

Assignment 4

1. Write a java program that receives a text message from keyboard and print it out if its length is between 6-10 characters.
2. Write a java program that let the user choose his/her username and password. The program verifies whether the chosen username and password are valid. If either one of them is invalid, it notifies the user and explain the cause of invalidity. The rules for choosing valid usernames and passwords are:
 - a. A username must be of length 6-15 characters.
 - b. A username must start with an uppercase English alphabet A to Z.
 - c. A password must not be shorter than 8 characters but must not exceed 256.
 - d. There cannot be any types of parentheses or whitespaces in a valid username or password.
 - e. A password cannot contain or be the same as its associated username.
3. Write a Java program that randomly picks an English alphabet (A-Z) and keeps asking the user to guess the alphabet until he/she has got it right. Also report the number of trials.
4. Write a Java program that calculates and shows the sum of all even integers from 0 to n, where n is specified by the user via keyboard. Assume that n is an integer greater than 0.

Income (G.)	Tax Rate (%)
1-100,000	0
100,001-500,000	10
500,001-1,000,000	20
1,000,001-4,000,000	30
above 4,000,000	37

According to the table, if a person's income is 550,000 G., there is no tax for the first 100,000 G., 10% of the income in the range 100,001-500,000 are taxed, which equals 40,000 G., The last 50,000 G. is taxed with the rate of 20% resulting 10,000 G. Therefore, the total tax for this person is 60,000 G.

Write a method called `tax()` which returns the amount of tax associated with the income supplied as the only input to the method. Assume that there are no decimal points in any incomes.

5. Write overloaded methods named `nextValue()`.

If the input is numeric value of the type `int`, `float`, or `double`, the associated methods should return a value that is one greater than the input parameter but with the data type similar to the input. If the input is a single character either a `char` or a `String`, the associated methods should return a `char` or a `String` whose value is the character immediately following the input parameter.

For example, `nextValue('q')` must return `'r'`. If the input is a `String` with more than one characters, the method should return a new `String` whose content is the same as the input but the last position is the character immediately following the character in the last position of the original `String`. For example, `nextValue("ABC")` must return `"ABD"`. If the input is null, the method returns null. 17. Write a Java program that displays positive int

6. Create a class named as Bank account with following fields and methods

Account name

Owner

Account type

Balance

Methods

Showing the current balance

Showing all info associated with the account

Withdrawing money from the account

Depositing to the account