Assignment # 2
Due Thursday 21st, 2019

Q1.(10 pts) Write a Java program that reads a string then calls function checkPassword to check if the string is a validpassword or not
A string is a valid password:

1. have at least ten characters.
2. consists of only letters and digits.
3. contain at least two digits.

Q2. (10 pts) Write a program to score the paper-rock-scissor game. A player will play against the computer. The player enters a types in either P,R or S. Computer randomly selects paper, rock, or scissor. The program calls function FindWinner to announces the winner.
For determining the winner: Paper covers rock, Rock breaks scissors, Scissors cut paper, or it is a tie. Be sure to allow the users to use lower case as well as uppercase letters. Your program should include a loop that lets the user play again until the user says she or he is done.

Q3 (10 pts) Write a java program that reads 20 integer values within the array. For this program, there will be only one array. In your main function, define a constant MAXSIZE for an array. Initialize the MAXSIZE to 20.

Initialize the array to contain the values from 0 to MAXSIZE - 1, in array positions 0 to MAXSIZE - 1, i.e., array position 3 has the value 3.

A user selects a transformation to apply to the array from a menu:

1. square
2. halve
3. accumulate
4. transpose
5. shift right
6. reverse
7. quit program

`void square(int a[])` - Square every value in the array.

`void halve(int a[])` - Halve every value in the array (rounding down), for example if an element in the array is equal to 3 after calling function halve the element will be 1.

`void accumulate(int a[])` sum all elements of the array.

`void transpose(int a[])` - For every pair of neighbors in the array, switch their values. That is, switch the value of a[0] with that of a[1], and a[2] with a[3], etc.

`void shiftRight(int a[])` - Move every value in the array to the next index position on the right side, e.g., the value of a[3] is moved to a[4]. Except a[19] move the value of the last index to the first index, e.g., a[19] is moved to a[0] for an array of size 20.

`void reverse(int a[])` - Reverse the values in the array, e.g., in an array of size 20 switch a[0] with a[19], a[1] with a[18], etc.