STUDY GUIDE, CSCI OR CITA 140

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FORMAT OF TEST:
The test will be a combination of short answer questions, essays, multiple choice, writing functions, and debugging code errors.

Essay Samples:
- Discuss reasons why programmers use comments in their code.
- List and briefly define two of the type of variables discussed in Chapter 4. Also provide an example of each.

Short answer example:
- Briefly explain how the Processing window is “graphed” differently from the Cartesian graph system.
- What three colors are represented in the parameters for fill()? 
- The line() function has 4 parameters. What is the meaning of EACH one?
- What is the main difference between setup() and draw() in terms of how the code blocks are run.
- Use an English sentence or two to explain the following code:
  float mouseSpeed = abs(mouseX – pmouseX)

Some definitions that we covered:
Variable, parameter, argument, function

Examples of multiple choice questions
- Which of the following programming languages is Processing’s closest relative?
  - Python
  - C++
  - ActionScript
  - Java
- keyPressed() in Processing can be defined as a(n)
  - function
  - class
  - parameter
  - object
• The statement `background(0)` would render the background of a sketch in which color?
  o White
  o Black
  o Invisible
  o Gray

• Which of the following functions is like a windshield wiper in that when placed within the `draw()` structure can be used to clear the Display Window before the next frame is drawn?
  o `draw()`
  o `clear()`
  o `background()`
  o `fill()`

• The default for `frameRate()` in Processing is
  o 60
  o 5
  o 100
  o 30

Examples of writing code:
Be sure to write clearly and exactly the way they would look in your Processing program.

• Write the code for the following multiline comment.
  Sketch is created by James Smith.
  The program illustrates how variables work.
  The first declaration is a global variable.

• Write the code for a circle that starts at 40 pixels from the top, 30 pixels from the left, is 20 pixels wide and 20 pixels high. (It’s understood that it’s drawn from center outward)

• Write the code to change the color of a stroke to white.

Find the 3 problems in the following block of code.
```java
void mousePressed() {
  stroke(0);
  fill(blue);
  rectMode(center);
  rect(mouseX, mouseY, 16, 16, 20);
}
```