Introduction to Standard Classes (String) - Practice Problems

This problem set requires knowledge of the JS String methods..

When saving a problem, name the file with the language and lesson, followed by an underscore, followed by the level(l) and problem(p) numbers. For example, the first problem in level 2 of this problem set would be named: l2p1.js.

<mark>**BE SURE TO TEST EACH PROBLEM WITH A VARIETY OF VALUES**</mark>

Level 1
1. Have the user enter a name and output a message with the word hello concatenated in front of the name. (e.g. Input ("Mickey") – Output ("Hello, Mickey").
2. Have the user enter a string value of minimum length two, return the string made of its first two chars, so the String "Hello" yields "He".
3. Have the user enter a string and output the first character in lowercase.
4. Have the user enter a string and output the index in which the string "at" appears in the string.
5. Have the user enter a string representing a username. Output how many characters their username is.

Level 2
1. Have the user enter a string and output a "rotated left 2" version where the first 2 chars are moved to the end. The string length will be at least 2. For example, the String "Hello" yields "lloHe".
2. Have the user enter a string and output the last character in uppercase (hint: use the length property).
3. Have the user enter an email address. Make sure that the email address contains an '@' character and a '.' character. Show the index(location) of both the @ and . characters.
4. Have the user enter a first name. Output the entire name so that the first character is capitalized and the rest of the name is lowercase. This should work regardless of how the user enters the name.

Level 3
1. Have the user enter a string and output a string of length 3 from its middle, so "Candy" yields "and" and "Friends" yields "ien". The string length will be at least 3.
2. Have the user enter a noun, saved in a variable called n, a verb with an ing ending, saved in a variable called v, and a place, saved in a variable called p. Use the variables in the appropriate places in this sentence: "The noun was verbing to the place." Display the final sentence.
3. Store the following value as a string variable: "Java is a powerful programming language. There are many built in functions and classes in Java that allow programmers to perform tasks easily." Then, output the string with Java being replaced by JavaScript. Experiment with and research the string methods to find the method that will do this.

(OLD) Introduction to Standard Classes (Math and String) - Practice Problems

Level 1

6. Take a number from a user and display the absolute value of that number. Use prompt and alert windows.
7. Have the user enter a number. Show the result of that number raised to the 4th power. Use text input and innerHTML.
8. Have the user enter two numbers. Display the smallest of the two and the largest of the two. Use prompt windows and document.write.
9. Take a name as input from a user and output a message with the word hello concatenated in front of the name. (e.g. Input ("Mickey") – Output ("Hello, Mickey").
10. Take a string from a user of minimum length two, return the string made of its first two chars, so the String "Hello" yields "He".
11. Take a string from a user and output the first character in lower case.
12. Take a string from a user and output the index in which the string "at" appears in the string.
13. Write a program that asks a user for a username with more than seven characters. Output if the length of the string is 8 or more.

Level 2

5. Have the user enter three numbers. Display the largest of the numbers.
6. Take four numbers from a user, representing two points (x1,y1) and (x2,y2). Display the slope and distance between the two points.
7. Take two side lengths from a user. Calculate and display the length of the hypotenuse.
8. Take a string from a user and output a "rotated left 2" version where the first 2 chars are moved to the end. The string length will be at least 2. For example, the String "Hello" yields "lloHe".
9. Take a string from a user and output the last character in upper case (hint: use the length property).
10. **Write a program that asks a user for a password. The password must be at least 5 characters long, but no more than 12. If the password fits the criteria, output that their password has been set. Otherwise, tell them their password is invalid.**
11. Ask a user for an email address. Make sure that the email address contains an '@' character and a '.' character. If either are absent, tell them that their email is invalid. Otherwise, create a link on the page to their email address.
12. Using a web form, create three text areas. The first is for a number, the second is for an operation (+, -, *, /, %), and the third is for another number. When the user presses the calculate button, the program should use a switch structure based on the operator and output the result in an alert window.
13. Use the math class to generate a random number between 2 and 12 (Math.random() generates between 0 and 1, so do some math and you should get 2 to 12). This will represent the sum of the roll of a pair of dice. If the number is 7 or 11, output that they are a winner. If the number is 2 or 10, output that they are a loser. For anything else, tell them it is a tie and they should play again. Use an else if structure.

Level 3

4. There are three methods used for rounding in JavaScript: Math.floor(), Math.round(), and Math.ceil(). Show the output for each of these in a table for the following values: 4, 5.78, 3.24, and 9.5. Then, write a few lines of output under the table discussing the purpose of each of the methods. Give examples of when each might be used.
5. Take input from the user in the following form (b^e). For example, 3^4. Use String and Math methods to

output b raised to the e power.

6. Take a string from a user and output a string of length 3 from its middle, so "Candy" yields "and" and "Friends" yields "ien". The string length will be at least 3.

7. Store the following in a string."Java is a powerful programming language. There are many built in functions and classes in Java that allow programmers to perform tasks easily." Then, output the string with Java being replaced by JavaScript. Experiment with the string methods to find the method that will do this.

8. Write a program that asks a user for a password. The password must be between 8 and 12 characters AND must have at least one capital letter, at least one lowercase letter, and at least one number in it. If the passwords meets this criteria, send them to a secure page. Otherwise, reload this page.