Content Objective: Students will analyze/develop programs that instantiate objects from classes with data and methods.

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| **On the Tech Horizon (10pts.)**  **link to a tech/coding related article or journal no more than one month old (no blogs or reddit clones see below)** | |
| Course Discussion: |  |
| Reaction/Commentary: |  |

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| **Tech Terms and History (20pts.)**  **vocabulary and applicable backstory (definition/commentary in your words)** | |
| Transistor | Miniature electronic semiconductor replaced the large vacuum tubes. |
| Moore’s Law | Every 2 years, the amount of transistors in an integrated circuit will double in density |
| Cybernetics | The study of communication and control. |
| Data in Sciences (list) | Biology had its own data science by DNA. Economics is also a data science |
| Quebit | The quantum counterpart of bits |
| What can be done to data… | Streaming information, sorting, matching, parsing, filtering |
| Abstraction | Dealing with abstract concepts rather than definable events |
| Bit: by itself, means…? | Something or nothing, but without knowing the purpose of the bit, it is useless. |
| Bootstrap | Moorse abandoned his Moorse code system |
| Morse Code | Code consisting of long and short codes. Represented as dashes and dots |
| One bit can mean…? | Positive negative, yes no, flip flop, it is the fundamental data type of anything |
| ASCII | Encoding scheme for standard text, not many symbols (American) |
| Unicode | International encoding standard for many different languages and symbols |
| Floating Point | Numbers with a fractional or decimal point. |
| Class vs. Object | Classes are blueprints for creating multiple objects. |
| Method Arguments | Input commands for a method, or variables for the method |
| Interface | Methods form an interface, telling what you can do with the objects in the class |
| Accessor | A method that gets information from an object without modifying the object itself |
| Mutator | A method which is intended to modify the data if an object |
| API | “Application programming interface” lists all of the java classes and methods |
| Package | Classes in libraries are organized into packages. Packages are a collection of classes that have similar purposes |
| Object Reference | Object reference is the storage location of the object |

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| **Code Snippets (30pts.)**  **only submit snippets no full programs (test and run in IDE, then copy/paste applicable code frag)** | |
| E2.6, E2.8, E2.10, E2.11, E2.12, E2.14, E2.15, E2.16 | E2.6  String s1 = "Hello, World";  s1.replace('e','2');  s1.replace('o','e');  s1.replace('2','e');  System.out.println(s1);  E2.8  Color myColor = new Color(50,100,150);  myColor.brighter;  System.out.println(myColor.RGB());  E2.10  Color myColor = new Color(50,100,150);  myColor.darker;  System.out.println(myColor.RGB());  E2.11  Random rn = new Random();  int diceNumber = (rn.nextInt(6)+1);  System.out.println("The dice roll is: " + diceNumber);  E2.12  Random rn = new Random();  float price = (rn.nextInt(995)+1001);  price \*= .01;  System.out.println("The price is: $" + price);  E2.14  Day myDay = new Day(2012, 10, 31);  Day newDay = myDay.addDays(10);  System.out.println(newDay.compareTo(myDay));  E2.15  Picture pic = new Picture();  pic.load("queen-mary.png");  pic.scale(pic.getWidth()/2,pic.getHeight()/2);  pic.move(pic.getWidth()/4,pic.getHeight()/4);  E2.16  Picture pic = new Picture();  pic.load("queen-mary.png");  pic.scale(pic.getWidth()\*2,pic.getHeight()\*2);  pic.move(pic.getWidth()/-2,pic.getHeight()/-2); |
| P2.5 (only want the method to generate the number) | Random rn = new Random();  int[] numbers = new int[5];  for(int i = 0; i<5; i++){  numbers[i] = rn.nextInt(49)+1;  } |

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| **Code Challenge (30pts.)**  **full functioning application checked in to GitHub** | |
| Using the day class from the textbook online resources “worked example 1” create a console app using scanner to do the following:  1. Ask user for first name 2. Ask user for birth date (to work with day class) 3. Ask the user how long they would like to live in years 4. Ask the user for average ounces of fluid consumed in a day (water, milk, juice, soda etc. combined) 5. Calculate how many 8,000 gallon tanker trucks the equivalent liquid would be. (extra credit for ascii text graphic of tanker trucks…) | |
| GitHub URL: | https://github.com/SkylineHigh/CSAdvanced/tree/master/01%20Review/Tanker/Mathew |
| Notes: |  |

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| **Badge Progress (10pts.)**  **building your coding profile: Java coding training site to earn badges (recommended site** [**http://coderbyte.com**](http://coderbyte.com) **)** | |
| Screenshot/URL: |  |
| Notes/Issues: |  |

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| **Notes**  **your notes** | |
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Tech and Coding Magazines:

* <http://en.wikipedia.org/wiki/List_of_computer_magazines>
* <http://msdn.microsoft.com/en-us/magazine/default.aspx>
* <http://adtmag.com/Home.aspx>
* <http://www.javaworld.com>
* <http://visualstudiomagazine.com/Home.aspx>
* <http://www.pcmag.com>
* <http://applemagazine.com>
* <http://appdevelopermagazine.com>