

Machine Precision Assignment

The Main Question for Math 4610 at USU

For this assignment, you will need to complete the following tasks.

- Write a code in Python that will return the machine precision on your computer.
- Write an alternative routine that tries to compute machine precision at $x = 0$. You should plan that this may not work. Put a check on the number of divisions by $\epsilon = 1/2$ so that the loop will not be an infinite loop.
- Write code in C that will find the precision of machine numbers near $x = 1$.
- Change your code in the previous task to apply to double precision numbers when using C.
- Summarize the previous work in this assignment. You should be able to write your summary in just a few sentences.