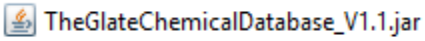
Installation Instructions

Minimum Required Java Version: 8
If you don't have Java, you can download it here:
https://www.java.com/en/download/

Running Instructions

Run TheGlateChemicalDatabase_V1.1.jar to start the program.



You can also find the following instructions on the start page of the program (*not yet implemented):

A minimal level of chemistry knowledge is required to use this program effectively. Note that the program is not meant to simulate reality. Unusual interactions can and will happen depending on the provided data.

- *Starting the Database*
  - *Enter file names. If you are creating a new database, create 3 new .txt files in the same directory as the TheGlateChemicalDatabase.jar, representing elements, compounds, and reactions. Make sure to leave the text files themselves blank!*
  - *If the files are ever tampered with the program will not run and an error message will be displayed.*
  - *First valence represents the amount of elements in the first row of the periodic table.*
  - *Increment determines the scaling of the number of elements in each consecutive row.*
  - *These 2 numbers will determine how the periodic table looks and the nature of elements during a reaction.*
- *Reloading/Saving*
  - *The save button will save all the contents of your database to the 3 files specified on the start page.*
  - *The reload button allows you to reload your files and change the first valence and increment if need be (doing so will affect all elements, compounds, and reactions!)*
  - *A prompt to save will appear when attempting to close or reload the program after making changes.*
- *Adding Elements*
  - *All element parameters must fall within the field restrictions outlined below. Otherwise, an error message will be displayed.*
  - *Make sure to click submit or the element will not be added.*
- *Removing Chemicals*
  - *Enter a chemical name in the text field and click remove chemical.*

    - *If the chemical name is present in the database, the chemical will be removed. Otherwise, an error message will be shown.*
- *Sorting Chemicals*
    - *Select a property in the drop down menu and click sort to list the chemicals by the property selected.*
    - *Click on a listed chemical to have its properties displayed on the right.*
- *Editing Chemicals*
    - *Search for a chemical by name using the search field.*
    - *All chemical parameters must fall within the field restrictions outlined below. Otherwise, an error message will be displayed.*
    - *Make sure to click submit or your changes will not be saved.*
- *Listing Compounds*
    - *Compounds are listed in order of creation.*
    - *Clicking on a compound name displays the compound and its properties on the right.*
- *Listing Reactions*
    - *Reactions consisting of reactants and products are listed in order of creation.*
    - *Remove selected reaction removes the selected reaction.*
- *Simulating Reactions*
    - *Enter element names in their allotted fields and click submit to react them. Note that only element names may be submitted as reactants.*
    - *If the elements are valid and the reaction does not already exist, the reaction will occur. Otherwise, an error message will be displayed.*
    - *Enter the name of the product and submit. The other properties are optional. Leaving the screen without entering the name will forfeit the data of that reaction*
    - *The try again button allows you to simulate another reaction.*
- *Field Restrictions*
    - *Common Name (max length 32 characters; no repeats)*
    - *Atomic Symbol (max length 3 characters; no repeats)*
    - *0 < Atomic Number < 1000000 (no repeats)*
    - *Neutrons >= 0*
    - *Molar Mass >= 0*
    - *Density >= 0*
    - *Ionization Energy >= 0*
    - *0 <= Electronegativity <= 4*
    - *Colour (max length 32 characters)*