Session 2 Homework

Code For Everyone JavaScript

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|  | **Study** |

1. let vs var vs const

Learn about let, var and const by

* Reading these tutorials:
  + [var, let and const, what is the difference](https://dev.to/sarah_chima/var-let-and-const--whats-the-difference-69e)?
  + [var vs let vs const in JavaScript](https://tylermcginnis.com/var-let-const/)

Then answer the following questions:

1. What are var and const in JavaScript?
2. What are the differences between let and var?
3. What are the differences between let and const?
4. What to use in what cases?
5. Boolean

Learn about Boolean by

* Reading these tutorials:
  + [A Boolean (logical type)](https://javascript.info/types#a-boolean-logical-type) and [Logical operators](https://javascript.info/logical-operators)
  + [JavaScript Boolean explained](https://www.freecodecamp.org/forum/t/javascript-booleans-explained-how-to-use-booleans-in-javascript/14311)

Hoặc xem video sau

* [MindX - C4EJS - Boolean](https://drive.google.com/open?id=1Izf52pGQOpRnvk7b2XCtaEQwf9MQj91g)

Then answer the following questions:

1. What is Boolean?
2. What results in Boolean?

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|  | **Review** |

1. Write a program to print out
   1. 7 numbers, starting from 0 (no user input)

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* 1. **n numbers**, starting from 0, n entered by user

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* 1. A sequence of numbers, starting from 3, **ending before n**, n entered by user

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* 1. A sequence of numbers, **starting from c**, ending before n, c and n entered by user

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* 1. A sequence of numbers, starting from c, ending before n, **stepping by 3**, c and n entered by user

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* 1. A sequence of numbers, starting from c, ending before n, **stepping by s**. c, n and s entered by user

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1. Write a program to calculate the factorial of n: (1 \* 2 \* 3 \*... \*n), n enter by user

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1. Write a program asking users their age, and then decide if they are old enough to view a 14+ content

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|  | **Serious exercices** |

1. Write a program asking user to enter a number, x, then check if x is in the lower half or higher half of 0 - 9 range

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| 0  9  4.5  Lower half  Higher half |

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1. Write a program asking user to enter two numbers, x and n, then check if x is in lower half or higher half of n

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1. Write a script to check if a number is even (divisible by 2) or odd number

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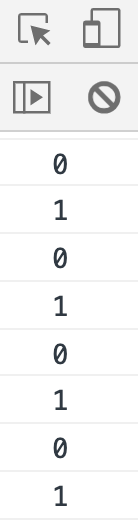
1. Write a program to print out
   1. 6 L’s and H’s, half L’s, half H’s *(L means low, H means high)*

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* 1. n L’s and H’s in total, n entered by user

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* 1. 8 1’s and 0’s in total, consecutively



* 1. n 1’s and 0’s in total, consecutively, n entered by user

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1. Write a script to calculate the BMI (Body Mass Index) of a person, the formula is as follows

BMI (Body Mass Index):

BMI = mass (kg) / (height(m) x height(m))

Note: you must do the conversion from cm to m before calculation

And then based on the calculated BMI, tell them that they are:

* Severely underweight if BMI < 16
* Underweight if BMI is between 16 and 18.5
* Normal if BMI is between 18.5 and 25
* Overweight if BMI is between 25 and 30
* Obese if BMI is more than 30

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|  | **Turtle exercices** |

1. Use [JS Turtle](https://turtle-js.herokuapp.com/), hoặc  
   <http://ycatch.github.io/p5.turtle.js>  
   to draw the following shapes

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| 1. A square | 1. A triangle |
| 1. A pentagon | 1. A hexagon |

1. Use [JS Turtle](https://turtle-js.herokuapp.com/) to draw a polygon, the number of polygon’s edges entered by users

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1. (Optional) Use [JS Turtle](https://turtle-js.herokuapp.com/) to draw n polygons, n entered by users

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