San Diego', 15),
```

- (14, 2, 'Predictive Analytics Workshop', 'Portland', 50),
- (15, 3, 'Mobile App Development', 'Orlando', 30),
- (16, 3, 'JavaScript Frameworks', 'Philadelphia', 25),
- (17, 4, 'Blockchain Basics', 'Austin', 20),
- (18, 4, 'Internet of Things (IoT)', 'Baltimore', 35),
- (19, 5, 'Data Privacy and Security', 'Indianapolis', 40),
- (20, 5, 'Network Security', 'San Antonio', 30),
- (21, 1, 'Software Development Lifecycle', 'Las Vegas', 45),
- (22, 1, 'Agile Methodologies', 'Charlotte', 25),
- (23, 2, 'Data Mining Techniques', 'San Jose', 35),
- (24, 2, 'Image Processing Workshop', 'Nashville', 20),
- (25, 3, 'Creating RESTful APIs', 'Kansas City', 30),
- (26, 3, 'Front-End Frameworks', 'Columbus', 25),
- (27, 4, 'Containerization with Docker', 'Salt Lake City', 40),
- (28, 4, 'Kubernetes Basics', 'Milwaukee', 15),
- (29, 5, 'SQL Basics', 'Cincinnati', 30),
- (30, 5, 'Advanced SQL Techniques', 'Pittsburgh', 20),
- (31, 1, 'Digital Marketing Basics', 'New Orleans', 50),
- (32, 1, 'Content Marketing Workshop', 'Virginia Beach', 25),
- (33, 2, 'User Experience (UX) Design', 'Raleigh', 35),
- (34, 2, 'Graphic Design Fundamentals', 'Tucson', 20),
- (35, 3, 'Java Programming Basics', 'Fresno', 40),
- (36, 3, 'Advanced Python Techniques', 'Sacramento', 30),
- (37, 4, 'Software Testing Strategies', 'Long Beach', 45),
- (38, 4, 'Continuous Integration and Delivery', 'Mesa', 20),
- (39, 5, 'Agile Project Management', 'Virginia Beach', 30),
- (40, 5, 'Risk Management in Projects', 'Atlanta', 20),
- (41, 1, 'Financial Analysis for Startups', 'Detroit', 35),
- (42, 1, 'Fundraising Strategies', 'Omaha', 40),
- (43, 2, 'Sustainable Business Practices', 'Kansas City', 30),
- (44, 2, 'Startup Pitching Techniques', 'Colorado Springs', 25),
- (45, 3, 'Understanding Cryptocurrency', 'Oklahoma City', 20),
- (46, 3, 'Data Analytics for Business', 'Tampa', 35),
- (47, 4, 'Augmented Reality (AR) Basics', 'Atlanta', 30),
- (48, 4, 'Virtual Reality (VR) Development', 'Bakersfield', 25),
- (49, 5, 'APIs for Beginners', 'Miami', 40),
- (50, 5, 'API Security Best Practices', 'Tucson', 20),

- (51, 1, 'Graphic Design Basics', 'Cleveland', 30),
- (52, 1, 'Video Production Workshop', 'Anaheim', 25),
- (53, 2, 'Project Management Fundamentals', 'Henderson', 20),
- (54, 2, 'Time Management Techniques', 'St. Louis', 30),
- (55, 3, 'Principles of Marketing', 'Cincinnati', 40),
- (56, 3, 'Branding Strategies', 'Pittsburgh', 35),
- (57, 4, 'Web Security Fundamentals', 'Newark', 30),
- (58, 4, 'Penetration Testing Basics', 'Chula Vista', 25),
- (59, 5, 'Data Analysis with R', 'Santa Ana', 20),
- (60, 5, 'Statistics for Data Science', 'Corpus Christi', 35),
- (61, 1, 'Email Marketing Strategies', 'Riverside', 40),
- (62, 1, 'Search Engine Optimization (SEO)', 'Stockton', 30),
- (63, 2, 'Leadership Skills for Managers', 'Baton Rouge', 25),
- (64, 2, 'Effective Communication Skills', 'Birmingham', 20),
- (65, 3, 'Fundamentals of Finance', 'Montgomery', 35),
- (66, 3, 'Investing in Stocks', 'Little Rock', 30),
- (67, 4, 'Game Development Basics', 'Des Moines', 20),
- (68, 4, 'Unity Game Engine Basics', 'Grand Rapids', 25),
- (69, 5, 'Scripting with Python', 'Rochester', 40),
- (70, 5, 'Data Structures and Algorithms', 'Richmond', 30),
- (71, 1, 'Creating a Personal Brand', 'Boise', 35),
- (72, 1, 'Networking Skills', 'Salt Lake City', 20),
- (73, 2, 'Ethics in Technology', 'Huntington Beach', 25),
- (74, 2, 'Digital Transformation', 'Frisco', 30),
- (75, 3, 'Sales Strategies for Startups', 'Knoxville', 40),
- (76, 3, 'Customer Relationship Management', 'Oxnard', 25),
- (77, 4, 'Supply Chain Management Basics', 'Springfield', 30),
- (78, 4, 'Lean Management Principles', 'Peoria', 20),
- (79, 5, 'Public Speaking Skills', 'Chattanooga', 40),
- (80, 5, 'Conflict Resolution Techniques', 'Cape Coral', 25),
- (81, 1, 'Team Building Strategies', 'Lancaster', 30),
- (82, 1, 'Negotiation Skills Workshop', 'Tallahassee', 35),
- (83, 2, 'Strategic Planning', 'South Bend', 20),
- (84, 2, 'Innovative Thinking', 'Waterbury', 25),
- (85, 3, 'Health & Safety Regulations', 'Billings', 40),
- (86, 3, 'Business Ethics', 'Bellingham', 30),
- (87, 4, 'E-commerce Strategies', 'Macon', 25),

- (88, 4, 'Retail Management', 'Nampa', 20),
(89, 5, 'Social Media Marketing', 'Kennewick', 35),
(90, 5, 'Event Planning Essentials', 'Gresham', 30);

The screenshot shows the pgAdmin 4 interface. On the left is the Object Explorer tree, which includes sections for public, postgres, students, and other database objects like Aggregates, Collations, Domains, FTS Configurations, FTS Dictionaries, FTS Parsers, FTS Templates, Foreign Tables, Functions, Materialized Views, Operators, Procedures, Sequences, Tables, Trigger Functions, Types, and Views. A 'Tables' node under 'students' is currently selected. The main area contains a SQL query window with the command 'select * from workshop;'. Below it is a Data Output grid displaying the results of the query:

workshopid	platformid	knowledge	location	participants
1	1	1 Data Science Basics	New York	25
2	2	1 Machine Learning Workshop	San Francisco	30
3	3	2 Deep Learning Techniques	Los Angeles	20
4	4	2 Data Visualization Workshop	Chicago	15
5	5	3 Web Development Essentials	Houston	40
6	6	3 React Development	Phoenix	35
7	7	4 Cloud Computing Fundamentals	Seattle	50
8	8	4 Docker Internation	Denton	45

Total rows: 90 of 90 Query complete 00:00:00.078 Ln 1, Col 23

3.SQL Queries

- Simple Queries

1. Select All Platforms

The screenshot shows a SQL query interface with the following details:

Query Tab:

```
1 SELECT * FROM Platform;
2
```

Data Output Tab:

	platformid [PK] integer	interface character varying (255)	design character varying (255)	tools character varying (255)	feature character varying (255)
1	1	Web	Modern	React	Chat
2	2	Mobile	Minimal	Flutter	Notifications
3	3	Desktop	Classic	Electron	Analytics
4	4	Tablet	Responsive	Vue.js	Collaboration
5	5	E-commerce	Simple	Django	Online Shopping
6	6	Education	Interactive	Node.js	Live Classes
7	7	Health	User-friendly	Angular	Health Tracking
8	8	Food Delivery	Fancy	Ionic	Order Tracking

Total rows: 90 of 90 Query complete 00:00:00.494 Ln 2, Col 1

2. Insert a New Platform

The screenshot shows a SQL query interface with the following details:

Query Tab:

```
1 v INSERT INTO Platform (PlatformID, Interface, Design, Tools, Feature)
2 VALUES (91, 'Web', 'Modern', 'React', 'Real-time chat');
3
```

Data Output Tab:

	platformid [PK] integer	interface character varying (255)	design character varying (255)	tools character varying (255)	feature character varying (255)
1	91	Web	Modern	React	Real-time chat

INSERT 0 1 Query returned successfully in 145 msec.

Total rows: 90 of 90 Query complete 00:00:00.145 Ln 2, Col 11

	platformid [PK] integer	interface character varying (255)	design character varying (255)	tools character varying (255)	feature character varying (255)
84		Online Workshops	Creative	Zoom	Participant Management
85	85	Digital Art	Creative	HTML5	Gallery Display
86	86	Cultural Events	Engaging	PHP	Event Listings
87	87	Sustainable Living	Informative	Moodle	Resource Sharing
88	88	Mindfulness	Supportive	Django	Guided Sessions
89	89	Investment Hub	Informative	Ruby on Rails	Portfolio Tracking
90	90	Gourmet Food	Luxurious	React	Order Management
91	91	Web	Modern	React	Real-time chat

Total rows: 91 of 91 Query complete 00:00:00.158

3. Update a Platform's Design

Query Query History

```
1 ✓ UPDATE Platform
2   SET Design = 'Minimalist'
3   WHERE PlatformID = 1;
4
```

Data Output Messages Notifications

UPDATE 1

Query returned successfully in 92 msec.

Total rows: 91 of 91 Query complete 00:00:00.092

Ln 4, Col 1

	platformid [PK] integer	interface character varying (255)	design character varying (255)	tools character varying (255)	feature character varying (255)
84		Digital Art	Creative	HTML5	Gallery Display
85	86	Cultural Events	Engaging	PHP	Event Listings
86	87	Sustainable Living	Informative	Moodle	Resource Sharing
87	88	Mindfulness	Supportive	Django	Guided Sessions
88	89	Investment Hub	Informative	Ruby on Rails	Portfolio Tracking
89	90	Gourmet Food	Luxurious	React	Order Management
90	91	Web	Modern	React	Real-time chat
91	1	Web	Minimalist	React	Chat

Total rows: 91 of 91 Query complete 00:00:00.119

4. Delete a Platform

Query Query History Scratch Pad

```
1 ▾ DELETE FROM Platform
2 WHERE PlatformID = 25;
3
```

Data Output Messages Notifications

DELETE 1

Query returned successfully in 198 msec.

Total rows: 91 of 91 Query complete 00:00:00.198 Ln 2, Col 22

	platformid [PK] integer	interface character varying (255)	design character varying (255)	tools character varying (255)	feature character varying (255)
20	21	Business	Energetic	Angular	Market Research
21	22	E-learning	Engaging	Moodle	Course Management
22	23	Real Estate	Modern	Laravel	Property Listings
23	24	Online Grocery	Convenient	React Native	Shopping Cart
24	26	Local Guides	Informative	Django	Guide Listings
25	27	Music Streaming	Interactive	Node.js	Playlist Creation
26	28	Job Portal	Professional	PHP	Resume Builder
27	29	Investment Tracking	Secure	Java	Portfolio Analysis

Total rows: 90 of 90 Query complete 00:00:00.097

5. Count Platforms

Query Query History

```
1  SELECT COUNT(*) FROM Platform;
2
```

Data Output Messages Notifications

	count bigint
1	90

Total rows: 1 of 1 Query complete 00:00:00.075

6. Select All Users :

Query Query History

```
1  SELECT * FROM Users;
2
```

Data Output Messages Notifications

userid [PK] integer	preferences character varying (255)	engagement character varying (255)	activitylevel character varying (255)
1	1 Health	High	Active
2	2 Technology	Moderate	Inactive
3	3 Movies	Low	Active
4	4 Music	Moderate	Inactive
5	5 Fashion	High	Active
6	6 News	Low	Inactive
7	7 Sports	Moderate	Active
8	8 Health	High	Inactive

Total rows: 95 of 95 Query complete 00:00:00.109

7. Insert a New User

Query Query History

```
1 ✓ INSERT INTO Users (UserID, Preferences, Engagement, ActivityLevel)
2 VALUES (96, 'Technology', 'High', 'Active');
3
```

Data Output Messages Notifications

INSERT 0 1

Query returned successfully in 81 msec.

Total rows: 95 of 95 Query complete 00:00:00.081

	userid [PK] integer	preferences character varying (255)	engagement character varying (255)	activitylevel character varying (255)
90	90	Gaming	Low	Inactive
91	91	Education	Moderate	Active
92	92	Travel	High	Inactive
93	93	Technology	Low	Active
94	94	Movies	Moderate	Inactive
95	95	Music	High	Active
96	96	Technology	High	Active

Total rows: 96 of 96 Query complete 00:00:00.140

8. Update a User's Preferences

Query Query History Scratch Pad

```
1 ✓ UPDATE Users
2   SET Preferences = 'Health'
3   WHERE UserID = 1;
4
```

Data Output Messages Notifications

UPDATE 1

Query returned successfully in 92 msec.

Total rows: 96 of 96 Query complete 00:00:00.092 Ln 4, Col 1

	userid [PK] integer	preferences character varying (255)	engagement character varying (255)	activitylevel character varying (255)
89	90	Gaming	Low	Inactive
90	91	Education	Moderate	Active
91	92	Travel	High	Inactive
92	93	Technology	Low	Active
93	94	Movies	Moderate	Inactive
94	95	Music	High	Active
95	96	Technology	High	Active
96	1	Health	High	Active

Total rows: 96 of 96 Query complete 00:00:00.092

9. Delete a User

The screenshot shows a database interface with a query editor and a results viewer.

Query Editor:

```

1 ✓ DELETE FROM Users
2 WHERE UserID = 1;
3

```

Data Output:

DELETE 1

Query returned successfully in 107 msec.

Total rows: 96 of 96 | Query complete 00:00:00.107 | Ln 2, Col 17

userid [PK] integer	preferences character varying (255)	engagement character varying (255)	activitylevel character varying (255)
7	8 Health	High	Inactive
8	9 E-commerce	Low	Active
9	10 Social Media	Moderate	Inactive
10	12 Gaming	Low	Inactive
11	13 Education	Moderate	Active
12	14 Travel	High	Inactive
13	15 Technology	Low	Active
14	16 Movies	Moderate	Inactive

Total rows: 95 of 95 | Query complete 00:00:00.112

10.Count Users

The screenshot shows a SQL query interface with the following details:

- Query Tab:** Contains the SQL command: `SELECT COUNT(*) FROM Users;`
- Data Output Tab:** Shows the results of the query:

	count	bigint
1	95	
- Toolbar:** Includes icons for file operations (New, Open, Save, Print, Copy, Paste, Find, Cut, Paste, Delete, Undo, Redo), a lock icon, and tabs for Data Output, Messages, and Notifications.

11. Select All Entrepreneurs

The screenshot shows a SQL query interface with the following details:

- Query Tab:** Contains the SQL command: `SELECT * FROM Entrepreneur;`
- Data Output Tab:** Shows the results of the query, displaying 92 rows from the Entrepreneur table:

entrepreneurid [PK] integer	knowledge character varying (255)	idea character varying (255)	experience character varying (255)	network character varying (255)
1	1 Business Management	E-commerce Platform	5 Years	Strong
2	2 Marketing	Social Media Consultancy	3 Years	Moderate
3	3 Finance	Investment App	7 Years	Extensive
4	4 Technology	Health Tech Startup	4 Years	Strong
5	5 Product Development	Subscription Box Service	2 Years	Weak
6	6 Data Analytics	Data Visualization Tool	6 Years	Strong
7	7 Education	Online Learning Platform	5 Years	Moderate
8	8 Healthcare	Telehealth Service	9 Years	Extensive
- Toolbar:** Includes icons for file operations (New, Open, Save, Print, Copy, Paste, Find, Cut, Paste, Delete, Undo, Redo), a lock icon, and tabs for Data Output, Messages, and Notifications.
- Scratch Pad:** A panel on the right side of the interface.

12.Insert a New Entrepreneur

Query History

```
1 ✓ INSERT INTO Entrepreneur (EntrepreneurID, Knowledge, Idea, Experience, Network)
2 VALUES (93, 'Tech', 'App Development', '5 years', 'Strong');
3
```

Data Output Messages Notifications

INSERT 0 1

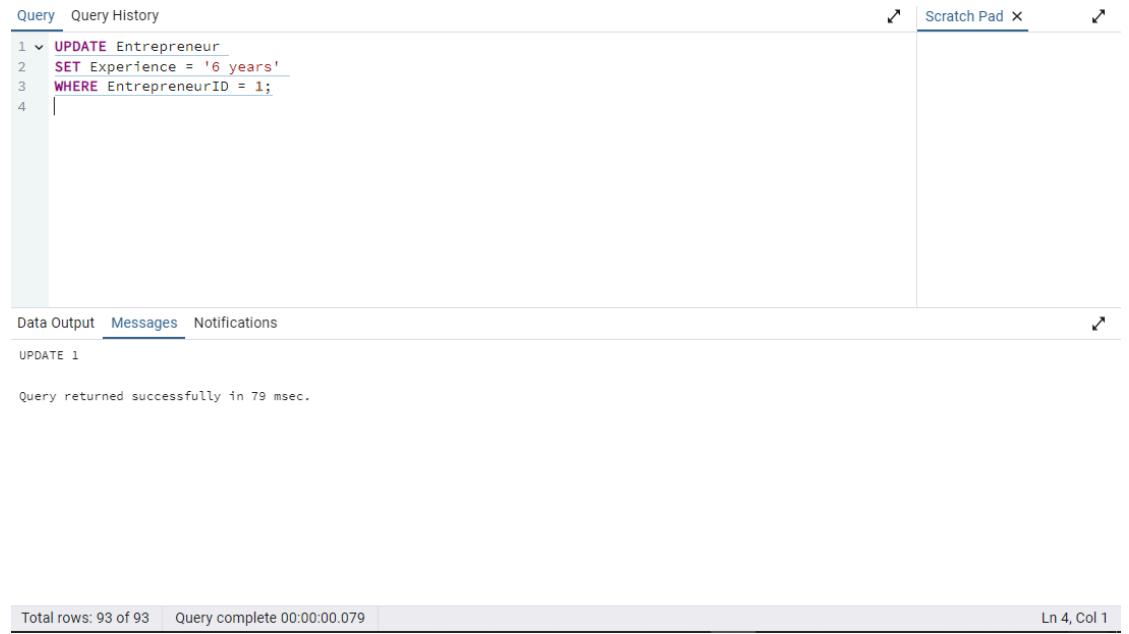
Query returned successfully in 69 msec.

Total rows: 92 of 92 Query complete 00:00:00.069 Ln 2, Col 11

entrepreneurid [PK] integer	knowledge character varying (255)	idea character varying (255)	experience character varying (255)	network character varying (255)
86	86	Never	Never Experienced	Weak
87	87	Retail	Experience-based Shopping	5 Years
88	88	Finance	Financial Literacy Programs	4 Years
89	89	Healthcare	Health Coaching	3 Years
90	90	Education	Online Skill Development	5 Years
91	91	Tech	Data Security Solutions	4 Years
92	92	Social Media	Social Media Monitoring	6 Years
93	93	Tech	App Development	5 years

Total rows: 93 of 93 Query complete 00:00:00.096

13.Update an Entrepreneur's Experience



```

Query  Query History
1 UPDATE Entrepreneur
2   SET Experience = '6 years'
3 WHERE EntrepreneurID = 1;
4

Data Output  Messages  Notifications
UPDATE 1

Query returned successfully in 79 msec.

Total rows: 93 of 93  Query complete 00:00:00.079  Ln 4, Col 1

```

	entrepreneurid [PK] integer	knowledge character varying (255)	idea character varying (255) Experience based shopping	experience character varying (255) 3 years	network character varying (255) Strong
86	87	88	Finance	Financial Literacy Programs	4 Years
87	88	89	Healthcare	Health Coaching	3 Years
88	89	90	Education	Online Skill Development	5 Years
89	90	91	Tech	Data Security Solutions	Moderate
90	91	92	Social Media	Social Media Monitoring	Weak
91	92	93	Tech	App Development	Strong
92	93	1	Business Management	E-commerce Platform	5 years
93					Strong

Total rows: 93 of 93 Query complete 00:00:00.093

14. Delete an Entrepreneur

The screenshot shows a database interface with a query editor and a message log.

Query Editor:

```
1 ✓ DELETE FROM Entrepreneur
2 WHERE EntrepreneurID = 93;
3
```

Message Log:

Data Output Messages Notifications

DELETE 1

Query returned successfully in 161 msec.

Total rows: 93 of 93 Query complete 00:00:00.161 Ln 2, Col 26

15. Count Entrepreneurs

The screenshot shows a SQL query interface with two tabs: "Query" and "Query History". The "Query" tab contains the following SQL code:

```

1  SELECT COUNT(*) FROM Entrepreneur;
2

```

The "Data Output" tab displays the results of the query:

	count	bigint
1		92

16. Select All Startups

The screenshot shows a SQL query interface with two tabs: "Query" and "Query History". The "Query" tab contains the following SQL code:

```

1  SELECT * FROM Startup;
2

```

The "Data Output" tab displays the results of the query, showing 82 rows of data from the "Startup" table:

startupid	[PK] integer	entrepreneurid	integer	stage	character varying (255)	marketfunding	numeric (15,2)	teamsize	integer
1	101			1	seed		75000.00	6	
2	102			2	early stage		150000.00	5	
3	103			3	growth		300000.00	10	
4	104			4	late stage		500000.00	12	
5	105			5	seed		90000.00	4	
6	106			6	early stage		120000.00	8	
7	107			7	growth		350000.00	15	
8	108			8	late stage		700000.00	20	

At the bottom of the interface, the status bar shows: "Total rows: 82 of 82 Query complete 00:00:00.202 Ln 2, Col 1".

17. Insert a New Startup

The screenshot shows a database interface with a query editor and a results viewer. The query editor contains the following SQL code:

```
1 v INSERT INTO Startup (StartupID, EntrepreneurID, Stage, MarketFunding, TeamSize)
2   VALUES (183, 83, 'Seed', 50000.00, 3);
3
```

The results pane shows the output of the query:

```
INSERT 0 1
Query returned successfully in 87 msec.
```

Total rows: 82 of 82 | Query complete 00:00:00.087 | Ln 2, Col 16

The screenshot shows a table with the following columns and data:

	startupid [PK] integer	entrepreneurid integer	stage character varying (255)	marketfunding numeric (15,2)	teamsize integer
1	183	83	Seed	50000.00	3
2	101	1	seed	75000.00	6
3	102	2	early stage	150000.00	5
4	103	3	growth	300000.00	10
5	104	4	late stage	500000.00	12
6	105	5	seed	90000.00	4
7	106	6	early stage	120000.00	8
8	107	7	growth	250000.00	15

Total rows: 83 of 83 | Query complete 00:00:00.159

18. Update a Startup's Stage

The screenshot shows a database query interface. The 'Query' tab is active, displaying the following SQL code:

```

1 ✓ UPDATE Startup_
2   SET Stage = 'Series A'
3 WHERE StartupID = 183;
4

```

Below the query, the results show:

UPDATE 1
Query returned successfully in 76 msec.

Total rows: 83 of 83 | Query complete 00:00:00.076 | Ln 3, Col 22

	startupid [PK] integer	entrepreneurid integer	stage character varying (255)	marketfunding numeric (15,2)	teamsize integer	
1	183	83	Series A	50000.00	3	
2	101	1	seed	75000.00	6	
3	102	2	early stage	150000.00	5	
4	103	3	growth	300000.00	10	
5	104	4	late stage	500000.00	12	
6	105	5	seed	90000.00	4	
7	106	6	early stage	120000.00	8	
8	107	7	growth	250000.00	15	

Total rows: 83 of 83 | Query complete 00:00:00.142

19. Delete a Startup

The screenshot shows a SQL query editor interface. The top bar has tabs for 'Query' (which is selected) and 'Query History'. Below the tabs is a code editor area containing the following SQL code:

```
1 v DELETE FROM Startup
2 WHERE StartupID = 183;
3
```

Below the code editor are three tabs: 'Data Output', 'Messages' (which is selected), and 'Notifications'. The 'Messages' tab displays the output of the query:

```
DELETE 1
```

Below the message is a note: "Query returned successfully in 127 msec."

At the bottom of the interface, there is a status bar with the following information: "Total rows: 83 of 83" and "Query complete 00:00:00.127". On the far right of the status bar, it says "Ln 2, Col 22".

20. Count Startups

The screenshot shows a SQL query editor interface. The top bar has tabs for 'Query' (selected) and 'Query History'. Below the tabs is a code editor area containing the following SQL code:

```
1 SELECT * FROM Startup;
2 SELECT COUNT(*) FROM Startup;
3
```

Below the code editor are three tabs: 'Data Output' (selected), 'Messages', and 'Notifications'. The 'Data Output' tab displays the results of the second query:

	count	bigint
1		82

- Complex Query

21. Join Startups with Entrepreneurs

Query Query History

```

1 v SELECT Startup.StartupID, Entrepreneur.Knowledge, Startup.Stage
2 FROM Startup
3 JOIN Entrepreneur ON Startup.EntrepreneurID = Entrepreneur.EntrepreneurID;
4

```

Data Output Messages Notifications

	startupid	knowledge	stage
1	101	Business Management	seed
2	102	Marketing	early stage
3	103	Finance	growth
4	104	Technology	late stage
5	105	Product Development	seed
6	106	Data Analytics	early stage
7	107	Education	growth
8	108	Healthcare	late stage

Total rows: 82 of 82 Query complete 00:00:00.078 Ln 4, Col 1

22. Select Investors with Market Opportunities

Query Query History

```

1 v SELECT InvestorID, MarketOpportunities
2 FROM Investor
3 WHERE Finance > 500000.00;
4

```

Data Output Messages Notifications

	investorid	marketopportunities
--	------------	---------------------

Total rows: 0 of 0 Query complete 00:00:00.194

23 Count Startups per Entrepreneur

The screenshot shows a SQL query results window. The query is:

```

1 v SELECT EntrepreneurID, COUNT(*) AS StartupCount
2   FROM Startup
3   GROUP BY EntrepreneurID;
4

```

The results table has two columns: `entrepreneurid` and `startupcount`. The data is:

entrepreneurid	startupcount
1	74
2	54
3	29
4	71
5	68
6	4
7	34
8	1

Total rows: 82 of 82 | Query complete 00:00:00.144 | Ln 4, Col 1

24. Find Platforms Used in Webinars

The screenshot shows a SQL query results window. The query is:

```

1 v SELECT DISTINCT Platform.Interface
2   FROM Webinar
3   JOIN Platform ON Webinar.PlatformID = Platform.PlatformID;
4

```

The results table has one column: `interface`. The data is:

interface
Tablet
Mobile
Desktop
E-commerce
Web

Total rows: 5 of 5 | Query complete 00:00:00.096

25. Total Market Funding for Startups

The screenshot shows a SQL query interface with the following details:

Query History:

```
1 SELECT SUM(MarketFunding) AS TotalFunding
2 FROM Startup;
3
```

Data Output:

	totalfunding
1	39326000.00

Messages:

Total rows: 1 of 1 | Query complete 00:00:00.129

26. Average Team Size by Stage

The screenshot shows a SQL query interface with the following details:

Query History:

```
1 SELECT Stage, AVG(TeamSize) AS AverageTeamSize
2 FROM Startup
3 GROUP BY Stage;
4
```

Data Output:

stage	averageteamsize
seed	6.0952380952380952
late stage	26.150000000000000000
early stage	10.5238095238095238
growth	16.150000000000000000

Messages:

Total rows: 4 of 4 | Query complete 00:00:00.177

27. Select Webinars with a Specific Learning Topic

The screenshot shows a SQL query interface with the following details:

Query History:

```
1 ✓ SELECT WebinarID, Session
2 FROM Webinar
3 WHERE Learning LIKE '%SQL%';
4
```

Data Output:

webinarid	session
1	29 Introduction to SQL
2	30 Advanced SQL Techniques

Total rows: 2 of 2 | Query complete 00:00:00.182 | Ln 3, Col 26

28. Select Users Based on Engagement Level

The screenshot shows a SQL query interface with the following details:

Query History:

```
1 ✓ SELECT UserID
2 FROM Users
3 WHERE Engagement = 'High' AND ActivityLevel = 'Active';
4
```

Data Output:

userid
1
2
3
4
5
6
7
17
23
29
35
41
47

Total rows: 17 of 17 | Query complete 00:00:00.109

29. Find Workshops with More Than 15 Participants

Query Query History

```
1 ✓ SELECT WorkshopID, Knowledge
2   FROM Workshop
3   WHERE Participants > 15;
4
```

Data Output Messages Notifications

workshopid [PK] integer knowledge character varying (255)

workshopid	knowledge
1	Data Science Basics
2	Machine Learning Workshop
3	Deep Learning Techniques
4	Web Development Essentials
5	React Development
6	Cloud Computing Fundamentals
7	DevOps Integration
8	Cybersecurity Essentials

Total rows: 87 of 87 Query complete 00:00:00.206

30. Join Device and Users to Find Tools Used by Active Users

The screenshot shows a SQL query interface with the following details:

- Query Editor:** Contains the following SQL code:


```

1 v SELECT Device.Tools
2 FROM Device
3 JOIN Users ON Device.UserID = Users.UserID
4 WHERE Users.ActivityLevel = 'Active';
5
      
```
- Data Output:** Shows the results of the query in a table format. The table has two columns: **tools** (character varying (255)) and **Count** (integer). The data is as follows:

tools	Count
Smartphone	1
Tablet	2
Desktop PC	3
Laptop	4
Tablet	5
Laptop	6
Smartphone	7
Total	41
- Messages:** No messages are present.
- Notifications:** No notifications are present.
- Scratch Pad:** An empty scratch pad is shown.
- Status Bar:** Shows "Total rows: 41 of 41" and "Query complete 00:00:00.173".
- Bottom Right:** Shows "Ln 5, Col 1".

31. Select Startups Seeking Specific Investor Opportunities

The screenshot shows a SQL query interface with the following details:

- Query Editor:** Contains the following complex SQL code:


```

1 v SELECT StartupID, Demand
2 FROM Market
3 WHERE InvestorID IN (
4   SELECT InvestorID
5   FROM Investor
6   WHERE MarketOpportunities = 'Digital Health'
7 );
8
      
```
- Data Output:** Shows the results of the query in a table format. The table has two columns: **startupid** (integer) and **demand** (character varying (255)). The data is as follows:

startupid	demand
1	Moderate
- Messages:** No messages are present.
- Notifications:** No notifications are present.
- Scratch Pad:** An empty scratch pad is shown.

32. Find Analysis Records for a Specific Startup

The screenshot shows a SQL query interface with the following details:

- Query:**

```
1 v SELECT AnalysisID, Data
2 FROM Analysis
3 WHERE StartupID = 101;
4
```
- Data Output:**

	analysisid	data
1	[PK] integer	character varying (255)
1	1	Sales Data
- Status Bar:**

Total rows: 1 of 1 Query complete 00:00:00.097 Ln 3, Col 22

33. Retrieve each StartupID along with entrepreneur's Knowledge

The screenshot shows a SQL query interface with the following details:

- Query:**

```
1 v SELECT s.StartupID, e.Knowledge
2 FROM Startup s
3 JOIN Entrepreneur e ON s.EntrepreneurID = e.EntrepreneurID;
4
```
- Data Output:**

	startupid	knowledge
1	101	Business Management
2	102	Marketing
3	103	Finance
4	104	Technology
5	105	Product Development
6	106	Data Analytics
7	107	Education
8	108	Leadership
- Status Bar:**

Total rows: 82 of 82 Query complete 00:00:00.345 Ln 4, Col 1

34. List Devices Used by Users with Specific Preferences

Query Query History Scratch Pad

```

1 v SELECT d.DeviceID, d.Tools
2   FROM Device d
3   JOIN Users u ON d.UserID = u.UserID
4 WHERE u.Preferences = 'Technology';
5

```

Data Output Messages Notifications

deviceid	tools
1	Laptop
2	Laptop
3	Smartwatch
4	Smartphone
5	Tablet
6	Laptop
7	Smartwatch

Total rows: 7 of 7 Query complete 00:00:00.107 Ln 5, Col 1

35. List the StartupID and Market Funding for startups with above-average funding.

Query Query History Scratch Pad

```

1 v SELECT StartupID, MarketFunding
2   FROM Startup
3 WHERE MarketFunding > (SELECT AVG(MarketFunding) FROM Startup);
4

```

Data Output Messages Notifications

startupid	marketfunding
104	500000.00
108	700000.00
112	950000.00
115	500000.00
116	1000000.00
120	1050000.00
123	500000.00
124	1100000.00

Total rows: 29 of 29 Query complete 00:00:00.093 Ln 4, Col 1

36. Find the Most Popular Platform in Webinars

The screenshot shows a SQL query being run in a database environment. The query is:

```

1 v SELECT PlatformID, COUNT(*) AS WebinarCount
2   FROM Webinar
3   GROUP BY PlatformID
4 ORDER BY WebinarCount DESC
5 LIMIT 1;
6
7

```

The results are displayed in a table:

platformid	webinarcount
1	16

At the bottom of the interface, status messages indicate "Total rows: 1 of 1" and "Query complete 00:00:00.182".

37. Get Investors with Finance Less Than the Average

The screenshot shows a SQL query being run in a database environment. The query is:

```

1 v SELECT InvestorID, Finance
2   FROM Investor
3 WHERE Finance < (SELECT AVG(Finance) FROM Investor);
4

```

The results are displayed in a table:

investorid	finance
1	50000.00
2	60000.00
3	30000.00
4	45000.00
5	20000.00
6	35000.00
7	50000.00
8	25000.00

At the bottom of the interface, status messages indicate "Total rows: 40 of 40" and "Query complete 00:00:00.092".

38. Find Entrepreneurs Who Have More Than 2 Startups

The screenshot shows a SQL query editor interface. The query window contains the following SQL code:

```

1 v SELECT EntrepreneurID, COUNT(*) AS StartupCount
2   FROM Startup
3   GROUP BY EntrepreneurID
4   HAVING COUNT(*) > 2;
5
6

```

The Data Output tab shows the results of the query:

entrepreneurid	startupcount
integer	bigint

Below the table, the status bar indicates "Total rows: 0 of 0" and "Query complete 00:00:00.115".

39. Find Users Who Are Active in Both 'Technology' and 'Health' Preferences

The screenshot shows a SQL query editor interface. The query window contains the following SQL code:

```

1 v SELECT UserID, Preferences
2   FROM Users
3   WHERE Preferences IN ('Technology', 'Health')
4   ORDER BY UserID;
5

```

The Data Output tab shows the results of the query:

userid	preferences
[PK] integer	character varying (255)
1	1 Health
2	2 Technology
3	8 Health
4	15 Technology
5	21 Health
6	28 Technology
7	34 Health

Below the table, the status bar indicates "Total rows: 17 of 17" and "Query complete 00:00:00.201".

40. Retrieve the UserID,Tools and Frequency for users whose device frequency is above the average, ordered by frequency in descending order.

The screenshot shows the pgAdmin 4 interface. The left pane is the Object Explorer, displaying various database objects like Schemas, Tables, and Views. The right pane has a SQL tab with a query editor containing the following SQL code:

```
1 SELECT u.UserID, d.Tools, d.Frequency
2 FROM Users u
3 JOIN Device d ON u.UserID = d.UserID
4 WHERE d.Frequency > (SELECT AVG(Frequency) FROM Device)
5 ORDER BY d.Frequency DESC;
```

Below the SQL tab is a Data Output tab showing the results of the query:

userid	tools	frequency
1	12	14
2	21	12
3	82	12
4	76	12
5	9	12
6	64	12
7	83	11
8	nn	11

Total rows: 44 of 44 Query complete 00:00:00.138 Ln 6, Col 1

Chapter 5: Interface Implementation

1. Setup JDBC and Basic GUI

Investor Table :

Investor Management

InvestorID:		
Finance:		
Market Opportunities:		
InvestorID	Finance	Market Opportunities

Add Update Delete Load

Market Table :

Market Management

MarketID:						
StartupID:						
InvestorID:						
Demand:						
Opportunities:						
Trends:						
Competition:						
MarketID	StartupID	InvestorID	Demand	Opportunities	Trends	Competition

Add Update Delete Load

2. CRUD Operations in GUI

Add Investor 1:

The screenshot shows a Windows application window titled "Investor Management". At the top, there are three input fields: "InvestorID" (containing "83"), "Finance" (containing "55000.00"), and "Market Opportunities" (containing "Health Care"). Below these is a large grid table with columns for "InvestorID", "Finance", and "Market Opportunities". The "Finance" column contains values from 46 to 83. The "Market Opportunities" column lists various categories such as Construction Technology, 3D Printing, Personal Security, Crowdfunding, Smart Cities, etc. At the bottom of the grid are four buttons: "Add", "Update", "Delete", and "Load".

InvestorID	Finance	Market Opportunities
46	85000.0	Construction Technology
47	75000.0	3D Printing
48	90000.0	Personal Security
49	50000.0	Crowdfunding
50	70000.0	Smart Cities
51	40000.0	Food Delivery
52	120000.0	Insurance Technology
53	60000.0	Music Streaming
54	80000.0	Photography Apps
55	95000.0	Fashion Retail
56	30000.0	Luxury Goods
57	55000.0	Interior Design
58	75000.0	Online Dating
59	20000.0	Public Relations
60	900000.0	Digital Advertising
61	40000.0	Social Media
62	80000.0	Family Services
63	95000.0	Online Communities
64	50000.0	Content Management
65	75000.0	Home Cleaning Services
66	30000.0	Legal Technology
67	120000.0	Online Marketplaces
68	60000.0	Elderly Care Services
69	80000.0	Remote Work Solutions
70	90000.0	Childcare Services
71	55000.0	Consulting Services
72	40000.0	Subscription Boxes
73	120000.0	Voice Technology
74	70000.0	Home Fitness
75	30000.0	Digital Art
76	85000.0	Chatbots
77	75000.0	Digital Payments
78	40000.0	Freelancing Platforms
79	120000.0	Customer Experience
80	90000.0	AI-driven Marketing
81	40000.0	Digital Asset Management
82	65000.0	Travel Booking
83	55000.0	Health Care

Add Investor 2:

The screenshot shows the same "Investor Management" application window. The "InvestorID" field now contains "84", and the "Market Opportunities" field contains "Pet Technology". The rest of the interface, including the grid table and button bar at the bottom, remains identical to the first screenshot.

InvestorID	Finance	Market Opportunities
47	75000.0	3D Printing
48	90000.0	Personal Security
49	50000.0	Crowdfunding
50	70000.0	Smart Cities
51	40000.0	Food Delivery
52	120000.0	Insurance Technology
53	60000.0	Music Streaming
54	80000.0	Photography Apps
55	95000.0	Fashion Retail
56	30000.0	Luxury Goods
57	55000.0	Interior Design
58	75000.0	Online Dating
59	20000.0	Public Relations
60	900000.0	Digital Advertising
61	60000.0	Social Media
62	80000.0	Family Services
63	95000.0	Online Communities
64	50000.0	Content Management
65	75000.0	Home Cleaning Services
66	30000.0	Legal Technology
67	120000.0	Online Marketplaces
68	60000.0	Elderly Care Services
69	80000.0	Remote Work Solutions
70	90000.0	Childcare Services
71	55000.0	Consulting Services
72	40000.0	Subscription Boxes
73	120000.0	Voice Technology
74	70000.0	Home Fitness
75	30000.0	Digital Art
76	85000.0	Chatbots
77	75000.0	Digital Payments
78	50000.0	Freelancing Platforms
79	120000.0	Customer Experience
80	90000.0	AI-driven Marketing
81	40000.0	Digital Asset Management
82	65000.0	Travel Booking
83	55000.0	Health Care
84	95000.0	Pet Technology

Update Investor 1 :

Investor Management			
InvestorID:	83	Finance:	125000.00
Market Opportunities:			
47	75000.0	Finance	3D Printing
48	90000.0		Personal Security
49	50000.0		Crowdfunding
50	70000.0		Smart Cities
51	40000.0		Food Delivery
52	120000.0		Insurance Technology
53	60000.0		Music Streaming
54	80000.0		Photography Apps
55	95000.0		Fashion Retail
56	30000.0		Luxury Goods
57	55000.0		Interior Design
58	75000.0		Online Dating
59	20000.0		Public Relations
60	60000.0		Digital Advertising
61	60000.0		Self-Improvement
62	80000.0		Family Services
63	95000.0		Online Communities
64	50000.0		Content Management
65	75000.0		Home Cleaning Services
66	30000.0		Legal Technology
67	120000.0		Online Marketplaces
68	60000.0		Elderly Care Services
69	80000.0		Remote Work Solutions
70	90000.0		Childcare Services
71	55000.0		Consulting Services
72	40000.0		Subscription Boxes
73	120000.0		Voice Technology
74	70000.0		Home Fitness
75	30000.0		Digital Art
76	85000.0		Children
77	75000.0		Digital Payments
78	50000.0		Freelancing Platforms
79	120000.0		Customer Experience
80	90000.0		AI-driven Marketing
81	40000.0		Digital Asset Management
82	65000.0		Travel Booking
83	95000.0		Pet Technology
83	125000.0		Health Care

Add Update Delete Load

Update Investor 2 :

Investor Management			
InvestorID:	84	Finance:	69000.00
Market Opportunities:			
47	75000.0	Finance	3D Printing
48	90000.0		Personal Security
49	50000.0		Crowdfunding
50	70000.0		Smart Cities
51	40000.0		Food Delivery
52	120000.0		Insurance Technology
53	60000.0		Music Streaming
54	80000.0		Photography Apps
55	95000.0		Fashion Retail
56	30000.0		Luxury Goods
57	55000.0		Interior Design
58	75000.0		Online Dating
59	20000.0		Public Relations
60	60000.0		Digital Advertising
61	60000.0		Self-Improvement
62	80000.0		Family Services
63	95000.0		Online Communities
64	50000.0		Content Management
65	75000.0		Home Cleaning Services
66	30000.0		Legal Technology
67	120000.0		Online Marketplaces
68	60000.0		Elderly Care Services
69	80000.0		Remote Work Solutions
70	90000.0		Childcare Services
71	55000.0		Consulting Services
72	40000.0		Subscription Boxes
73	120000.0		Voice Technology
74	70000.0		Home Fitness
75	30000.0		Digital Art
76	85000.0		Children
77	75000.0		Digital Payments
78	50000.0		Freelancing Platforms
79	120000.0		Customer Experience
80	90000.0		AI-driven Marketing
81	40000.0		Digital Asset Management
82	65000.0		Travel Booking
83	125000.0		Health Care
84	69000.0		Pet Technology

Add Update Delete Load

Delete Investor 1 :

InvestorID		Finance	Market Opportunities
45	85000.0	Construction Technology	
47	75000.0	3D Printing	
48	90000.0	Personal Security	
49	50000.0	Crowdfunding	
50	70000.0	Smart Cities	
51	40000.0	Food Delivery	
52	120000.0	Insurance Technology	
53	60000.0	Music Streaming	
54	80000.0	Photography Apps	
55	95000.0	Fashion Retail	
56	30000.0	Luxury Goods	
57	55000.0	Interior Design	
58	75000.0	Online Dating	
59	20000.0	Public Relations	
60	90000.0	Digital Advertising	
61	60000.0	Self-improvement	
62	80000.0	Family Services	
63	95000.0	Online Communities	
64	50000.0	Content Management	
65	75000.0	Home Cleaning Services	
66	30000.0	Legal Technology	
67	120000.0	Online Marketplaces	
68	0.0	Elderly Care Services	
69	80000.0	Remote Work Solutions	
70	90000.0	Childcare Services	
71	55000.0	Consulting Services	
72	40000.0	Subscription Boxes	
73	120000.0	Voice Technology	
74	70000.0	Home Fitness	
75	30000.0	Digital Art	
76	85000.0	Chatbots	
77	75000.0	Digital Payments	
78	50000.0	Freelancing Platforms	
79	120000.0	Customer Experience	
80	90000.0	AI-driven Marketing	
81	40000.0	Digital Asset Management	
82	65000.0	Travel Booking	
83	125000.0	Health Care	

Delete Investor 2 :

InvestorID		Finance	Market Opportunities
45	20000.0	Influencer Marketing	
46	85000.0	Construction Technology	
47	75000.0	3D Printing	
48	90000.0	Personal Security	
49	50000.0	Crowdfunding	
50	70000.0	Smart Cities	
51	40000.0	Food Delivery	
52	120000.0	Insurance Technology	
53	60000.0	Music Streaming	
54	80000.0	Photography Apps	
55	95000.0	Fashion Retail	
56	30000.0	Luxury Goods	
57	55000.0	Interior Design	
58	75000.0	Online Dating	
59	20000.0	Public Relations	
60	90000.0	Digital Advertising	
61	60000.0	Self-improvement	
62	80000.0	Family Services	
63	95000.0	Online Communities	
64	50000.0	Content Management	
65	75000.0	Home Cleaning Services	
66	30000.0	Legal Technology	
67	120000.0	Online Marketplaces	
68	60000.0	Elderly Care Services	
69	80000.0	Remote Work Solutions	
70	90000.0	Childcare Services	
71	55000.0	Consulting Services	
72	40000.0	Subscription Boxes	
73	120000.0	Voice Technology	
74	70000.0	Home Fitness	
75	30000.0	Digital Art	
76	85000.0	Chatbots	
77	75000.0	Digital Payments	
78	50000.0	Freelancing Platforms	
79	120000.0	Customer Experience	
80	90000.0	AI-driven Marketing	
81	40000.0	Digital Asset Management	
82	65000.0	Travel Booking	
83	125000.0	Health Care	

Add Market1:

Market Management								
MarketID:		StartupID:		InvestorID:		Demand:		Opportunities:
49	149	49	Moderate	Digital Marketing	SEO Tools	Medium		
50	150	50	High	Online Retail	Personalization	Low		
51	151	51	Moderate	Wearable Fitness	Health Tracking	Medium		
52	152	52	High	Educational Apps	Learning at Home	High		
53	153	53	Low	Food Tech	Alternative Proteins	Medium		
54	154	54	Moderate	Mobile Payments	Contactless Transactions	High		
55	155	55	High	Remote Learning	Skill Development	Low		
56	156	56	Moderate	Freelancing	Cloud Computing	Medium		
57	157	57	High	Social Impact	Community Development	High		
58	158	58	Moderate	Digital Currency	Central Bank Digital Currencies	Medium		
59	159	59	Low	Telemedicine	Remote Consultations	High		
60	160	60	High	Gaming Tech	Mobile Gaming	Low		
61	161	61	Moderate	Smart Wearables	Fitness Monitoring	Medium		
62	162	62	High	Data Analytics	Predictive Analysis	High		
63	163	63	Moderate	Augmented Reality	Training Simulations	Medium		
64	164	64	High	Fintech	Digital Payment Solutions	Low		
65	165	65	Moderate	Health and Wellness	Medical Health Apps	Medium		
66	166	66	High	Cloud Computing	Cloud Services	High		
67	167	67	Moderate	Remote Collaboration	Virtual Reality	Medium		
68	168	68	High	Digital Identity	Online Security	Low		
69	169	69	Moderate	Home Fitness	Online Classes	High		
70	170	70	Low	Smart Cities	Urban Mobility	Medium		
71	171	71	High	Elderly Care	Assistive Technologies	High		
72	172	72	Moderate	Sustainability	Eco-friendly Products	Medium		
73	173	73	High	Food Delivery	Gourmet Services	Low		
74	174	74	Moderate	Streaming Services	Live Events	Medium		
75	175	75	High	Education	Skill Enhancement	High		
76	176	76	Moderate	Telecommunications	5G Services	Medium		
77	177	77	Low	Drone Technology	Aerial Solutions	High		
78	178	78	High	Mental Health	Therapy Apps	Low		
79	179	79	Moderate	Property Management	Smart Solutions	Medium		
80	180	80	High	Blockchain	Decentralized	High		
82	182	82	High	AI Tech	AI powered Apps	Medium		

Add | Update | Delete | Load

Add Market 2:

Market Management								
MarketID:		StartupID:		InvestorID:		Demand:		Opportunities:
50	150	50	High	Online Retail	Personalization	Low		
51	151	51	Moderate	Wearable Fitness	Health Tracking	Medium		
52	152	52	Low	Educational Apps	Learning at Home	High		
53	153	53	Low	Food Tech	Alternative Proteins	Medium		
54	154	54	Moderate	Mobile Payments	Contactless Transactions	High		
55	155	55	High	Remote Learning	Skill Development	Low		
56	156	56	Moderate	Freelancing	Gig Economy	Medium		
57	157	57	High	Social Impact	Community Development	High		
58	158	58	Moderate	Digital Currency	Central Bank Digital Currencies	Medium		
59	159	59	Low	Telemedicine	Remote Consultations	High		
60	160	60	High	Gaming Tech	Mobile Gaming	Low		
61	161	61	Moderate	Smart Wearables	Fitness Monitoring	Medium		
62	162	62	High	Data Analytics	Predictive Analysis	High		
63	163	63	Moderate	Augmented Reality	Training Simulations	Medium		
64	164	64	High	Fintech	Digital Payment Solutions	Low		
65	165	65	Moderate	Health and Wellness	Mental Health Apps	Medium		
66	166	66	Low	Cloud Computing	Cloud Services	High		
67	167	67	Moderate	Remote Collaboration	Virtual Reality	Medium		
68	168	68	High	Digital Identity	Online Security	Low		
69	169	69	Moderate	Home Fitness	Online Classes	High		
70	170	70	Low	Smart Cities	Urban Mobility	Medium		
71	171	71	High	Elderly Care	Assistive Technologies	High		
72	172	72	Moderate	Sustainability	Eco-friendly Products	Medium		
73	173	73	High	Food Delivery	Gourmet Services	Low		
74	174	74	Moderate	Streaming Services	Live Events	Medium		
75	175	75	High	Education	Skill Enhancement	High		
76	176	76	Moderate	Telecommunications	5G Services	Medium		
77	177	77	Low	Drone Technology	Aerial Solutions	High		
78	178	78	High	Mental Health	Therapy Apps	Low		
79	179	79	Moderate	Property Management	Smart Solutions	Medium		
80	180	80	High	Blockchain	Decentralized	High		
82	182	82	High	AI Tech	AI powered Apps	Medium		
87	183	83	Moderate	Freelancing	Remote work	Medium		

Add | Update | Delete | Load

Update Market 1 :

Market Management								
MarketID:		StartupID:		InvestorID:		Demand:		Opportunities:
50	150	50	High	Moderate	Online Retail	Personalization	Low	Competition
51	151	51	High	Moderate	Wearable Fitness	Health Tracking	Medium	
52	152	52	High	High	Educational Apps	Learning at Home	High	
53	153	53	Low	Low	Food Tech	Alternative Proteins	Medium	
54	154	54	Moderate	Moderate	Mobile Payments	Contactless Transactions	High	
55	155	55	High	High	Remote Learning	Skill Development	Low	
56	156	56	Moderate	Moderate	Freelancing	Gig Economy	Medium	
57	157	57	High	High	Social Impact	Community Development	High	
58	158	58	Moderate	Moderate	Digital Currency	Central Bank Digital Currencies	Medium	
59	159	59	Low	Low	Telmedicine	Remote Consultations	High	
60	160	60	High	High	Gaming Tech	Mobile Gaming	Low	
61	161	61	Moderate	Moderate	Smart Wearables	Fitness Monitoring	Medium	
62	162	62	High	High	Data Analytics	Predictive Analysis	High	
63	163	63	Moderate	Moderate	Augmented Reality	Training Simulations	Medium	
64	164	64	High	High	Fintech	Digital Payment Solutions	Low	
65	165	65	Moderate	Moderate	Health and Wellness	Mental Health Apps	Medium	
66	166	66	High	High	Cloud Computing	Hybrid Cloud	High	
67	167	67	Moderate	Moderate	Remote Collaboration	Virtual Reality	Medium	
68	168	68	High	High	Digital Identity	Online Security	Low	
69	169	69	Moderate	Moderate	Home Fitness	Online Classes	High	
70	170	70	Low	Low	Smart Cities	Urban Mobility	Medium	
71	171	71	High	High	Elderly Care	Assistive Technologies	High	
72	172	72	Moderate	Moderate	Sustainability	Eco-friendly Products	Medium	
73	173	73	High	High	Food Delivery	Gourmet Services	Low	
74	174	74	Moderate	Moderate	Streaming Services	Live Events	Medium	
75	175	75	High	High	Education	Skill Enhancement	High	
76	176	76	Moderate	Moderate	Telecommunications	5G Services	Medium	
77	177	77	Low	Low	Drone Technology	Aerial Solutions	High	
78	178	78	High	High	Mental Health	Therapy Apps	Low	
79	179	79	Moderate	Moderate	Property Management	Smart Solutions	Medium	
80	180	80	High	High	Blockchain	Decentralized	High	
82	182	82	High	High	AI Tech	AI-powered Apps	Medium	
87	183	83	Moderate	Moderate	Freelancing	Remote work	High	

Add Update Delete Load

Update Market 2 :

Market Management								
MarketID:		StartupID:		InvestorID:		Demand:		Opportunities:
50	150	50	High	Moderate	Online Retail	Personalization	Low	Competition
51	151	51	High	Moderate	Wearable Fitness	Health Tracking	Medium	
52	152	52	High	High	Educational Apps	Learning at Home	High	
53	153	53	Low	Low	Food Tech	Alternative Proteins	Medium	
54	154	54	Moderate	Moderate	Mobile Payments	Contactless Transactions	High	
55	155	55	High	High	Remote Learning	Skill Development	Low	
56	156	56	Moderate	Moderate	Freelancing	Gig Economy	Medium	
57	157	57	High	High	Social Impact	Community Development	High	
58	158	58	Moderate	Moderate	Digital Currency	Central Bank Digital Currencies	Medium	
59	159	59	Low	Low	Telmedicine	Remote Consultations	High	
60	160	60	High	High	Gaming Tech	Mobile Gaming	Low	
61	161	61	Moderate	Moderate	Smart Wearables	Fitness Monitoring	Medium	
62	162	62	High	High	Data Analytics	Predictive Analysis	High	
63	163	63	Moderate	Moderate	Augmented Reality	Training Simulations	Medium	
64	164	64	High	High	Fintech	Digital Payment Solutions	Low	
65	165	65	Moderate	Moderate	Health and Wellness	Mental Health Apps	Medium	
66	166	66	High	High	Cloud Computing	Hybrid Cloud	High	
67	167	67	Moderate	Moderate	Remote Collaboration	Virtual Reality	Medium	
68	168	68	High	High	Digital Identity	Online Security	Low	
69	169	69	Moderate	Moderate	Home Fitness	Online Classes	High	
70	170	70	Low	Low	Smart Cities	Urban Mobility	Medium	
71	171	71	High	High	Elderly Care	Assistive Technologies	High	
72	172	72	Moderate	Moderate	Sustainability	Eco-friendly Products	Medium	
73	173	73	High	High	Food Delivery	Gourmet Services	Low	
74	174	74	Moderate	Moderate	Streaming Services	Live Events	Medium	
75	175	75	High	High	Education	Skill Enhancement	High	
76	176	76	Moderate	Moderate	Telecommunications	5G Services	Medium	
77	177	77	Low	Low	Drone Technology	Aerial Solutions	High	
78	178	78	High	High	Mental Health	Therapy Apps	Low	
79	179	79	Moderate	Moderate	Property Management	Smart Solutions	Medium	
80	180	80	High	High	Blockchain	Decentralized	High	
82	182	82	Moderate	Moderate	Freelancing	Remote work	High	
87	183	83	High	High	AI	AI Powered Technology	High	

Add Update Delete Load

Delete Market 1 :

Market Management								
MarketID:		StartupID:		InvestorID:		Demand:		Opportunities:
50	150	50	High	Online Retail	Personalization	Low		
51	151	51	Moderate	Wearable Fitness	Health Tracking	Medium		
52	152	52	High	Educational Apps	Learning at Home	High		
53	153	53	Low	Food Tech	Alternative Proteins	Medium		
54	154	54	Moderate	Mobile Payments	Contactless Transactions	High		
55	155	55	High	Remote Learning	Online Curriculum	Low		
56	156	56	Moderate	Freelancing	City Economy	Medium		
57	157	57	High	Social Impact	Community Development	High		
58	158	58	Moderate	Digital Currency	Central Bank Digital Currencies	Medium		
59	159	59	Low	Telemedicine	Remote Consultations	High		
60	160	60	High	Gaming Tech	Mobile Gaming	Low		
61	161	61	Moderate	Smart Wearables	Fitness Monitoring	Medium		
62	162	62	High	Data Analytics	Predictive Analysis	High		
63	163	63	Moderate	Augmented Reality	Training Simulations	Medium		
64	164	64	High	Fintech	Digital Payment Solutions	Low		
65	165	65	Moderate	Health and Wellness	Mental Health Apps	Medium		
66	166	66	High	Cloud Computing	Hybrid Cloud	High		
67	167	67	Moderate	Remote Collaboration	Virtual Reality	Medium		
68	168	68	High	Digital Identity	Online Security	Low		
69	169	69	Moderate	Home Fitness	Online Classes	High		
70	170	70	Low	Smart Offices	Urban Mobility	Medium		
71	171	71	High	Elderly Care	Assistive Technologies	High		
72	172	72	Moderate	Sustainability	Eco-friendly Products	Medium		
73	173	73	High	Food Delivery	Gourmet Services	Low		
74	174	74	Moderate	Streaming Services	Live Events	Medium		
75	175	75	High	Education	Skill Enhancement	High		
76	176	76	Moderate	Telecommunications	5G Services	Medium		
77	177	77	Low	Drone Technology	Aerial Solutions	High		
78	178	78	High	Mental Health	Therapy Apps	Low		
79	179	79	Moderate	Property Management	Smart Solutions	Medium		
80	180	80	High	Blockchain	Decentralized	High		
87	183	83	Moderate	Freelancing	Remote work	High		

Add Update Delete Load

Delete Market 2 :

Market Management								
MarketID:		StartupID:	<th>InvestorID:</th> <td></td> <th>Demand:</th> <td></td> <th>Opportunities:</th>	InvestorID:		Demand:		Opportunities:
50	150	50	High	Online Retail	Personalization	Low		
51	151	51	Moderate	Wearable Fitness	Health Tracking	Medium		
52	152	52	High	Educational Apps	Learning at Home	High		
53	153	53	Low	Food Tech	Alternative Proteins	Medium		
54	154	54	Moderate	Mobile Payments	Contactless Transactions	High		
55	155	55	High	Remote Learning	Skill Development	Low		
56	156	56	Moderate	Freelancing	Gig Economy	Medium		
57	157	57	High	Social Impact	Community Development	High		
58	158	58	Moderate	Digital Currency	Central Bank Digital Currencies	Medium		
59	159	59	Low	Telemedicine	Remote Consultations	High		
60	160	60	High	Gaming Tech	Mobile Gaming	Low		
61	161	61	Moderate	Smart Wearables	Fitness Monitoring	Medium		
62	162	62	High	Data Analytics	Predictive Analysis	High		
63	163	63	Moderate	Augmented Reality	Training Simulations	Medium		
64	164	64	High	Fintech	Digital Payment Solutions	Low		
65	165	65	Moderate	Health and Wellness	Mental Health Apps	Medium		
66	166	66	High	Cloud Computing	Hybrid Cloud	High		
67	167	67	Moderate	Remote Collaboration	Virtual Reality	Medium		
68	168	68	High	Digital Identity	Online Security	Low		
69	169	69	Moderate	Home Fitness	Online Classes	High		
70	170	70	Low	Smart Cities	Urban Mobility	Medium		
71	171	71	High	Elderly Care	Assistive Technologies	High		
72	172	72	Moderate	Sustainability	Eco-friendly Products	Medium		
73	173	73	High	Food Delivery	Gourmet Services	Low		
74	174	74	Moderate	Streaming Services	Live Events	Medium		
75	175	75	High	Education	Skill Enhancement	High		
76	176	76	Moderate	Telecommunications	5G Services	Medium		
77	177	77	Low	Drone Technology	Aerial Solutions	High		
78	178	78	High	Mental Health	Therapy Apps	Low		
79	179	79	Moderate	Property Management	Smart Solutions	Medium		
80	180	80	High	Blockchain	Decentralized	High		
87	183	83	Moderate	Freelancing	Remote work	High		

Add Update Delete Load

Chapter 6: Technical Issues and Solution

1. Technical Issues

1. Data Collection and Management

Issue: Collecting and managing data for the startup ecosystem database was a significant challenge. The data came from various sources like websites, external databases, and direct inputs, all in different formats. Inconsistent or incomplete data threatened the integrity of the project, leading to potential inaccuracies and unreliable results.

2. Normalization Issues - 3NF/BCNF

Issue: Achieving proper normalization, specifically Third Normal Form (3NF) and Boyce-Codd Normal Form (BCNF), was challenging due to the complex relationships between various entities in the database. Misunderstandings about the distinction between 3NF and BCNF also complicated the design process, leading to concerns about redundancy and data anomalies.

3. Entity-Relationship (ER) Diagram Challenges

Issue: One of the key challenges in designing an Entity-Relationship (ER) diagram for a startup ecosystem lies in accurately identifying the right entities and their complex relationships. The ecosystem typically involves multiple interconnected entities such as startups, investors, mentors, workshops and users, each with its own set of attributes and roles. For instance, startups can receive investments from multiple investors, while investors may fund multiple startups, resulting in a many-to-many relationship. Similarly, mentors provide guidance to startups, but a mentor can support multiple startups, and a startup can have several mentors, again creating a many-to-many relationship. Furthermore, startups need to track their progress, which can involve multiple mentors and investors influencing their growth, making it challenging to establish the right relationship between progress tracking and other entities.

2. Solution:

1. Data Collection and Management

- To resolve this, We standardized the data formats by creating a common structure for all incoming data. Automated scripts were used to import data efficiently with built in validation checks to ensure completeness and accuracy. Regular data audits and manual reviews were also conducted to identify and correct inconsistencies, ensuring the database remained reliable and up-to-date.

2. Normalization Issues - 3NF/BCNF

- We reviewed and restructured the database schema to meet both 3NF and BCNF. The key was to identify and resolve partial dependencies and transitive dependencies in the design. By applying proper normalization principles, We eliminated redundancy and ensured that the database was free from anomalies like update, insert, and delete inconsistencies.

3. Entity-Relationship (ER) Diagram Challenges

- To model a startup ecosystem, create entities like Startups, Investors, Mentors, and Workshops, each with relevant attributes (e.g., Startup Name, Investor Type, Mentor Expertise). Startups have many-to-many relationships with Investors (via investments) and Mentors (via guidance). Track progress using a Progress Tracking entity that links Startups, Mentors, and Investors to monitor growth. Workshops can be linked to Users (participants), with potential many-to-many relationships between Users and Workshops.