CS 4900

Project: Quad Solver

Stories

10/6/2019

Team: Skyler Sheler [skyler.j.sheler@wmich.edu](mailto:skyler.j.sheler@wmich.edu) (616) 438-3527

Erron Johnson [erron.d.johnson@wmich.edu](mailto:erron.d.johnson@wmich.edu) (269) 547-8933

Allin Kahrl [f.allin.kahrl@wmich.edu](mailto:f.allin.kahrl@wmich.edu) (207) 522-4859

Tyler Henniges [tyler.m.henniges@wmich.edu](mailto:tyler.m.henniges@wmich.edu) (269) 330-4229

Client: JKK Consulting [john.kapenga@wmich.edu](mailto:john.kapenga@wmich.edu) (269) 276-3108

Contact: John Kapenga j[ohn.kapenga@wmich.edu](mailto:John.Kapenga@wmich.edu) (269) 276-3108

Project Lead Allin Kahrl [f.allin.kahrl@wmich.edu](mailto:f.allin.kahrl@wmich.edu) (207) 522-4859

A quadratic formula solver is to be developed for JKK Consulting so an IT technician may solve quadratic equations of the form via a command line by supplying three floating point coefficients -- a, b, and c from the formula above -- returning two real roots with high accuracy. All calculations must be compliant to normalized IEEE F32 standards, with four significant figures of precision, and the input prompts must accept both floating point decimals and scientific notation. The program is to loop until the user quits the program. Examples of acceptable and unacceptable inputs will be provided for the engineer.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task | Time to complete | Risk (1-10) | Actual time | % Complete |
| Command line inputs via prompt | 1 Hour or less | 1 | TBD | 0% |
| Examples of acceptable and unacceptable inputs | 1 hour or less | 1 | TBD | 0% |
| Interpreter for scientific notation | 1 hour or less | 1 | TBD | 0% |
| Research of normalized IEEE F32 floating point calculations | 1-2 Weeks | 1 | 1 week | 100% |
| Algorithm development for solving the equation, outputs must be 4 sig figs. | 1-2 weeks | 3 | TBD | 0% |
| Program must be installed via tarball | 1-2 weeks | 5 | TBD | 0% |
| Create method headers for the program | 1 hour | 1 | 1 hour | 100% |
| Choose a make standard | 1 hour | 1 | TBD | 50% |
| Choose a C programming standard | 1 hour | 1 | TBD | 50% |
| Create makefile for program | 1 hour | 1 | TBD | 50% |