CSC 20 – Exam 1 – Fall 2018

1) (3 Pts) Write three lines of code, one that creates a Random object, a second that assigns a random 3-digit integer (ie, 100..999) to int x, and a third that assigns a random double in the range 100..999 to double y.

2) (3 Pts) Write a static method `dup2D` that duplicates and returns a 2D array of `int`. You may assume there is at least one row and column and that each row of the array is the same length.

3) (3 Pts) Write a static method `delFifths` that takes a String as a parameter and returns the same string but with every fifth character deleted (ie, delete at index 4, 9, 14, etc). So, "Hello world!" would become "Hell word!". Do not use `charAt`. Note: in a for-loop you may write `i+=5` instead of `i++` to increment 5 at a time.

4) (5 Pts) Write a static method `max` that takes as a parameter a Scanner already connected to a file and ready for reading, and return the largest value of the integer tokens in it. If no token can be read as an integer throw an `IllegalArgumentException`. Note: there may be tokens other than integers and there may be no tokens at all.

5) (6 Pts) On the back of this page write a complete Java program (including imports, class name, etc) that prompts the user for a file name and prints "exists" if the file exists and is readable and "not exists" otherwise. Do this using a try-catch structure. If you can set up a Scanner to the file then it exists and is readable, and if that fails it is not.