Function with var:

Text

Description automatically generated

Here we have a for loop that iterates 10 times, increasing index from 0 to 9



Console.log(`var index withoutSetTimeOut`) executes first printing that string and index from 0 to 9

Text

Description automatically generated

The next step is:



Here we print index asynchronously 10 times. SetTimeout functions runs after for loop is completed. Those 10 functions are called separately but they share the same index defined globally. Before printing ‘var index 10’ is executed another incrementation from 9 to 10, than is checked ‘index < 10’ response is false and this index === 10 is printed. We can see that index is stored outside the for loop

A screenshot of a computer

Description automatically generated with medium confidence

Table

Description automatically generated

Function with let:

Text

Description automatically generated

Here we have a loop that iterates 10 times, but index is defined by using let keyword, wich has a local scope



Console.log(‘let index withOutSetTimeOut’) is executed first printing the string and index from 0 to 9

Text

Description automatically generated

The next step is:



Here we print index asynchronously, but this time scope of the ‘index’es in callbacks is local, those 10 functions setTimeout are called separately with their own ‘index’

A picture containing text

Description automatically generated