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## Naming, scope, and bindings

When it comes to variables, if within the same function (or in the main function) you declare one, it will get overwritten if it is used again, even within a loop. However a variable with the name "x" will be separate variables in different functions. So you could technically name one variable in each function x, though it would be confusing, but they would not be overwritten. C++ can have global variables that are declared before the main function. All variables can be pass by value as well as pass by reference, but pass by reference values are declared in a function where the pass in variable has the syntax "&[variablename]".

When attempting to run this code

```
char a [] = {'c','a','t'};
char b [] = {'d','o','g'};
//a = b; this line gives an error
b[1] = 'u';
cout << a;
cout << "\n";
cout << b;</pre>
```

There is an error with line 3, it seems that with char arrays, you cannot just switch them around as easily. The error being "invalid array assignment".