

CS 3723: Programming Languages

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You Name:

1. Categorize each of the following features as an advantage of either high-level or low-level programming languages (use H for high-level, L for low-level)
 - (a) code runs faster on hardware
 - (b) easy to write and maintain
 - (c) easy to port to different machines
 - (d) easy to debug (and detect errors)
2. Which of the following belong to all compilers, which belong to all interpreters?
 - (a) lexical analyzer
 - (b) syntax analyzer
 - (c) semantic analyzer
 - (d) intermediate code generator
 - (e) code optimizer
 - (f) machine code generator
3. which of the following are advantages of compilers? which are advantages of interpreters?
 - (a) generated code can run many times
 - (b) can afford heavy weight optimizations
 - (c) can pre-examine input program for semantic (type) errors before runtime
 - (d) have full knowledge of both program input and program implementation
 - (e) flexible, can easily adapt program behavior dynamically
4. Most programming languages are Turing complete (as powerful as modern computers) and can express all functions that are
 - (a) finite
 - (b) partial
 - (c) discrete
 - (d) partial recursive
 - (e) arbitrary
5. which of the following problems are computable (can be fully solved by computers)? Which are not computable?
 - (a) The halting problem (will an arbitrary program terminate when given a particular input?)
 - (b) Translating arbitrary Java programs to C.
 - (c) Translating arbitrary French papers to English.
 - (d) Whether an arbitrary program is free of bugs.