My Journal Notes on the Project

Unknown Date:

had to reset project tested promt method in prmpt enum, going to display DONE prompt more cleanly and also I have to break up internally parsed prompts better I am using recursion to handle the complex formatting void|driveLeft|tells robot to Drive Left robot.driveLeft()

void|driveRight|tells robot to Drive Right robot.driveRight()

is on the innermost level tokens of |, then tokens of newLines, then tokens of double newLines while this format is complicated, it is both computer and human readable

Working on a field by field prompter, handling initial conditions before loop does simplify code

Sunday: I am only allowing allowed characters, to hide which characters I am using for parsing And also exclude strange characters I haven't thought of

replacing all instanes of scanner readnext line with my validating looping method

it seems like using an enum for pormpting is too complicated, I will just use methods

I am handling special cases manually, simplifies my methods and makes code more readable

using interface to save code enums can implement interfacecs

i don't know how to do static methods with instance methods, covnerting static metehods to instance methods

I'm tired of retyping my responces when testing prompts,c reateing enums and interfaces similar to how I can test my ArduinoClassClient Scanner example

putting prompts and user responces into an enum for the ArduinoClassPrompter

Ok, with the print streams and enums, I can now just run a test instead of manually typing in test input fro ArduinoClassPrmopts and now debugging is so easy! I am now at the point where I can prompt field by field and try to generate the arduino class, but I found methodss are missing | character set breakpoints as you work with debugger, maybe directly from runTime exception founf a parsing error in variables, explains why only header file had it, Ive got an extra newline in variables I fixed that error which was missing |, but methods had extra newline, I removed it wiht substrings Now test runs correctly, but public methods aren't showing up To Do: not do substring by flipping with fencepost solution, fix public methods, unit test error corrections public methods was newline issue, now adding constructor line now that I added constructor, class basically has correct structure! I swithced order of private and public methods in body file, which puts constructor at top and puts most vidible methods at top too line by line unit test passed!

cutting down unused code, saving in text file  
​  
Created arduino class maker github respotiry so I can actually delete unused code and know it is backed up

May 23 I am working on the program that converts an existing arduino sketch until a library, which required a lot of background code work. I modified the MiniScanner class to display an error with the word that was looked for, and the Arduino Class generators to allow method parameters of null if blank. The methodParser class handles the work of converting a method into the format the code generator uses, and I want the program to automatically generate an example sketch The sketch parser should also be able to tell which methods are public vs private by lloking for which methods are in the setup and loop methods The parsedMethod class has fields even though I could have the whole thing be one big to string The Sketchparser class currently can read a sketch into the code representing the header, variables, public and private methods, loop and setup, but they aren't formatted into the format the Arduino class gneerator needs

Now the SketchParser method can convert my sketch into a farily well formatted list of header comment, variables and methods, next step is separating private and public methods and parsing variables. The variables parsing will become fairly interesting/complicated, because they should all go to a constructor. This means that the sketch to lirbary program is forcing me to add some features like adding constructor and adding method parameters. The method correctly decided that wifiConnect and runserver where public methods I am using replaceAll String method a lot, very useful in reformatting sketch I am writing ParseVariable method with test cases to covnert code of variable delcaration to parsable format. This is complicated bcause data types and values can be more than one word, and arrays are in form type name [], and variables don't have to be initialized 5/24 10:51 PM: Working on arduino parser and unit tests, I got test to pass when variable is declared not inititized, still failing Linked List switch nodes (I wrtoe linked list to iterate over varibales which can have multiple words like const char) and eliminating extra vertical bars. pased extra vertical bars test using tring.replace instead of tring replace all? 5/25 10:48: I want to integrate this project into the wider Arduino Enviornment by reforamtting and compiling files before they are parsed. This would allow me to standardize text before I have to parse it, and return an error in advance if program doesn't compile. Also, I want to eventually make a pull request to have the automatic class generator be part of t he arduino ide. Relevant links: [1] Arduino Command Line Interface <https://github.com/arduino/Arduino/blob/master/build/shared/manpage.adoc> [2] Jar files already part of arduino <https://github.com/arduino/Arduino/tree/master/arduino-core/lib> [3] How to create a jar filw in eclipse <http://www.skylit.com/javamethods/faqs/createjar.html>

May 27 2019 10:34 AM: I looked up who else is working on an Arduino Class Generator on the Arduino developers group, noone there is. I'm working on passing more of the VariableParser unit tests, so I wrote a MiniScanner getResr

method to help. Also, else statements are useful in avoiding something right before exiting a loop. In that scheme, use booleann loop control variable as condition. Set variable in loop, and use else statment to do whtaver should be done while loopingis chuggin

but not when it is about to exit. This is a more subtle version of a break statment.

12:58 PM: Owkring on LinkedList switch method for variavle parser, I wrote a state method that handles null popitner exceptions, and made setter methods privte to force it use

1:13 PM: [Android App for Physip] Arduino Auto format inserts spaces but doesn't remove them, I'll have todo that on my own, which should be using the MiniScanner class internally

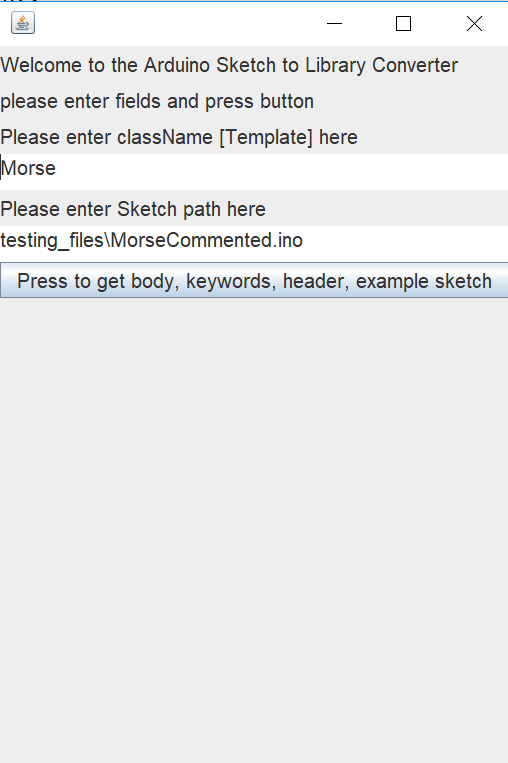
3:07 PM May 28 2019: I got the MiniScanner to allow it to ignore multiple tokesn in input, but now a lot of other unit tests fail

6:58 PM: I spent a lot of time today trying to get rid of scanner errors, put the project on github so I wouldn't have to redo my work again

11:00 PM I got all unit tests to pass, and having project on github with commits on passing tests makes it so much easier to keep project moving forward with unit tests passing, and creating branches is useful. In the SketchParser class, I am working on an autogenerated constructor based on variables. Before that, I am preparing the program to handle the https://www.arduino.cc/en/Hacking/LibraryTutorial morse code sketch as is so I I can post it to the Arudino developers forum. The challenges so far with that have been to reformat the newline brackets style of coding into the same line and to create to do comments when comments are missing, which is what I'm doing now.

May 29 2019 10:37 AM: last night, I got the SketchParser class to produce keyword,example file, body, and header for the ESPServer and morse classes. The shaky parts are automatic constructor generation and how the sketch file doesn't call based on object. In addition, I posted my project idea on the github developers forum, and I got a responce from someone to share my github link, although I haven/t decided whether to keep my code private yet.

7:18 PM: I got the generator to change method calls in example sketches to be an object method, like converting dash(); to morse.dash(). Also, I got the GUI to be useful, now the user can click on



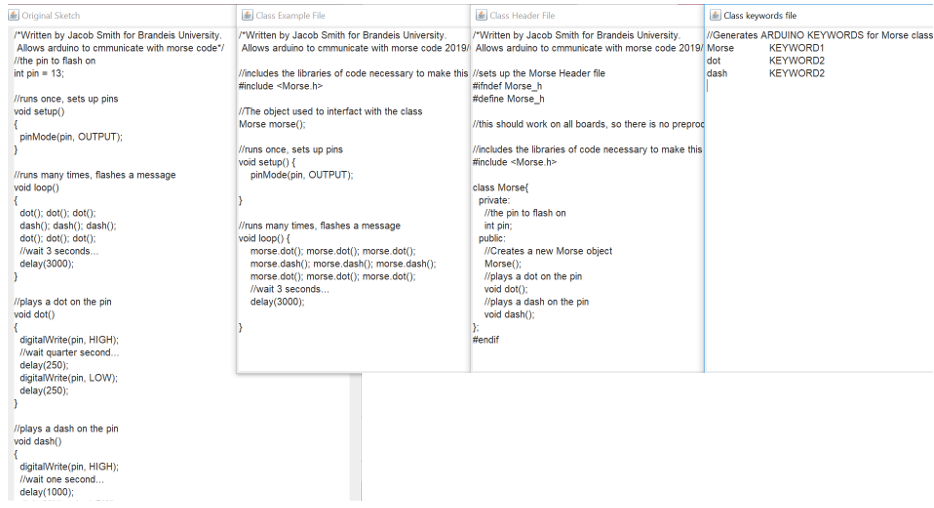
User input interface, runMe.jar

RUNme.jar, and this window pops up🡪

The user can enter the name of the class and location of the correct arduino sketch.

Then, when the button is pressed, the following windows pop up (next page).

Future work: Integrate this into the Arduino IDE: <https://github.com/arduino/Arduino/wiki/Building-Arduino>, research whether I should publish this program.



Generated Example, Header, keywords, and original sketch. From runme.jar