MathHack is technically at its 20th release with v2

Initially, this was a simple exercise to practise Python. This was the alpha stage of development.

It was named AnPyCalc, and went from version 0.1 - 0.4.2 .

- In early versions, it was equipped with basic + , - , * , / , ^ capability.
- Then, in versions 0.3 & 0.4, FACT and AVG were added.

In beta, it was re-written in C , compiled with Visual Studio, distributed as an .exe file and the change was reflected with the new name of AnCalc.

AnCalc was a short-lived phase, consisting only of versions 1.0 through 2.2. However, most major development occurred in this beta phase. Features added in beta :

- An automatic reset after completion of calculation, to enable it to be used multiple time without having to be re-launched.
- Creating a simplistic and crisp CLI , simplifying and reducing large swathes of unnecessarily detailed text.
- Addition of features : Modulus division (in CALC) , checking for prime, finding unique prime factors(PMFACT) .
- Various bug-fixes necessitated by the UI improvements.

Now ready to move beyond beta, and with the more apt and less vain name, MathHack was released.

- Version 1.0 brought in the TAB feature and MathHack was compiled to support x86_64 MacOSX using Clang.

- Code optimisations for readability were made : switch table replaced if statements for the CALC function.
- With version 1.2 , MathHack was compiled for x86_64 Linux (dynamically linked on Ubuntu 20.04) with GCC and made open-source under the GPLv2 license.
- Version 1.3 added functionality , introducing the FCTRL (factorial) feature as well as the ability to calculate √ using | in CALC, and the CLI was de-bloated further for simplicity and functionality. With this version, all numerical data types (%d & %f) were converted to their 32-bit maximums (%ld & %lf) to allow for much larger calculations and operations.
- Version 1.4 optimised data types through usage of short ints and register variables for loop counters. Also, a warning message was added for attempts to calculate beyond 20! , as that is the limit for accuracy with the modern 64-bit integer ceiling , but legitimate-seeming outputs are generated upto 65! , which may mislead the user into believing them to be accurate, when they are merely garbage values.
- Version 1.5 was a worthy mid-way release; introducing three new features : EQ (solving a quadratic equation for real roots) , HCF (finding the highest common factor or greatest common divisor of two numbers) , SMP (Simplifying fractions). Minor changes were made to the UI - the list of available functions is no longer displayed every time a function is to be entered, to avoid cluttering the screen.
- Version 1.5.1 was a minor update to v1.5 . Spelling correction, minor whitespace corrections, replacement of '*' in CALC with 'x' and Allowing

user-defined number of values in AVG were the changes implemented with this release.

- Version 1.5.2 was another minor update. An important addition was that from this version onwards, entering 'exit' would terminate MathHack. Version 1.5.2 fixed a bug in the Windows executable caused due to faulty implementation of the printf() function in an older version of Visual Studio.

From version 1.5.2 onwards, the Linux binaries are statically compiled for maximal compatibility across distributions and Windows binaries are compiled with lates VS. That apart, code commenting, minor code corrections for duplicity and changes in word choice were made.

- Version 2 shifted the focus to beyond simple arithmetic. Trigonometric capabilities were introduced, with TCAL(Trigonometric Calculator) and TTAB(Trigonometric Table) , for all trigonometric functions and both rad and degree measures. Further, EQ was improved to be able to calculate complex roots of quadratic equations.