GUI.PY

EXECUTEPROGRAM.PY

MAIN.PY

purpose of the class, purpose of each function, description of any input parameters for the function, description of return value (if any), pre- and post-conditions for the function

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UVSIM.PY

GUI class
Function: creates a simple GUI using tkinter
Input: UVsim class
Methods:
select_file():
purpose: search directories and choose a txt file.
input: n/a
load_file():
purpose: load program from the user-selected file into the sim
input: n/a
operations_output():
purpose: output accumulator value in GUI.
input: machine language command, function's name, and the operand.
final_output():
purpose:output accumulator value in GUI.
input: n/a
read():
purpose: Read a word from the keyboard into memory.
input: value from keyboard
submit():
purpose: command for GUI button, causes GUI to proceed
input: n/a
write():
purpose: write a word from memory to gui
input: n/a
too_long():
purpose: GUI error message if sim pc exceeds available memory
input: n/a

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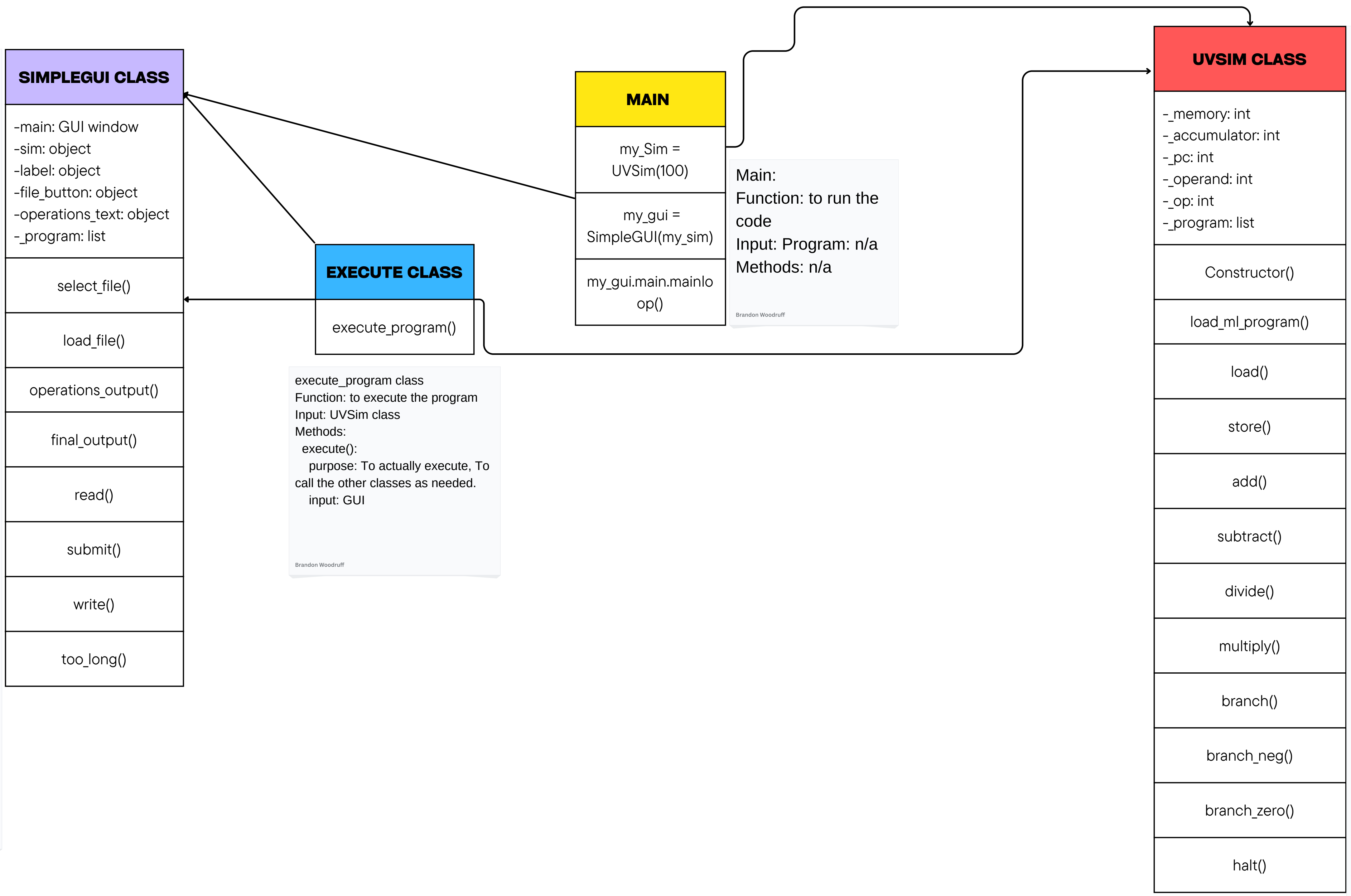

execute_program class
Function: to execute the program
Input: UVSim class
Methods:
execute():
purpose: To actually execute, To call the other classes as needed.
input: GUI

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Main:
Function: to run the code
Input: Program: n/a
Methods: n/a

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UVSim class
Function: UVSim is a simulation that can interpret a machine language called BasicML.
Input:n/a
Methods:

load_ml_program:
function: to load the program into memory.
input: a program list
load:
function: to get the value of a memory from a specific location
input: a value for the location
store:
function: to store a value into a specific location in memory
input: a value for the location, and the value to store there.
add:
function: to add two numbers
input: two values to add together
subtract:
function: to subtract two numbers
input: two values to subtract
divide:
function: to divide a number from another
input: a value, and a value to divide that number by
multiply:
function: to multiply two numbers
input: two values to multiply
branch:
function: to move to a specific location in memory
input: a value
branchNeg:
function: to move to a specific location if the number is negative.
input: accumulator value, operand value, and pc value
branchZero:
function: to move to a specific location if the number is negative
input:
halt:
function: to end the program immediately
input: n/a

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