# Database Design Coursework

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**Financial Management:**

InvestSmart is an innovative investment tracking application empowering investors to manage their portfolios. Users register with their login, email, and password to create a unique profile ID, enabling them to buy or sell specialized financial products: stocks generating englobing ticker symbol, market, and dividend yield, real estate including property type, location, and market value as well as bonds with coupon rate, maturity date, and bond type.

Each product has a name, type, market value, and date updated. Users create investments recording the date invested and transaction amount. The app features markets identified by a number. It needs name, type, opening price, closing price, and date updated. Monthly reports document lost value and return amounts, optimizing investment strategies for investors.

Une image contenant texte, capture d’écran, diagramme, Plan

Description générée automatiquement**Entity Relationship Model** :

**Relational Model Tables:**

|  |  |
| --- | --- |
| **Relational table specification** | **Marker’s corrections (Do not write in this column)** |
| **Table name:** User |  |
| **Attributes** |  |
| **PRIMARY** **KEY** (User\_ID) |  |
| Login |  |
| Email |  |
| Password |  |

|  |  |
| --- | --- |
| **Relational table specification** | **Marker’s corrections (Do not write in this column)** |
| **Table name:** Investment |  |
| **Attributes** |  |
| **PRIMARY** **KEY** (Investment\_ID) |  |
| Date |  |
| Transaction\_Amount |  |
| **FOREIGN** **KEY** (product\_ID) **REFERENCES** Product (product\_ID) |  |
| **FOREIGN** **KEY** (User\_ID) **REFERENCES** User (User\_ID) |  |

|  |  |
| --- | --- |
| **Relational table specification** | **Marker’s corrections (Do not write in this column)** |
| **Table name:** Product |  |
| **Attributes** |  |
| **PRIMARY** **KEY** (product\_ID) |  |
| Name |  |
| Type (e.g., Stock, Real Estate, Bond) |  |
| Market\_Value |  |
| Date\_Added |  |
| **FOREIGN** **KEY** (Market\_Number) **REFERENCES** Market (Market\_Number) |  |

|  |  |
| --- | --- |
| **Relational table specification** | **Marker’s corrections (Do not write in this column)** |
| **Table name:** Stocks |  |
| **Attributes** |  |
| **PRIMARY** **KEY** (product\_ID) |  |
| Ticker\_Symbol |  |
| Shares |  |
| Dividend\_Yield |  |
| **FOREIGN** **KEY** (product\_ID) **REFERENCES** Product (product\_ID) |  |

|  |  |
| --- | --- |
| **Relational table specification** | **Marker’s corrections (Do not write in this column)** |
| **Table name:** Real estate |  |
| **Attributes** |  |
| **PRIMARY** **KEY** (product\_ID) |  |
| PropertyID |  |
| Location |  |
| Square\_Footage |  |
| Rental\_Income |  |
| **FOREIGN KEY** (product\_ID) **REFERENCES** Product (product\_ID) |  |

|  |  |
| --- | --- |
| **Relational table specification** | **Marker’s corrections (Do not write in this column)** |
| **Table name:** Bonds |  |
| **Attributes** |  |
| **PRIMARY KEY** (product\_ID) |  |
| Bond\_Type |  |
| Maturity\_Type |  |
| Coupon\_Rate |  |
| **FOREIGN KEY** (product\_ID) **REFERENCES** Product (product\_ID) |  |

|  |  |
| --- | --- |
| **Relational table specification** | **Marker’s corrections (Do not write in this column)** |
| **Table name:** Market |  |
| **Attributes** |  |
| **PRIMARY KEY** (User ID) |  |
| Market\_Number |  |
| Type |  |
| Opening\_Price |  |
| Closing\_Price |  |
| Date\_Of\_Update |  |

|  |  |
| --- | --- |
| **Relational table specification** | **Marker’s corrections (Do not write in this column)** |
| **Table name:** Report |  |
| **Attributes** |  |
| **PRIMARY KEY** (report\_ID) |  |
| Total\_Invested |  |
| Total\_Returned |  |
| Lost\_Value |  |
| Date |  |
| **FOREIGN KEY** (User\_ID) **REFERENCES** User (User\_ID) |  |

**Marker’s Comments** (Do not write in this section)

**Important:** Please note that marker’s corrections to your relational tables are there to help you construct a working database for the second coursework. They are not the determinant of your mark. For more information on how your work is assessed see the coursework specification and grade related criteria.

# Coursework Mark (100 marks available)