**Chapter 6**

Ex. 6.1 – Done

Ex 6.2 - Class documentation’s structure seems to have a set order of how things are introduced. First, we get a detailed description of the classes intended purpose and how to use it. Then we are given a summary of the classes fields (String only has one). Then it introduces all of the classes constructors with description about each one. Finally there is the method summary which is very long. It contains every method in the class and explains in detail how each one operates and is used.

Ex 6.3 – There are two versions of startsWith method in the String class. They both search a string to see if it starts with a certain “prefix”. The first only has one parameter and searches from the start of the string and returns true or false depending on if prefix was the same as the beginning of the string. The second version takes a second integer parameter and it uses to offset where it begins the search.

Ex. 6.4 – There is a method that test to see if a string ends with a given suffix. It was creatively named endsWith and has only one parameter, “suffix”, and it compares that to the end of the string instead of the beginning. Other than that, it functions the same a startsWith.

Ex. 6.5 – There is a method called length that returns the number of characters in a string. It has no parameter and returns an integer value.

Ex. 6.6 – To find the methods above I used control F and searched the page for what I thought would be key words in the method. It worked very well for finding endsWith and the word length was so numerous it took some scrolling to find the actual method.

Ex. 6.7 – public string trim()

String trimText = text.trim();

Ex. 6.8 – Implement an improvement to tech-support1 that make the method tolerant of an extra space around the word “bye”.

Done and saved.

Ex. 6.9 – Make it so that the word “bye” is no longer case sensitive.

Done and saved.

Ex. 6.10 – the equals method returns a Boolean.

Ex. 6.11 – Change your implementation to use the equals method instead of startsWith

Done and saved.

Ex. 6.12 – The random class is part of the java.util package and it is used to generate random numbers. To create an instance of Random we can use constructor calls. From what I am reading the random number is generated by a given “seed” which passes through a sequence of method calls to generate a “random” number.

Ex. 6.13– Random random= new Random()

int x = random;

Ex. 6.14– Write dome code to test the generation of random numbers. Create two methods (printOneRandom and printMultiRandom(int howMany).

Done and Saved.

Ex. 6.15– when 100 is used in nextInt method the possible random numbers generated will be between 0 and 99. This is because the parameter is exclusive.

Ex. 6.16 – Write a method in RandomTester classs called throwDie and have it return a value between 1 and 6.

Done and Saved.

Ex. 6.17 – Write a method called getResponse that randomly returns one of the strings “yes”, “no”, “maybe”. I wasn’t sure what class to put this in so it is currently in the Responder class.

Done and Saved.

Ex. 6.18 – Extend getResponse method so that it uses an ArrayList to store an arbitray number of responses and randomly returns one of them.

Done and Saved.

Ex. 6.19– Add a method to your RandomTester class that takes a parameter max and generates a random number between 1 and max(inclusive).

Done and saved.

Ex. 6.20– Add a method to RandomTester that takes two parameters (min & max) inclusive.

Done and saved.

Ex. 6.21– Yes, the SecureRandom class could be used instead of the Random Class, other than being more secure it fills the same role. Security of random numbers can be incredibly important. Like when you get a verification code for altering accounts for various things. It can also be used to protect passwords (encryption) and pin numbers.

Ex. 6.22– Done and saved

Ex. 6.23– Nothing too dramatic will happen if responses are added or removed from the responses list and this is because we have the random number generator set up to depend on the ArrayLists size so it will always have the correct range because of how it is set up.

Ex. 6.24– Hashmap is an implementation of Map. It maps values associated with it. It uses and improves the operations get and put. It is also unsynchronized so it won’t generate a repeating order the map. It will remain variable over time.

Ex. 6.25– The same type of methods can be used in both parameters.

Ex. 6.26– We can find out how many entries are ina map by using the size method.

Ex. 6.27– Implement the listed methods

Public void enterNumber(String name, String number)

And

Public String lookUpNumber(String name)

Done and Saved.

Ex. 6.28– If an entry is added to a map with a key that already exists it will not allow a duplicate key. The new one will overwrite the previous.

Ex. 6.29– If an entry to a map with two different keys

What happens when you add an two entries to a map with the same value in two different keys

Ex. 6.30– The containKey method is used to check if a given key is contained in a map. It will return a Boolean value. True id the key is found or false if it isn’t.

An example would be

HashMap<String, String> contacts = new HashMap<String, String> ();

contacts.put(“Chuck”. “455-887-5454”);

contacts.put (“John Doe”, “111-111-1111”)

Boolean found = contacts.containKey(Mr. Krabs”); //will return false

Ex. 6.31– If we look for something that doesn’t exists the map will return null.

Ex. 6.32– To print all of the keys in a hash map you have to use the keySet method and an iterator to go over the whole collection.

Ex. 6.33– Implement changes discussed in Objects First with BlueJ.

Done and saved

Ex. 6.34– HashSet and ArrayList are similar and different. They both store collections of items and have some similar methods like add, remove, and iterator. They biggest differences are that HashSet doesn’t allow multiple copies of an object and it doesn’t store objects in any particular order.

Ex. 6.35– We define how a string should be split by using an input sequence and it will return and array of strings. There are two versions of the split method. The first takes only one parameter ( charsequence) and the other takes two parameters (CharSequence and limit

Ex. 6.36 – If we wanted to split a string at space or tab characters we’d use space or tab for the CharSequence input. If we wanted to split a string separated by a colon, it would be placed in the CharSquence input.

Ex. 6.37 – The difference in returning words from hashset when compared to arraylist is that hashset doesn’t return duplicate elements and arraylist can.

Ex. 6.38 – If there is more than one space between words there shouldn’t be any problems because it will treat the extra space as an empty string.

Ex. 6.39 – Array.asList is a method and contained in java.util and returns a list with a set size. It can also act a a bridge between array based and collection based “API”.

Ex. 6.40 – Some other methods that the Arrays class provides are copyOfRange which copies a specified range of the original array and is copied into a new array. There is also numerous versions of fill which will fill an array with specified items of the same type or specific objects, those are just two more and I am a little tired of scrolling to be honest. (on hour 9 for today)

Ex. 6.41 – Create a class called SortingTest in create a method that accepts and array of int values as a parameter and prints the elements sorted in ascending order.

Done and saved.

Ex. 6.42 –Implement Discussed Changes: Done

Ex. 6.43 – Add more word/responses mappings into your application. You can copy some from the solutions provided but write some yourself.

Done and saved.

Ex. 6.44 – Ensure that the same default response is never repeated.

Done and saved.

Ex. 6.45 – Sometimes two words are mapped to the same response. Deal with this by mapping synonyms or related expressions to the same string, so that you do not need multiple entries in the response map with the same response.

Just need to fix an error

Ex. 6.46 – Done and Save (once 6.45 fixed)

Ex. 6.47 – Can’t do without 6.45 completed

Ex. 6.48 – the putIfAbsent method of the HashMap class takes two parameters, key and value. The method checks to see if there is and associated value to the key. If there isn’t one it associates the parameter value and returns null. If this isn’t the case it returns the current value.

Ex. 6.49 – Add a method to the Word Counter Class in tech-supportAnalysis to print a usage count of a each word after “goodbye” message has been printed.

STARTED BUT loop doesn’t terminate

Ex. 6.50 – I found a version of this online but don’ understand it.

Ex. 6.51 – It seems to be as accurate as my comments. It displays what I have written along with method headers. I am missing documentation on parameters and return types. Honestly to the method name and function description are important to me. So far parameters tend to be self-explanitory but I have a hunch that changes eventually. As far as errors how am I supposed to truly know. Theres a million ways to do anything and I struggle immensely even to get one to work if at all. Don’t Ask me if there are errors I don’t FUCKING KNOW that’s why I am taking a class.

Ex. 6.52 – the javaDoc key symbols do just that. Htye denote key symbols and to help make the point even more clear in class descriptions, and headers for methods/constructors they typically get their own line.

Ex. 6.53 – t\there are three main categories of tags; overview documentation tags, package documentation tags, and class and interface documentation. One that stands out to me as particularly useful is the @link tag which gives you an attached link.

Ex. 6.54 – Fine

Ex. 6.55 – Done

Ex. 6.56 – Done

Ex. 6.57 – Done

Ex. 6.58 – Color constants cam be used to set a default color to an object. In DrawDemo the square’s default is blue and the wheel’s is red.

Ex. 6.59 – Four more available color constants are CYAN, MAGENTA, ORANDE, and YELLOW.

Ex. 6.60 – Create a canvas. Using the canvas’s methods interactively, draw a red circle and a yellow rectangle.

Done

Ex. 6.61 – The whole canvas can be cleared using the erase() method.

Ex. 6.62 – In class DrawDemo, create a new method named drawTriangle. This method should create a pen (as in drawSquare) and then draw a green triangle.

Done and saved

Ex. 6.63 – write a method drawPentagon that draws a pentagon.

Done and saved

Ex. 6.64 – Write a method drawPolygon that will draw a regular polygon with n sides.

Done and Saved

Ex. 6.65 – Write a method called spiral that draws a spiral.

Done and Saved

Ex. 6.66 – In your DrawDemo class, type “myCanvas.er” then press ctrl-space to activate code completion. How many methods are shown?

With .er I get no suggestions but if I remove the r is removed it suggest the equals method and if it is just myCanvas., it list all methods of the class.

Ex. 6.67 – Add a method to your DrawDemo that produces a picture without the use of a pen object.

Done and saved.

Ex. 6.68 – Change the method “bounce” in class BallDemo to let the user choose how many balls should be bouncing.

It won’t show the balls bouncing and runs infinitely.

Ex. 6.69 – HasgSet is the most appropriate collection for storing balls because it ensures that there is at least one ball and that there is only one of each ball.

Ex. 6.70 – Change the bounce method to place balls randomly anywhere in the top half of the screen.

Done and saved

Ex. 6.71 – Write a new method named boxBounce. This method draws a rectangle on screen and one or more balls inside the box. For the balls, do not use BouncingBall, but create a new class BoxBall that moves around inside the box, bouncing off the walls of the box so the ball is always inside. It should start at a random speed and the number of bales will be determined by a user.

Done and Saved

Ex. 6.72 – Give the balls in boxBounce random colors

Done and saved

Ex. 6.73 – If we increase the value associated with gravity in the program the speed at which the ball falls is increased. The opposite occurs when you decrease the value.

Ex. 6.74 – Write constant declaration for the statements in the book.

Public final double tolerance = 0.001;

Private int passMark = 40;

Public final char command = ‘h’;

Ex. 6.75 – The constant names defined in java.lang.Math are values for ***e***  , PI, integers minimum and maximum, and a doubles minimum and maximum.

Ex. 6.76 – if you have a constant value that is used in ten different places it should be written as a final variable. This ensures there is no errors between what is used/written many times.

Ex. 6.77 – Find a method that computes the maximium of two int numbers. What does its header look like?

Public static int max(int a, int b){

Ex. 6.78 – Methods in the math class are static because they do not depend on an objects internal state. But there are no stand alone method in java, so they are declared as static methods.

Ex. 6.79 – Write a test class that counts from 1 to 10000. Use the currentTimeMillis() to find out how long it takes.

Done, although min simply returns 0, it happens near instantaneously. If counter increased to 1,000,000,000 it takes 821 milliseconds at 100,000 it takes 1.

Ex. 6.80 – A static method can be called from and instance method.

No an instance method cannot be directly called from a static method.

Yes a static method can be called from another static method without an object’s reference.

Ex. 6.81 – Done

Ex. 6.82 – Add a main method to your Support System that invokes the start method.

Done and saved, I have it in both tech-support exercises and Ex. 6.48 – 6.50

Ex. 6.83 – Done, it works in Ex. 6.48 – 6.50 so it would work in Tech-support exercises if it compiled.

Ex. 6.84 – Yes, a class can track how many instances of it have been created. But the method must be static.

Done and saved.

Ex. 6.85 – Implement this version of getSightingsOf method in your own animal-monitoring project.

Done and saved. The project is a wreck and not sure why last line isn’t functional in it

Ex. 6.86 – Rewrite getSightingsInArea method from the original animal monitoring project in the functional style. Same problem but with a broken filter line as well

Done and saved.

Ex. 6.87 – Create a star wars name generator using the formula given in book.

Done and Saved.

Ex. 6.88 – The code fragment given doesn’t work because it is trying to change and immutable object. To change it you have to have to call the toUpperCase method and then print what it returns.

Ex. 6.89 – the issue is that the values are swapped in local variables so outside the method no change will be reflected.