Entity Relation Diagram Overview

# Entities:

1. Sign Up
2. Login
3. Processor
4. CPU Cooler
5. MotherBoard
6. Storage
7. RAM
8. Graphics Card
9. Power Supply
10. Type
11. Save

# Entity Information:

* + 1. **Sign Up**:
       1. **First Name**:
          - Datatype: Not Null, Varchar
          - Use: User will provide their first name while signing up.
       2. **Last Name:**
* Datatype: Not Null, Varchar
* Use: User will provide their last name while signing up.
  + - 1. **Email:** 
         * Datatype: Primary Key, Varchar
         * Use: User will provide their unique email so sign up into the application.
      2. **Password:**
         * Datatype:Not Null, Varchar
         * Use: User provided security for secured entry into the application.
    1. **Login**:
       1. **Email:** 
          - Datatype: Primary Key, INT
          - Use: All user will sign up using their own unique email and to log into the application the user shall provide the email used to sign in into the application.
       2. **Password:** 
          - Datatype:Not Null, Varchar.
          - Use: Security password which was provided during the sign up process will be given and will be matched into the database for verification.
    2. **Processor**:
       1. **Processor\_Id:** 
          - Datatype:Primary Key, INT.
          - Use: Every processor will have their unique code which can be used to uniquely identify a specific type of processor. All changes will be made by database administrator.
       2. **Name:** 
          - Datatype: Not Null, Varchar.
          - Use**:** All processor will have their specified name in this column. All changes will be made by database administrator.
       3. **Type\_Id**:
          - Datatype: Foreign Key, Not Null, INT
          - Use: Contain the unique identification for what type of processor it is.
       4. **Price:**
    - Datatype: Not Null, Float
    - Use: Processor have different prices according to their specifications.
    1. **CPU Cooler:**
       1. **Cooler\_Id:** 
          - Datatype: Primary Key, INT
          - Use: CPU cooler for keeping CPU temperature down since heating up can create thermal throttling. Unique code for the coolers will help determine which cooler to be used for which type of PC.
       2. **CPUcoolerName:**
          - Datatype: Not Null, Varchar
          - Use: CPU cooler name from different companies will help the user to find and buy the product easily.
       3. **Type\_Id**:
          - Datatype: Foreign Key, Not Null, INT
          - Use: Contain the unique identification for what type of CPU cooler it is.
       4. **Price:**
          - Datatype: Not Null, Float
          - Use: Price of every individual products will be given here. All changes will be made by database administrator.
    2. **MotherBoard:**
       1. **MB\_Id**:
          - Datatype: Primary Key, INT
          - Use: Every mother board has their own unique identification number.
       2. **MotherBoardName**:
          - Datatype: Not Null, Varchar
          - Use: All the motherboard’s name are given according to their company’s given name and which type of setup the user wants will be sorted through here.
       3. **Type\_Id**:
          - Datatype: Foreign Key, Not Null, INT
          - Use: Contain the unique identification for what type of mother board it is.
       4. **Price**:
          - Datatype: Not Null, Float
          - Use: Price of different kinds of motherboards according to the manufacturer will be given here.
    3. **Storage:**
       1. **Storage\_Id**:
          - Datatype: Primary Key, INT
          - Use: Unique identities of the storage devices will be given in here. All the products will have unique numbers for easy identification.
       2. **StorageName**:
          - Datatype: Not Null, Varchar
          - Use: Contains storage information for different type of storage such as, HDD or SSD.
       3. **Type\_Id**:
          - Datatype: Foreign Key, Not Null, INT
          - Use: Contain the unique identification for what type of storage it is.
       4. **Price**:
          - Datatype: Not Null, Float
          - Use: Prices of all the different storages.
    4. **Ram:**
       1. **Ram\_Id**:
          - Datatype: Primary Key, INT
          - Use: Unique key for identifying different kinds of RAMs. Different rams are used for different types of PCs.
       2. **Ram\_Name**:
          - Datatype: Not Null, Varchar
          - Use: Will contain the RAM peripherals for using in the build.
       3. **Type\_Id**:
          - Datatype: Foreign Key, Not Null, INT
          - Use: Contain the unique identification for what type of ram it is.
       4. **Price**:
          - Datatype: Not Null, Float
          - Use: Prices of the RAMs will be placed here. Data administrator can change price depending on manufacturer’s change in prices.
    5. **Graphics Card:**
       1. **GPU\_Id**:
          - Datatype: Primary Key, INT
          - Use: All graphics card will have different and unique numbers.
       2. **GPU\_Name**:
          - Datatype: Not Null, Varchar
          - Use: Will contain all kinds of GPU names including their specifications.
       3. **Type\_Id**:
          - Datatype: Foreign Key, Not Null, INT
          - Use: Contain the unique identification for what type of graphics card it is.
       4. **Price**:
          - Datatype: Not Null, Float
          - Use: Contains the prices of the GPUs. Data administrator has the authority to make changes in prices.
    6. **Power Supply:**
       1. **PSU\_Id**:
          - Datatype: Primary Key, INT
          - Use: Unique number for all the different power supply units.
       2. **Name**:
          - Datatype: Not Null, Varchar
          - Use: Name for the different types of power supply units.
       3. **Watt**:
          - Datatype: Not Null, INT
          - Use: Each power supply units will contain what type of wattage it will use. Different type of PC requires different watt of PSU depending on their specifications.
       4. **Type\_Id**:
          - Datatype: Foreign Key, Not Null, INT
          - Use: Contain the unique identification for what type of power supply unit it is.
       5. **Price**:
          - Datatype: Not Null, Float
          - Use: Contains prices of all the individual PSUs.
    7. **Save:**
       1. **Save\_No**:
          - Datatype: Primary Key, INT
          - Use: Unique key for storing results of user searches.
       2. **User**:
          - Datatype: Not Null, Varchar, Foreign Key (Login entity)
          - Use: Email which was used by the user to login will be shown and will be helpful in storing data or fetching data(if new features are added in future).
       3. **Processor\_Id**:
          - Datatype: Not Null, Varchar, Foreign Key (Processor entity)
          - Use: Will collect names from “Processor” entity for displaying what type of processor they will be required to buy.
       4. **Cooler\_Id**:
          - Datatype: Not Null, Varchar, Foreign Key (CPU Cooler entity)
          - Use: Will collect names from “CPU Cooler” entity for displaying what type of cooler they will be required to buy.
       5. **MB\_Id**:
          - Datatype: Not Null, Varchar, Foreign Key (MotherBoard entity)
          - Use: Will collect names from “MotherBoard” entity for displaying what type of mother board according to their requirements they will be required to buy.
       6. **GPU\_Id**:
          - Datatype: Not Null, Varchar, Foreign Key (Graphics Card entity)
          - Use: Will collect names from “Graphics Card” entity for displaying what type of GPU they will be required to buy.
       7. **Storage**:
          - Datatype: Not Null, Varchar, Foreign Key (Storage entity)
          - Use: Will collect names from “Storage” entity for displaying what type of Hard Disc Drive or Solid State Drive they will be required to buy.
       8. **Ram\_Id**:
          - Datatype: Not Null, Varchar, Foreign Key (Ram entity)
          - Use: Will collect names from “Ram” entity for displaying what type of RAM they will be required to buy for faster memory in their budget.
       9. **PSU\_Id**:
          - Datatype: Not Null, Varchar, Foreign Key (Power Supply entity)
          - Use: Will collect names from “Power Supply” entity for displaying what type of PSU they will be required to buy.

(10) **Type\_Id**:

* + - * + Datatype: Foreign Key, Not Null, INT
        + Use: Contain the unique identification of what type of build the user has been produced through the algorithm.

(11) **Total Price**:

* + - * + Datatype: Not Null, Float
        + Use: Adds all the prices of the processor, motherboard, cooler, ram, storage, PSU, graphics card and displays to the user.
    1. **Type:** 
       1. **Type\_Id**:
          - Datatype: Primary Key, Not Null, INT
          - Use: Contain the unique identification of what type of PC the user wants to build.
       2. **Name**:
          - Datatype: Not Null, Varchar
          - Use: Will contain which type of the PC will there be e.g. Home, Work or Gaming.