



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Kevin P. McManus	Project Number J1216
Project Title C vs C++	
Abstract Objectives/Goals My project's objective was to determine the speed of C compared to C++ (programming languages). I thought that C++ would be faster, because it was written more recently. Methods/Materials I used two books for reference, Herb Schildt's C++: The Complete Reference, and Teach Yourself C++, also by Schildt. I found these the most useful books while I was teaching myself programming. I used three compilers for the C language, and three compilers for the C++ language. I also used a computer. I wrote two programs (one that did math calculations, the other printed to the screen, both repeated the task 100,000 times) in the two languages. I compiled the C++ programs in the C++ compilers, and compiled the C programs in both the C compilers and the C++ compilers. I ran my programs ten times each, and recorded the time they took to run. I used Microsoft Excel to analyze my data using averages, medians, and graphs. Results The times varied with the different compilers, but the most significant evidence is the fact that the C programs compiled in the C++ compilers, were faster than the C++ programs I compiled in the C++ compiler. On a very basic level, C is faster than C++. Conclusions/Discussion At the basic level, in it's simple, basic functions, C is faster than C++. C is faster at math and printing, but C++ has plenty of advantages. If you look at the actual programs I wrote, the C++ code is a lot simpler. There are a lot of little things that I personally believe make the programmer's life easier. There are also a lot of bigger, more complicated things like classes, which can greatly simplify a large program. They didn't affect these programs, but in a real application or game, these features could make writing the program much easier. I think that when C was upgraded to C++, speed wasn't the only consideration. More important were power and ease of use.	
Summary Statement My project was on the relative speed of programming languages.	
Help Received My mother helped with the board layout.	