**Unit 2 Homeowrk/lab**

**Please go over keywords and concepts at:**

[**https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit2-Using-Objects/topic-2-10-summary.html**](https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit2-Using-Objects/topic-2-10-summary.html)

**Also, please complete the questions in the CSAWESOME textbook on your own time, the question can be found at:**

[**https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit2-Using-Objects/topic-2-11-practice-mixed-code.html**](https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit2-Using-Objects/topic-2-11-practice-mixed-code.html)

[**https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit2-Using-Objects/topic-2-12-practice-coding.html**](https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit2-Using-Objects/topic-2-12-practice-coding.html)

[**https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit2-Using-Objects/practice-test-objects.html**](https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit2-Using-Objects/practice-test-objects.html)

[**https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit2-Using-Objects/Exercises.html**](https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit2-Using-Objects/Exercises.html)

**LAB**

**Classes and objects**

1. Create a class of your choice (class of books, video game characters etc.) and create at least 5 methods. Test your code with the help of print statements. For reference, please look at the Person class at <https://runestone.academy/runestone/books/published/apcsareview/JavaBasics/firstOOClass.html>
2. Add a default constructor to your class.
3. Add a method with mathematical arguments and return values.

**Strings**

1. Create two new strings, using the two ways shown in the slides. The first string should contain lyrics from a song, the second string will contain a word that shows up in the song.
2. Print the second letter in the word you saved in the variable you created in question 4. Use charAt() and substring
3. Use indexOf method to find where the word first appears in the song. Save the index value as an int variable.
4. Use the length method to find the length of the word. Save the value as an int variable.
5. Create a new string variable and assign to its memory the word from the second string using the first string, the two variables you created in questions 5 and 6, and the substring method.
6. Using the equals method check if the variable you created in question 7 is the same as the second variable you created in question 4. Use a print statement to verify your answer.
7. Use the contains method to check if the word you saved in the variable you created in questions 7 exists in the lyrics of the song you chose. Use a print statement to verify your answer.

**Math**

1. Print the maximum and minimum values of int
2. Generate and display 2 random numbers
3. Simulate a roll of a dice, use a print statement to show the results of the dice roll.