

1. What are the differences between var, let, and const?

Var, let, and const can all be used to declare variables. The difference between them is their scope which means *when* they can be used to declare variables. Var can be both globally and locally scoped. Globally scoped would mean that it is declared outside of the function and can be used in the entire window. If var is used to declare a variable locally that means that it is declared inside of the function and can only be used within that function. Let and const are both block scoped. A block is a set of data or code, within curly brackets. This means that variables defined with let and const within a block can only be accessed within the curly brackets where the variables were declared. Another key difference is, var can be redeclared and updated. Let variables can be updated but they cannot be redeclared and const variables cannot be redeclared or updated. If you declare a variable with let you can update it within a different scope but if you try to change it within same scope you will get an error message. The last difference is the hoisting and initialization of var, let and const. Hoisting is a mechanism in javascript that moves variable and function declarations to the top of their scope before the code is read and acted upon. Var, let, and const are all hoisted to the top of their scope; however when you declare a variable with var or let you do not need to assign a value. Const variables need to have a value assigned to them when declared.

2. What are the differences between callbacks and promises?

Callbacks and promises are both used for asynchronous programming. Asynchronous programming allows the computer to perform a long running task and still be able to run other tasks at the same time. A callback function is a function that is used as an argument in another function to be called on in order to execute said function. Promises are built over callback functions and are used for asynchronous programming when they are complex because they are difficult to write and debug. A promise function will also takes two callback functions as arguments that result in success or error.

Sources:

- <https://www.freecodecamp.org/news/var-let-and-const-whats-the-difference/>
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