

Water and Land Usage Tracker for Arizona Mines

This is a Java program that tracks water and land usage for copper mines in Arizona. The program allows users to input water and land usage for specific mines, view records of historical usage, and enforce water usage limits per mine. Data is stored in a text file (mine_usage.txt), allowing the program to remember past inputs even after it is restarted.

Features

- **Track Water and Land Usage:** Input water and land usage data for specific mines.
- **Mines Supported:** Rosemont, Sierrita, Mission mines.
- **Historical Data:** Records each entry with a date, amount of water used, and land mined.
- **Usage Limits:** Ensures that water usage does not exceed the maximum allowed per mine.
- **Menu-Driven Interface:** Users can choose to either:
 1. Input new data
 2. View past records
 3. Exit the program
- **Persistent Data:** Usage data is saved to a file (mine_usage.txt), and previous entries are loaded upon restarting the program.

Getting Started

Prerequisites:

1. Create an Github Account if you don't have one, and sign in to your account.

Running the Program

- **Create Code space:**
 1. Go to the green Code button
 - press code spaces

- create a code space
- **Compile the code:**
 1. **Once you are in the code space, in the terminal:**

```
javac Main.java
```

- **Run the code:**

```
java Main
```

Program Flow:

- **When you run the program, you will be presented with a menu:**

```
Menu:
1. Look at records
2. Type in new data
3. Exit
Choose an option (1/2/3):
```

Example Input/Output

Input Data for a Mine:

```
Menu:
1. Look at records
2. Type in new data
3. Exit
Choose an option (1/2/3): 2
Enter mine name: Rosemont
Enter date (YYYY-MM-DD): 2023-09-10
Enter land usage (in acres): 100
Enter water usage (in acre-feet): 5500
Usage updated successfully.
```

View Records for a Mine:

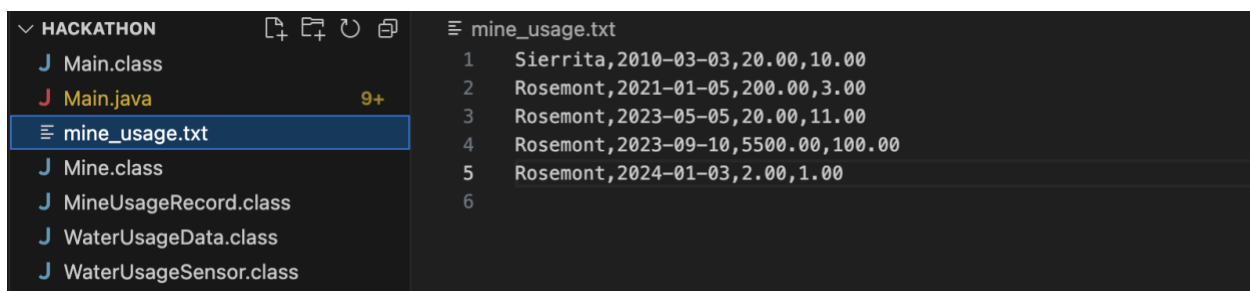
```
Menu:
1. Look at records
2. Type in new data
3. Exit
Choose an option (1/2/3): 1
Enter mine name: Rosemont
Date: 2021-01-05, Water used: 200.00 acre-feet, Land used: 3.00 acres
Date: 2023-05-05, Water used: 20.00 acre-feet, Land used: 11.00 acres
Date: 2023-09-10, Water used: 5500.00 acre-feet, Land used: 100.00 acres
Total water used: 5720.00 acre-feet, Water remaining: 280.00 acre-feet
```

Exceeding Water Limits:

```
Menu:
1. Look at records
2. Type in new data
3. Exit
Choose an option (1/2/3): 2
Enter mine name: Rosemont
Enter date (YYYY-MM-DD): 2023-12-01
Enter land usage (in acres): 50
Enter water usage (in acre-feet): 600
Water usage exceeds the limit for the year.
```

Data Storage

The program stores data in a text file called mine_usage.txt. Each entry for a mine is saved in the following format:



The screenshot shows an IDE window with a file explorer on the left and a code editor on the right. The file explorer shows a project named 'HACKATHON' with several files: Main.class, Main.java (9+), mine_usage.txt (selected), Mine.class, MineUsageRecord.class, WaterUsageData.class, and WaterUsageSensor.class. The code editor displays the content of mine_usage.txt, which is a list of five entries for the Rosemont mine, each on a new line. The entries are: 1 Sierrita,2010-03-03,20.00,10.00, 2 Rosemont,2021-01-05,200.00,3.00, 3 Rosemont,2023-05-05,20.00,11.00, 4 Rosemont,2023-09-10,5500.00,100.00, and 5 Rosemont,2024-01-03,2.00,1.00. The line numbers 1 through 6 are visible on the left side of the editor.

```
mine_usage.txt
1 Sierrita,2010-03-03,20.00,10.00
2 Rosemont,2021-01-05,200.00,3.00
3 Rosemont,2023-05-05,20.00,11.00
4 Rosemont,2023-09-10,5500.00,100.00
5 Rosemont,2024-01-03,2.00,1.00
6
```