

# Developing an Automatic Assignment Grader for Computer Science Classes

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## INTRODUCTION

Beginner level computer science classes often have students create simple programs which produce very specific output. However, because students must wait for individual feedback on these assignments, the process could be greatly expedited if feedback or corrections were given immediately. The goal of this project is to develop a web application for Gavilan College that automatically grades and provides feedback for student-created programs written in the C++ language by testing them against a series of inputs and comparing their outputs with those expected by the instructor of the class.

## METHODS

Another student had worked on this project before me, using the XAMPP web server solution stack. I tried to use this at first, however some of the more complex parts of the project would have made this difficult. Instead, I switched to using the Django web framework, written in Python, and several other tools on an Ubuntu server. Using a framework allows better handling of more complex features such as user sessions and a template system, in addition to easier

-View

Server-side web frameworks. (2019, May 7). Retrieved from [https://developer.mozilla.org/en-US/docs/Learn/Server-side/First\\_steps/Web\\_frameworks](https://developer.mozilla.org/en-US/docs/Learn/Server-side/First_steps/Web_frameworks)  
Django Documentation. (n.d.). Retrieved from <https://docs.djangoproject.com/en/2.2/>

Many other sources were used as well, including the online documentation for Ubuntu, Django, etc. as well as countless answers from Stack Overflow.

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