

Criterion A: Planning

Defining the Problem

The client (myself) wants to create software that is open source that solves calculus problems and shows how the solution was found. Calculus often times is the bane of every high schooler's existence. calculus ranges from such complicated concepts as derivatives. These problems can be extremely frustrating to solve even with the answer. Many times the only way to figure out how to take the derivative of a function is to see the entire process that was required to find the answer.

Rationale for the Proposed Solution

I've decided to create a stand alone application for this application, because, in all honesty, it is the easiest way to implement this program that will also be user friendly to the high school audience that i am aiming for.

I want to write this piece of software because often times I will be working on a calculus assignment and I can not figure out a problem and the answer in the back of the book is not enough. I want a program that shows me how to find the answer that is open source. Wolfram alpha has software that achieves this, but is not open source and is not free.

I chose to use java, because it aligned with the AP course work for AP programming and is easily portable to multiple computer environments.

Success Criteria (in order of importance)

1. Application is able to solve basic power rule derivatives
2. Application is able to solve basic quotient rule derivatives
3. Application able to show how the solution was found