**Functions versus Pipes in HTML template**

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In HTML templates function calls are invoked every time on every change detection.

Functions are executed on every change even the source data does not changed**.**

**Pipe:** Pipes are useful to transform data from one format to another format.

Ex. Date pipes, Upper, Lower

Pipes are two types

1. Pure pipe
2. Impure pipe

**Pure pipe:** Executed only when a pure change to input value is detected.

Pure change is either a change to a primitive input value (string, Number, Boolean) or a changed object reference.

A Pure pipe is not executed if the input to the pipe is an object and only the property values of the object is changed not the reference.

**Impure Pipe:** Impure pipes are executed on every change even the source data does not changed**.**

**NOTE:**

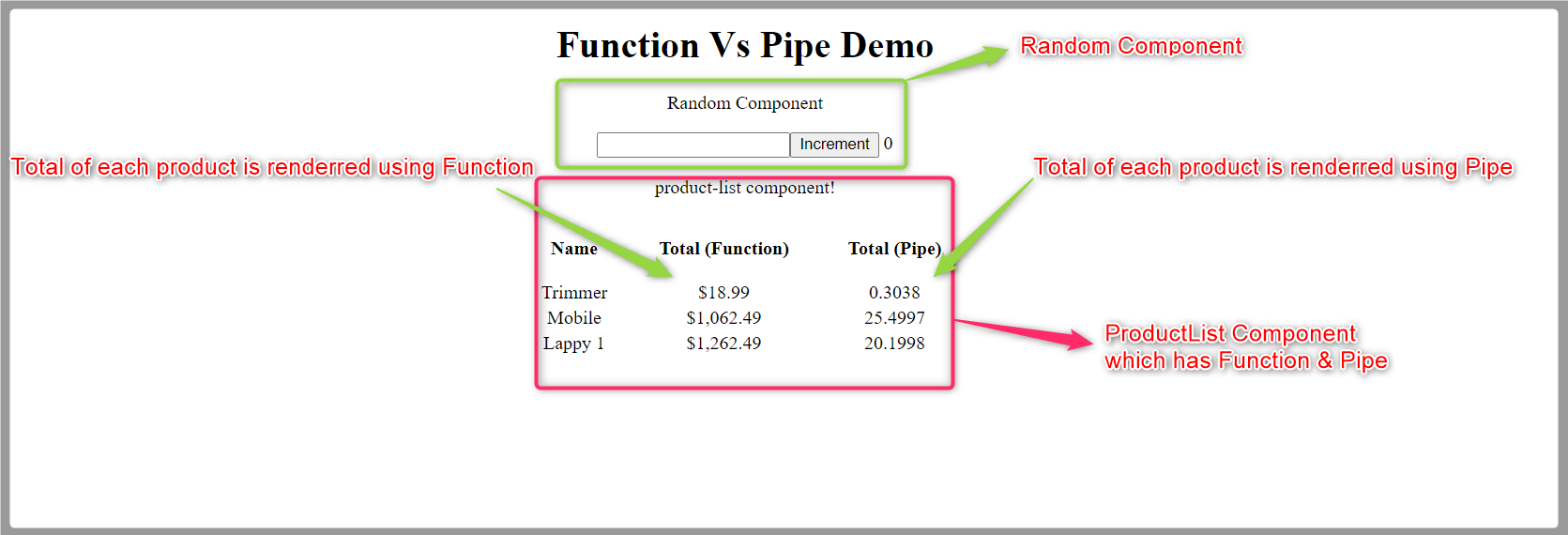
**It’s better to avoid functions using in angular HTML templates to achieve better performance and best practices.**

**Instead of functions replace with pure pipes in possible scenarios.**

**Ex.**

**In below example we can find two components**

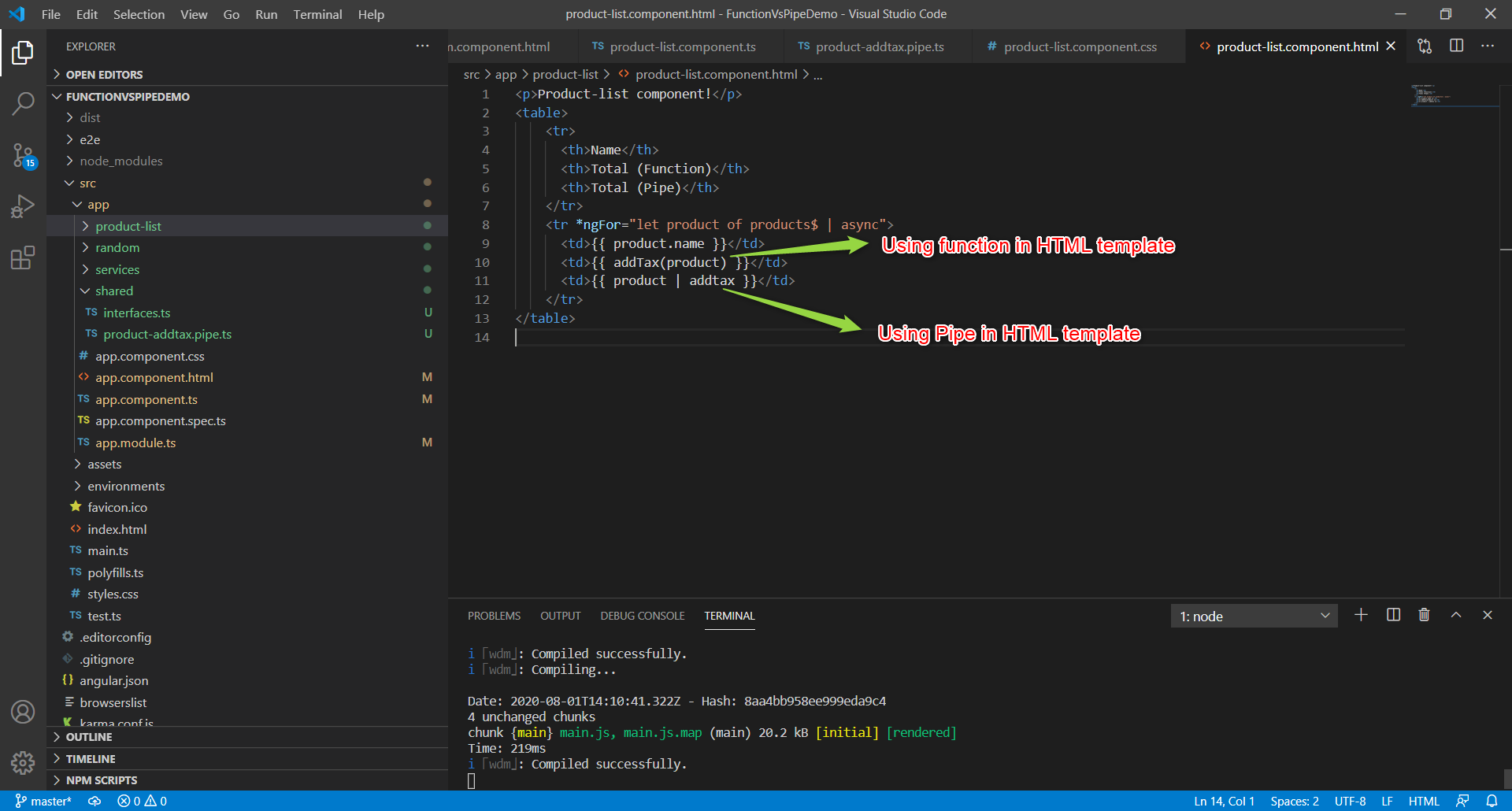
1. **RandomComponent**
2. **ProductListComponent**

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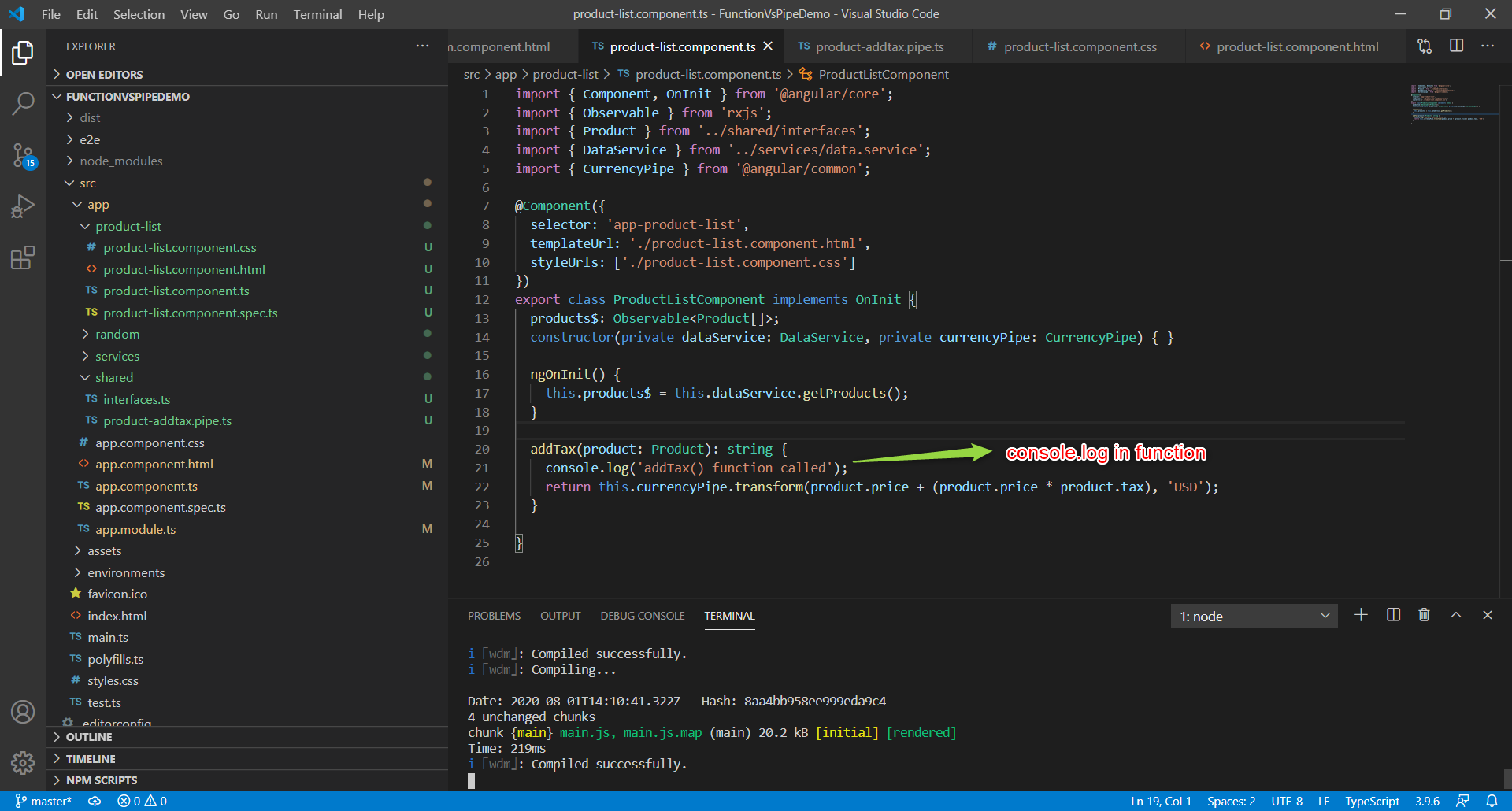
**In ProductListComponent we have two columns**

**Total(Function) which uses function in HTML temple to get total.**

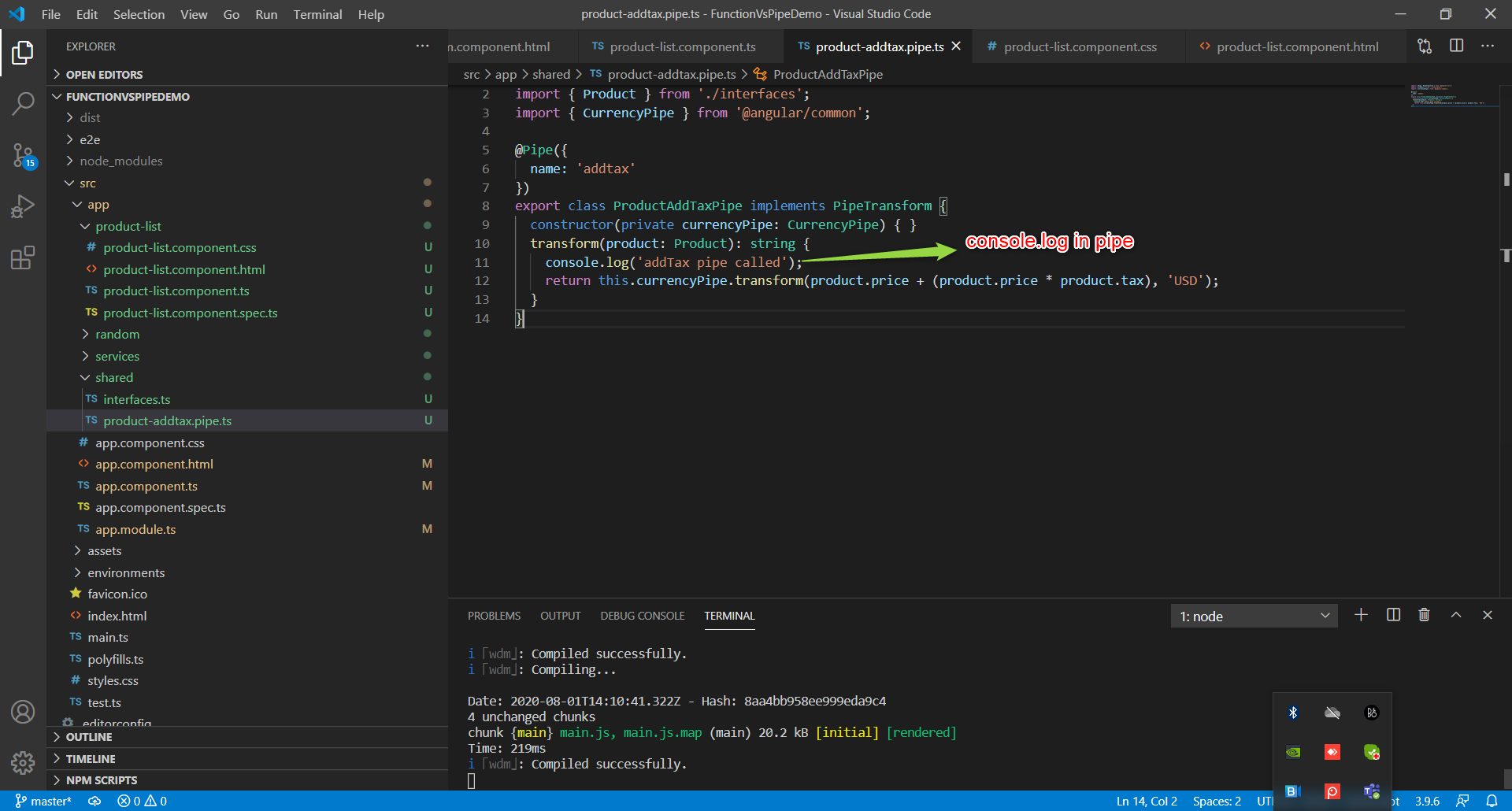
**Total(Pipe) which uses Pipe in HTML temple to get total.**

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Console Logging is added in **addTax()** **function** to check the number of calls happened.

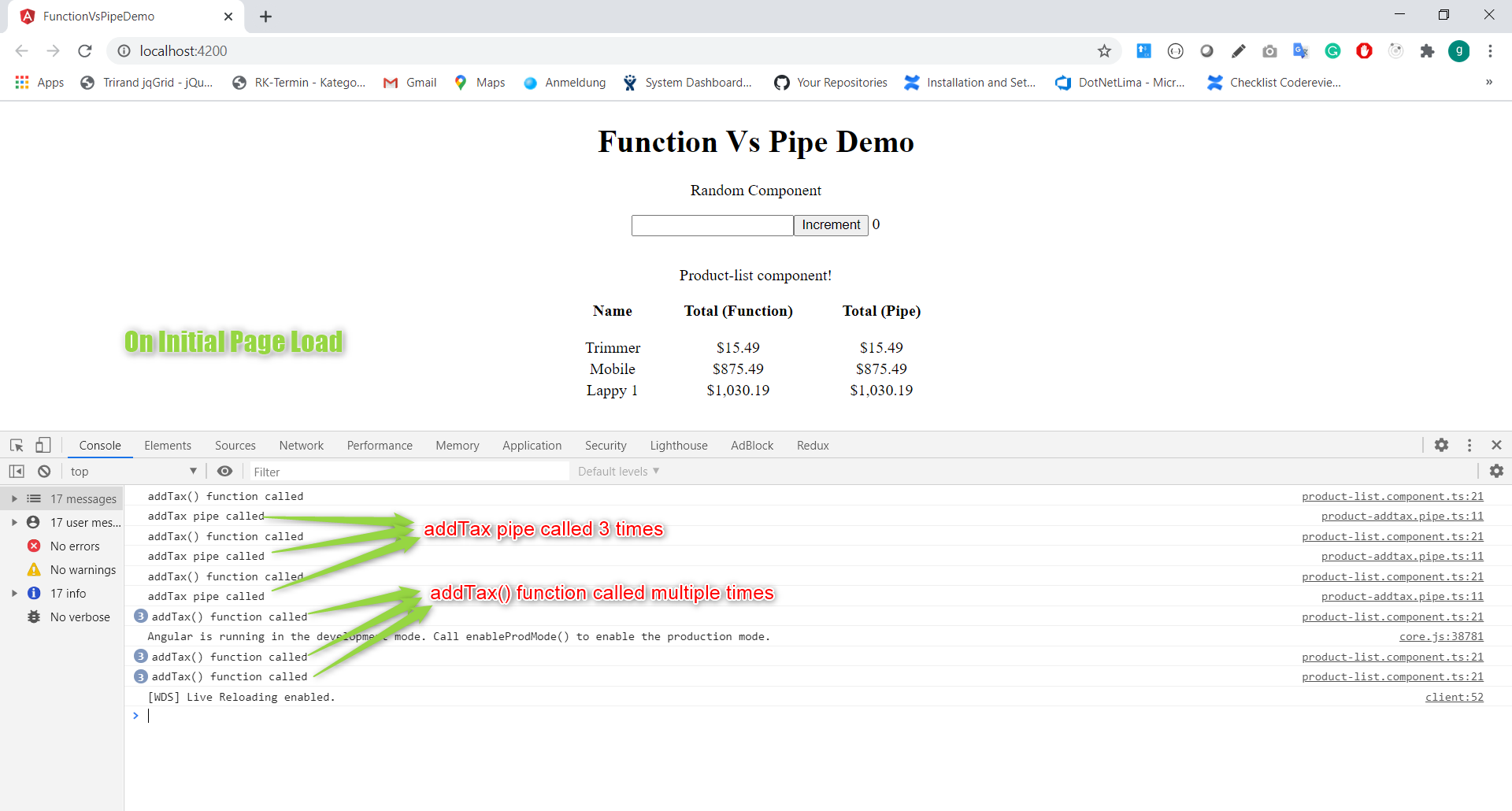
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Console Logging is added in **addTax pipe**.

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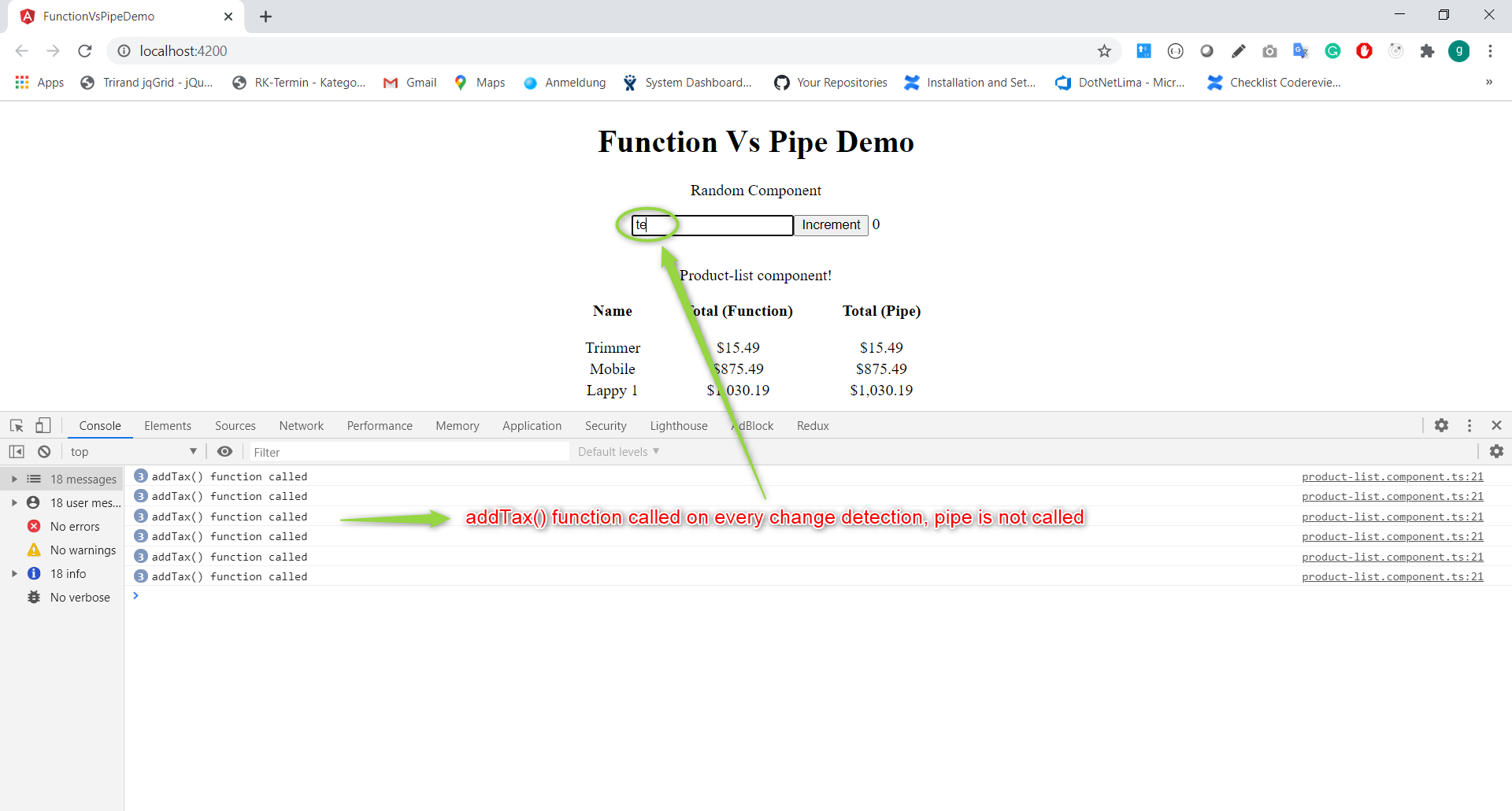
**On Initial Page load**

**AddTax Pipe is called only 3times because only 3 products .**

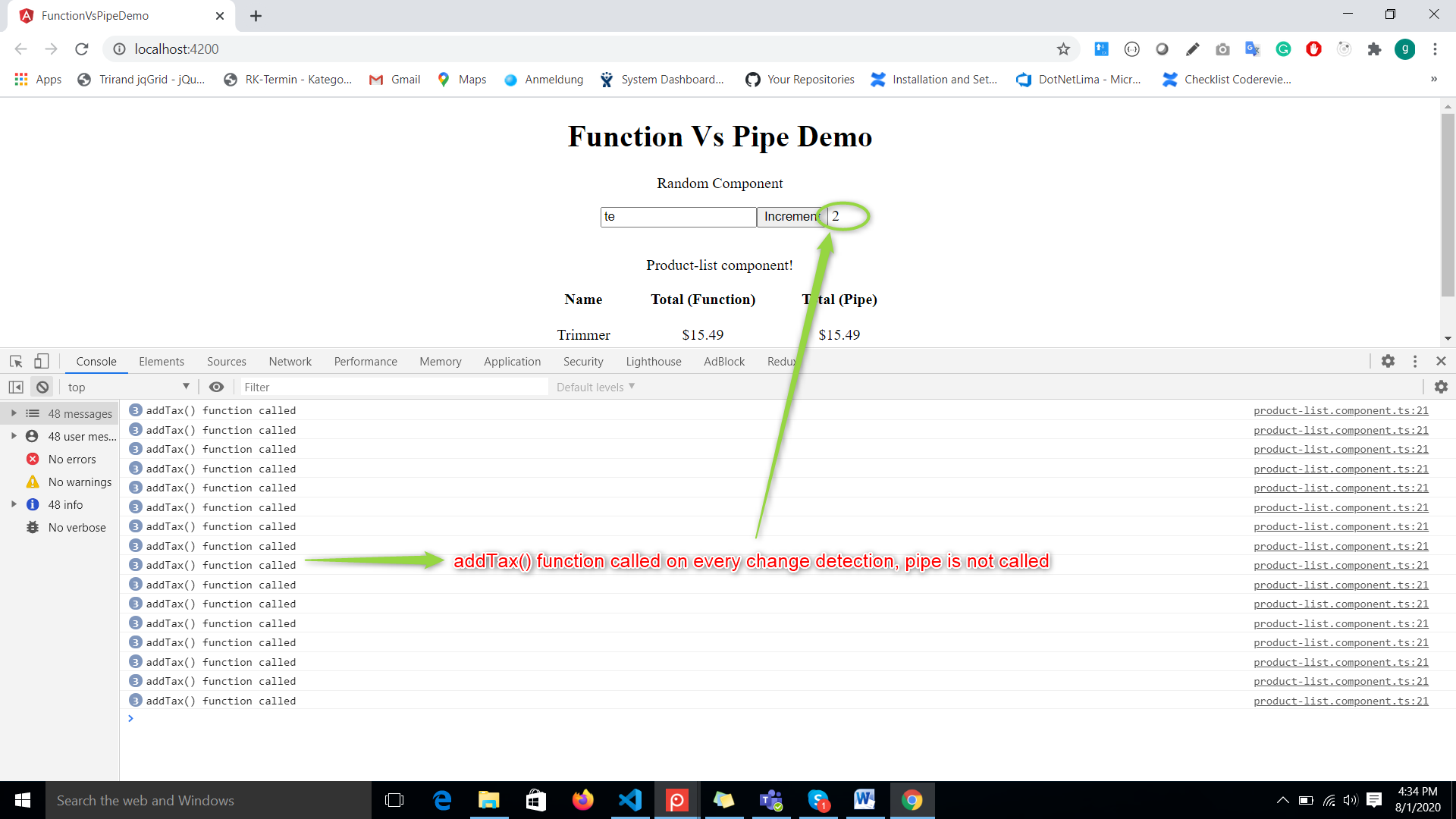
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**Functions are executed on every change detection even the source data does not changed.**

**Entering some text in Textbox in RandomComponent**

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**Clicked on Increment button, which increments local counter variable in RandomComponent**

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