

Practice Midterm Questions: Total 35 points

Disclaimer: I have not seen the test and don't know what's on it. These are to help you answer some questions by hand and review some key topics, but is not an end all be all study guide for the midterm.

Instructions: Answer the following questions by hand, without the assistance of a computer:

- 1) What are the three components needed for declaring a variable? (1 point)
- 2) List the primitive types of variables in Java? (1 point)
- 3) Write a line to create a value x that equals 100...(1 point)
- 4) Write a line to create a value y that equals 10.75...(1 point)
- 5) What is the general form of a 'while loop'? (1 point)
- 6) Create a specific instance of a 'while loop' and explain, in words, what it does... (2 point)
- 7) What is the general form of a 'for loop'? (1 point)
- 8) Create a specific instance of a 'for loop' and explain, in words, what it does...(2 point)
- 9) What is the general form of an 'if- else' statement? (1 point)
- 10) Create a specific instance of an 'if-else' statement and explain what it does...(2 point)
- 11) Explain public vs. private (2 point)
- 12) What does it mean to define a variable as static? (1 point)
- 13) What does it mean to define a variable as final? (1 point)
- 14) Give three real-life examples of a class and object with two states/behaviors (example: class = chair(height, material), object = recliner (24 in, leather)) (2 point)
- 15)
 - a. Create a class circle (1 point)
 - b. Write a default constructor for circle (1 point)
 - c. Write a parameterized constructor for circle (1 point)
 - d. Write method for calculating the area of the circle (1 point)
 - e. Write a method for determining if the area (1 point)
 - f. Write the method signature. (1 point)
 - i. EC: write the getters and setters for radius (+1 point)
 - ii. EC: use private, public, and final appropriately (+1 point)
- 16) What is the purpose of a default constructor (1 point)
- 17) What is meant by inheritance? (1 point)
- 18) What does 'this' in Java refer to? (1 point)
- 19) What's the difference between an array and an ArrayList? (1 point)
- 20) Is this statement valid? If so what does it do? If not, why? **boolean isOn = True;** (1 point)
- 21) Is this statement valid? If so what does it do? If not, why? **int class = 34;** (1 point)
- 22) Is the following statement valid? If so what does it do? If not, why? (1 point)

```
int[] values = new int[3];
values[1] = 34;
values[2] = 45;
values[3] = 78;
```
- 23) Is this statement valid? If so what does it do? If not, why? **char city = "SB";** (1 point)
- 24) Is this statement valid? If so what does it do? If not, why? **string 1stPlace = "Jack";** (1 point)
- 25) Is this statement valid? If so what does it do? If not, why? **int cost = 10000000000;** (1 point)