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import bmod.wattagecalculator.Plugin;

/**
 * Always leave a good comment here about what the class does, it will be saved
 * when you generate documentation, and be placed there.
 *
 * Always include your name, and email address, so future onlookers know who
 * created the class for copyright reasons.
 *
 * If you put your name after an @author tag, then it will be specially
 * formatted in the documentation.
 *
 * Class names should be formatted in CamelCase, no underscores.
 *
 * @author Joseph Lewis <joeHms22@gmail.com>
 */
public class Elevator extends Plugin
{
    // Declare all variables up here, outside the main method.
    // if you know a variable is not going to change, precede it with "final"
    // this makes sure you don't accidentally change it later.
    // final variables should be named in ALL_CAPS_SEPARATED_BY_UNDERSCORES
    private final double PI = 3.14;
    private final int MAX_NUMBER_OF_FLOORS = 15;
    private final double PERCENT_TAKING_ELEVATOR = .01;
    private final String ELEVATOR_DEVICE_NAME = "Elevator";

    /**
     * Methods should be commented with what they do, but remember to always
     * use as descriptive of a name as possible, so it takes less time to
     * learn for newcomers to your code. Methods should always start with a
     * lower case, and should be camelCase afterwards.
     */
    @Override
    public void getWatts()
    {
        // Get the number of watts the elevator uses. We won't make this a final
        // up above, because the user may change the number of watts the
        // elevator uses between runs.
        double elevator_watts = m_mech.readDeviceType(ELEVATOR_DEVICE_NAME)
                                     .getWatts();

        // Each "floor" is a zone, floor "0" is ground level.
        for(int i = 1; i <= MAX_NUMBER_OF_FLOORS; i++)
        {
            String floor = getElevatorZoneForFloor(i);

            // We'll get the number of people in the zone, in the given building
            // from start time to end time.

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        int zone_pop = getZonePopulation(floor, startTime, endTime, building);

        // For demo purposes only, we'll say 1% of people take the elevator
        // on each floor, fancier things could be done though, i.e. higher
        // floors take the elevator more often.
        double watts = zone_pop * PERCENT_TAKING_ELEVATOR * elevator_watts;

        // Here we call a method that is from the class we "extended"
        // earlier, the documentation for that class says it will add the
        // number of watts to the total, and
        addWatts(watts, floor);
    }
}

/**
 * If you are ever going to do the same calculation more than three times,
 * or if the calculation is more than three lines and done more than once
 * create a method for it.
 *
 * The params starting with the at symbol here are fairly self explanatory.
 *
 * @param floorNumber - The floor number the elevator will stop at.
 * @return The name of the zone representing the floor.
 */
public String getElevatorZoneForFloor(int floorNumber)
{
    // When doing calculations, try to leave one blank space around
    // operators.
    return "Floor" + floorNumber;

    // As a bad example, the string "Floor" here is hard-coded, these hard
    // codings that aren't defined up above in the class are called "magic
    // numbers" and should be avoided, because it makes later maintenance
    // much more difficult.
}

}

/**
 * END NOTE: The best coders try to leave "self documenting" code, meaning it
 * has few, if any, comments, except for method and class headers. This means
 * all variables should be named well, including units, if applicable i.e.
 * degreesC, all methods describe what they do, and their params are clear.
 * This is because as code gets updated, comments tend not to, so contradictions
 * are common.
 */

```