

Proofs and Programs

May 5, 2014

1. Critically discuss the following concepts: “correctness of an algorithm”, “the correctness of a program”.

2. Contrast the notions of “theorem”, “model”, “thesis”.

3. Comment the following statement:

D. Zeilberger: The real work of us mathematicians, from now until, roughly, fifty years from now, when computers wont need us anymore, is to make the transition from human-centric math to machine-centric math as smooth and efficient as possible.

4. Comment the following statement:

D. Knuth: ...programming demands a significantly higher standard of accuracy. Things dont simply have to make sense to another human being, they must make sense to a computer.