Notes

CSC140 Foundations of Computer Science

10 February 2015

1. compiler

    (a) check for errors
    (b) translate high level language to machine code

2. machine code—numerical (binary) codes

    (a) combine data arithmetically (add, subtract, multiply, divide)
    (b) combine data logically (and, or, not)
    (c) compare data to produce true or false ($<, >, =, \leq, \geq, \neq$)
    (d) copy data from one location to another
    (e) jump/branch

3. assembly language—human-readable form of machine code

    (a) 2 or 3 letter mnemonics
    (b) one operation for each line of program
    (c) 0, 1, 2, or 3 operands on each line
    (d) example: ADD R1, R2
    (e) not friendly—tedious and error-prone programming

4. IDE is "Integrated Development Environment"

    (a) NetBeans is an example
    (b) compiler
    (c) tool for creating documentation
    (d) debugger
    (e) class browser
    (f) tool for testing
    (g) tool for tracking history/versions
    (h) context-sensitive editor

5. statements

(a) assignment—evaluate expression and store value in named location

(b) if—choose between alternative actions

(c) for—repeat an action a specified number of times

(d) while—repeat an action so long as a specified condition holds

6. data types

(a) int—whole number

(b) double—number could have fractional part, could be very big

(c) boolean

(d) reference types—"addresses" of objects like Colors