Level 1 Exam (70 points)
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1. **Write a line of code that makes a Hamburger given the code below: (3 points)**

public Hamburger (double poundsOfBeef, boolean withCheese) {
// some code
}

> new Hamburger(0.5, false);

2. **Write a constructor for a Duck object that has a name and an age. (6 points)**

> public Duck(String name, int age) {
> this.name = name;
> this.age = age;
> }

3. **Write code to create and initialize 4 variables: one for each of the following values: (4 points)**

The number of toes you have
The name of a favorite sports team
An instance of java.util.Random
A JFrame

> int toes = 4;
> String favSportsTeam = "Green Bay";
> Random r = new Random();
> JFrame frame = new JFrame();

4. **Which of these are valid JComponents: (4 points)**

JFrame
JButton
JMouseListener
JTextButton
JLabel
JOptionPane
JPane
JPanel
Frame

> JFrame, JButton, JLabel, JPanel

5. **List all the JComponents used to create the application shown here. (6 points)**

   JFrame, JPanel, JLabel, JTextField, JButton (x2)

6. **Write 2 lines of code that will add listeners to these two Components: (6 points)**

   JButton myButton = new JButton();

   JFrame myFrame = new JFrame();

   myButton.addActionListener(this);

   myFrame.addActionListener(this);

7. **What method do you use to organize the layout of components in a JFrame? (3 points)**

   // JFrame frame = new JFrame();

   frame.pack();

   // Method is JFrame.pack()

8. **int checkStock(String productName, int productNumber) { //code here }**

   a) What is the return type of this method? (3 points)

   b) What parameters does it take? (3 points)

   c) What code would you need to put between the mustaches to get it to compile? (4 points)

   a) integer

   b) String and integer: Product Name and Product Number, respectively

   c) return integer; // After initializing integer as an int

9. **Write a method that quadruples a number (multiplies it by 4) and returns the result. (6 points)**

   ```
   int quadrupleIt(int original) {
   return (4 * original);
   }
   ```

10. **What is the problem with this code (2 points) and how would you fix it (4 points)?**

```
public class RedRedRed {

public static void main (String[] args) {
int counter = 0;
}

public void incrementCounter() {
counter++;
}
}
```

```
// The problems are: incrementCounter() is never called, and it does not have access to the variable "counter"

// Below is how to fix it

public class RedRedRed {

int counter = 0;

public static void main(String[] args) {
new RedRedRed().incrementCounter();
}

public void incrementCounter() {
counter++;
}
}
```

11. **Write code to make the Dog bark given the code below. (6 points)**

```
public class Dog {
String name;

Dog (String name) {
this.name = name;
}

void bark() {
System.out.println ("woof woof");
}
}
```

```
Dog Kaia = new Dog("Kaia");
Kaia.bark();
```

12. Write code to use the EmailSender class below to send an email and print a warning if the email did not send correctly. (10 points)

public class EmailSender {

/* returns true if email was sent successfully, or false if it failed to send. */

boolean send (String greeting) { //code here }

void setEmailAddress (String email) { //code here }

}

```
EmailSender e0 = new EmailSender();
e0.setEmailAddress("Hello Sr. Valenzuela, 90% of Earth's mass is alkaline metals");
if (e0.send(getEmailAddress()) == false) {
System.out.println("Technical Difficulties");
}
```