1. The mathematicians tell us that the derivative

$$\frac{dy}{dy} = \lim_{h \to 0} \frac{f(t+h) - f(t)}{h}.$$

   What's the problem with using this definition on a computer?

2. How does one change the definition of derivative in question 1. to a practical algorithm?

3. What's the difference between the *forward difference* and the *central difference* algorithms for a derivative?

4. How do you derive an algorithm for a second derivative from the algorithm for the first derivative?