

Scope

- Area of code in which a variable can be accessed by name
- Local variables
 - Variables that are declared within a function
 - The scope of a local variable is limited to the function in which it is declared
- Function parameters also have local scope
- Variables that are declared within blocks such as loops and conditionals have their scope limited to that block

Automatic Variables

- All the variables we have been using are automatic variables
- Memory in RAM is allocated automatically for function parameters + local variables when a function is called
- Memory is deallocated when a function returns

The Call Stack

- Usually called "the stack"
- Every running program has its own stack
- The stack stores automatic variables for active functions
- Made up of stack frames - one for each active function
- Operations
 - Push a new stack frame onto the stack when a function is called
 - Pop the most recently pushed stack frame off of the stack when a function returns

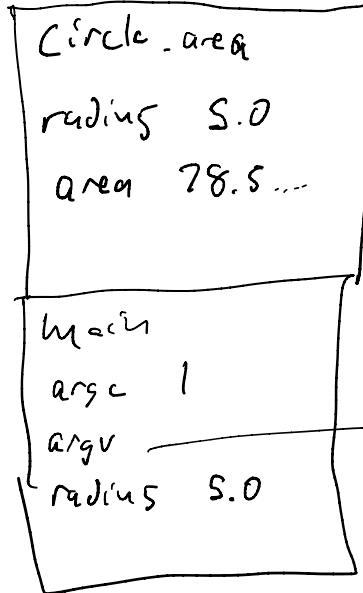
double circle_area(double radius) {

double area = radius * radius

* M_PI;

return area;

}



"(program)"