1. Can you access non static variable in static context?
2. Difference between == and equals method
3. **Does Java support multiple inheritance? Gary 4/14**  
   No. You can only have a single parent
4. Explain the reason for each keyword of public static void main(String args[])?
5. How can we sort a list of Objects?
6. How can we use Spring to create Restful Web Service with a JSON response?
7. How to convert String to Number in java program?
8. In System.out.println(), what is System, out and println?
9. **Is Java 100% Object-oriented? Rashad 4/14**

No. Because we have primitives (int, long, float….)

1. Name primitive Java types.
2. What are “class variables”?
3. What are pass by reference and pass by value?
4. What are some of the important Spring annotations?
5. What are the concepts of OOP?
6. What does the @RequestParam annotation do? Julius 4/14

It indicates to SpringBoot that the parameter being tagged is coming from the browser and SpringBoot should set the value of that parameter to be the value from the web page.

1. **What is a Constructor? Gary 4/14**  
   The method that creates my class, that instantiates my class. It has a name that matches the class but does not have a return type.
2. What is a static method?
3. **What is an Abstract class? 4/14**

It is a class but not all methods are defined. It has unfinished business. Any class extending that abstract class must **implement** the missing code for the abstract methods. I.e. Vehicle class that has an abstract method for honkHorn. Children classes that extend Vehicle must create the code for the honkHorn mehtod.

1. **What is an Iterator? Rain 4/14**

An iterator is a part of an object which lets us iterate (loop thorough) and get the individual elements one at a time i.e.

for (int num : nums)

1. **What is Autoboxing and Unboxing? Jarvis 4/14  
   int** pNum = 10;  
   Integer oNum = Integer.*valueOf*(**"10"**);  
     
   oNum = Integer.*valueOf*(100);  
   oNum = 100; *// boxing a primitive into an object*pNum = oNum.intValue();  
   pNum = oNum; *// unboxing an object to assign to a primitive*
2. What is autowiring (Dependency Injection)?
3. What is Collections Class?
4. What is Constructor Overloading?
5. What is Controller in Spring MVC framework?
6. What is Encapsulation?
7. What is Function Overriding and Overloading in Java?
8. What is Inheritance?
9. What is Local Variable and Instance Variable?
10. **What is Polymorphism? Maurice 4/13**
11. What is Queue and Stack, list their differences?
12. What is singleton class and how can we make a class singleton?
13. **What is Spring?**

It is a Java framework to ‘bootstrap’ the configuration and setup of an application.

1. What is the benefit of Generics in Collections Framework?
2. What is the difference between a while statement and a do statement?
3. What is the difference between an if statement and a switch statement?
4. What is the difference between an Interface and an Abstract class?
5. What is the difference between declaring a variable and defining a variable?
6. What is the difference between public, private, protected and default?
7. Which class is the superclass of every class?
8. Why is Java called the “Platform Independent Programming Language”?

All assignments will be developed in individual **methods**.

1. Given an array of integers find the largest, smallest average.
2. Given an array of integers find the second largest and the second smallest.
3. Given an array of integers return the total of all values.
4. Given an array of integers return count of numbers > some value.
5. Given an array of strings find the longest string.
6. Given a string create an array of the words in the string.
7. Given a number print a square with that as the length and width of the sides.  
   \* \* \* \* \* \* int side = 6;  
   \* \*  
   \* \*  
   \* \*  
   \* \*  
   \* \* \* \* \* \*
8. Given a number print a tree shape.  
    \* int howTall = 4;  
    \*\*\*  
    \*\*\*\*\*  
    \*\*\*\*\*\*\*
9. Given a string convert to an array words print words within a box.  
   \*\*\*\*\*\*\*\*\* String str = “Let’s do this!;  
   \* Let’s \*  
   \* do \* // create word array to determine number of rows  
   \* this! \* // find the longest string to determine width  
   \*\*\*\*\*\*\*\*\*
10. Given a string with a person’s name return a string of their initials
11. Given two numbers, find the largest, print the numbers from max to min.
12. Given a string print the individual characters front to back and back to front.
13. Given a string reverse it..ti esrever gnirts a neviG
14. Given a string capitalize each word and print out.
15. Create an Enum class for the Planets in the Solar System.
16. Given a Planet return the distance from the Sun. (Use your Planet Enum)
17. Create a Class for a Shoe. Must have at least 4 properties.
18. Create a base class with 3 properties, create a child class from that base class
19. Given a temperature return the type of clothing you should wear.
20. Given a distance in miles convert to kilometers.
21. Given a number calculate the date that many days in the future.
22. Loop 0 to 100, print Fizz if divisible by 3, Buzz if divisible by 5 and # otherwise
23. Find the sum of all the multiples of 3 or 5 below 1000.
24. Given two coordinates {x1, y1} and {x2, y2} what is the distance between them
25. Give the center coordinate of a circle {x, y} and the radius r, determine if a point {x1, y1} is inside the circle. (distance from x, y is < r)
26. Read a file from your hard drive and print the contents