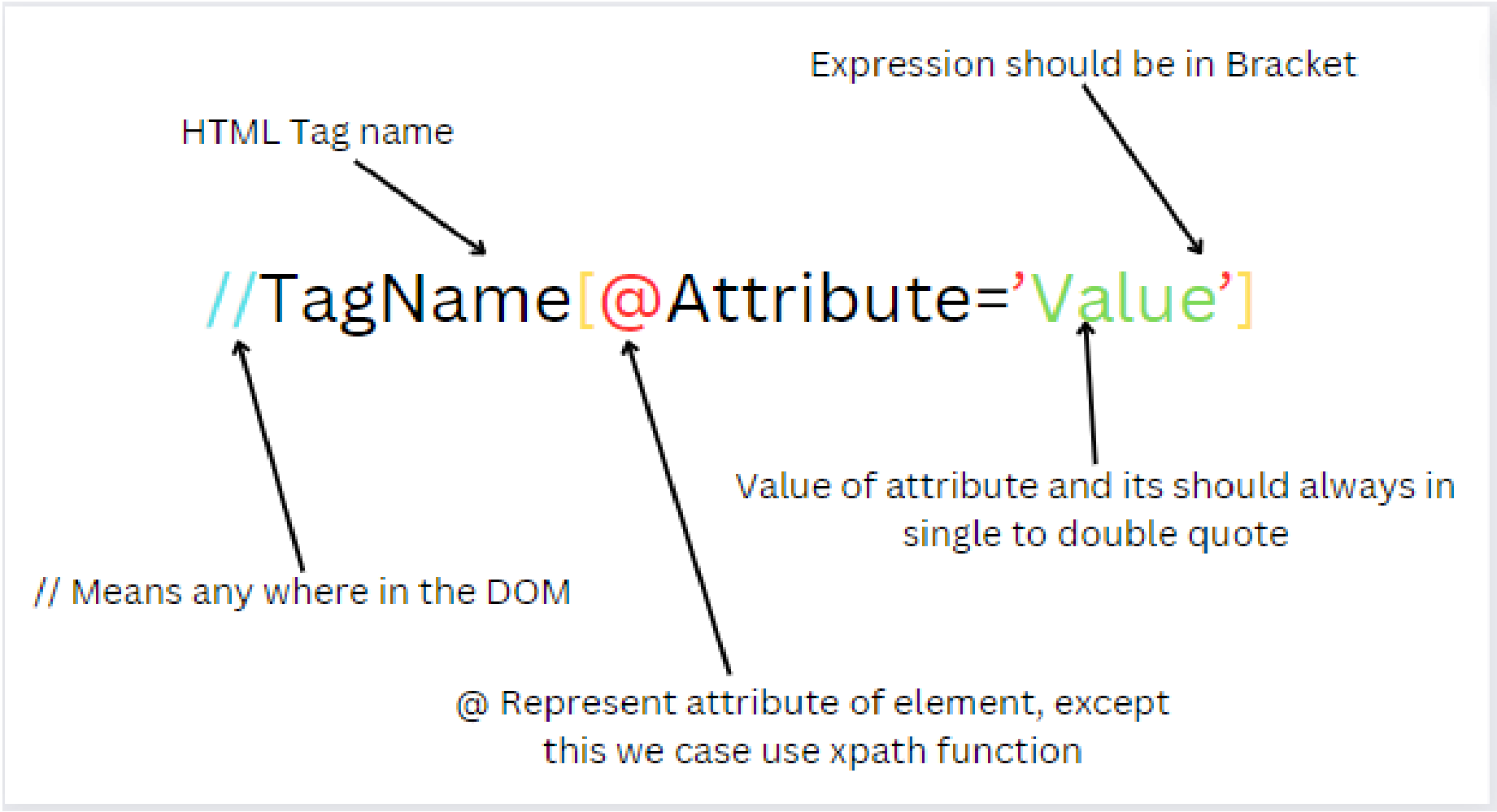
XPATH

1. XPath Basics
2. XPath Functions
3. XPath Axes

XPath Basic

- XPath Syntax
  - Selecting Nodes
  - Selecting Unknown Nodes
  - Selecting Several Paths
  - Absolute and Relative
  - Parents and Children
  - Index
  - Nested locators

XPath Syntax



Absolute and relative XPath

Absolute XPath

- The path from root element to targeted element without missing any elements in between.
- Absolute XPath starts form by using ‘/’ (single forward slash) and ‘[index]’ (square bracket with index).
- /html/body/div[2]/div/div[1]/form/input[2]

Relative XPath

- This XPath is specific to the target element. It uses expression to locate web element(s) in HTML documents.
- It uses “//” (double forward slash) and “/” along with other symbols, functions, and axes names.
- //*[@id="file-submit"]

Selecting Nodes

Index		
1	Node name	Selects all nodes with the name "node name"
2	/	Selects from the root node.
3	//	Select direct from given node
4	.	Selects the current node
5	..	Selects the parent of the current node
6	@	Selects attributes

Selecting Unknown Nodes

Index	Wild Card	Description
1	*	Matches any element node
2	@*	Matches attribute node

Selecting Several Paths

By using the | operator in an XPath expression we can select several paths.

Parents and Children

```
//Tag[@condition]/..                    # Parent
//Tag[@condition]/Tag[condition]        # Child
//Tag[@condition]/Tag[condition]        # Search with in child)
```

Index

```
//Tag[@condition][index]          // nth child of its parent
(//Tag[@condition])[index]        // nth locator of this locator
```

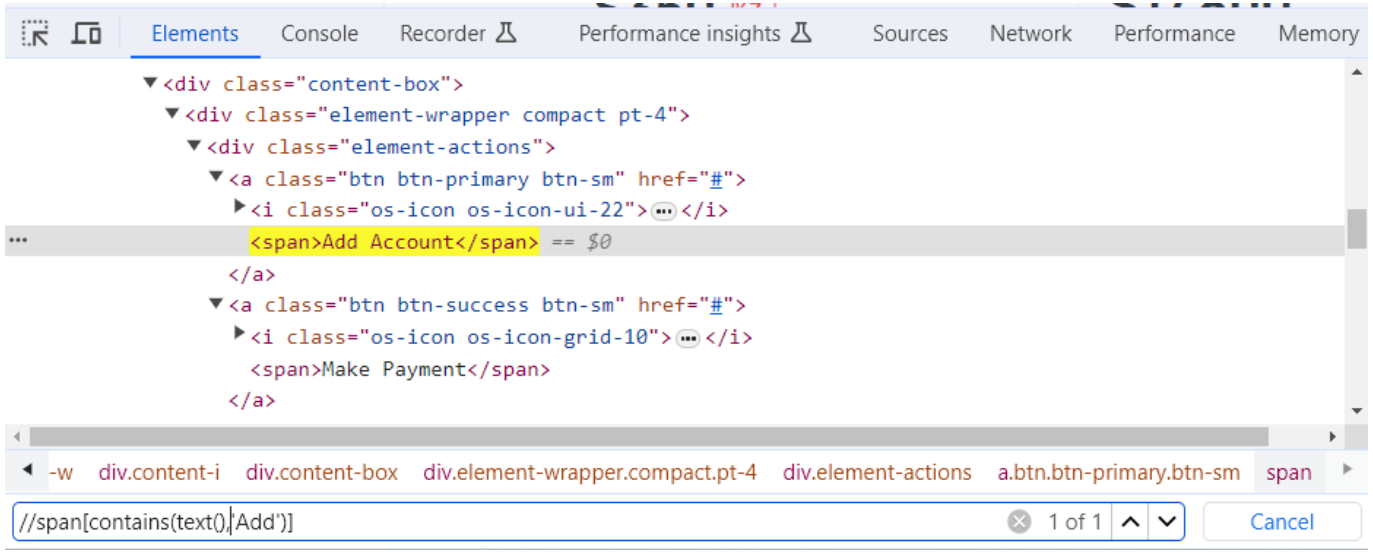
Nested locators

```
//Tag[tag[@condition]]            // nested locator
//Tag[.//tag[@condition]]         // nested locator
```

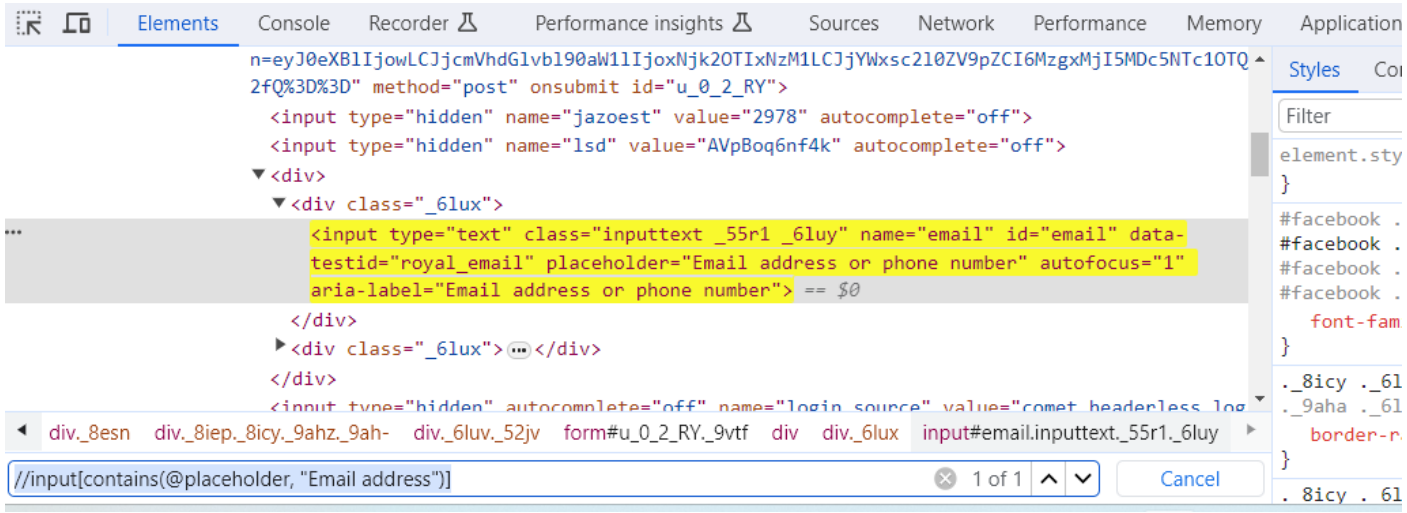
XPath Functions

- contains()
- starts-with()
- position()
- last()
- count()
- normalize-space()
- translate()
- round()
- floor()
- not()
- string-length()

contains()

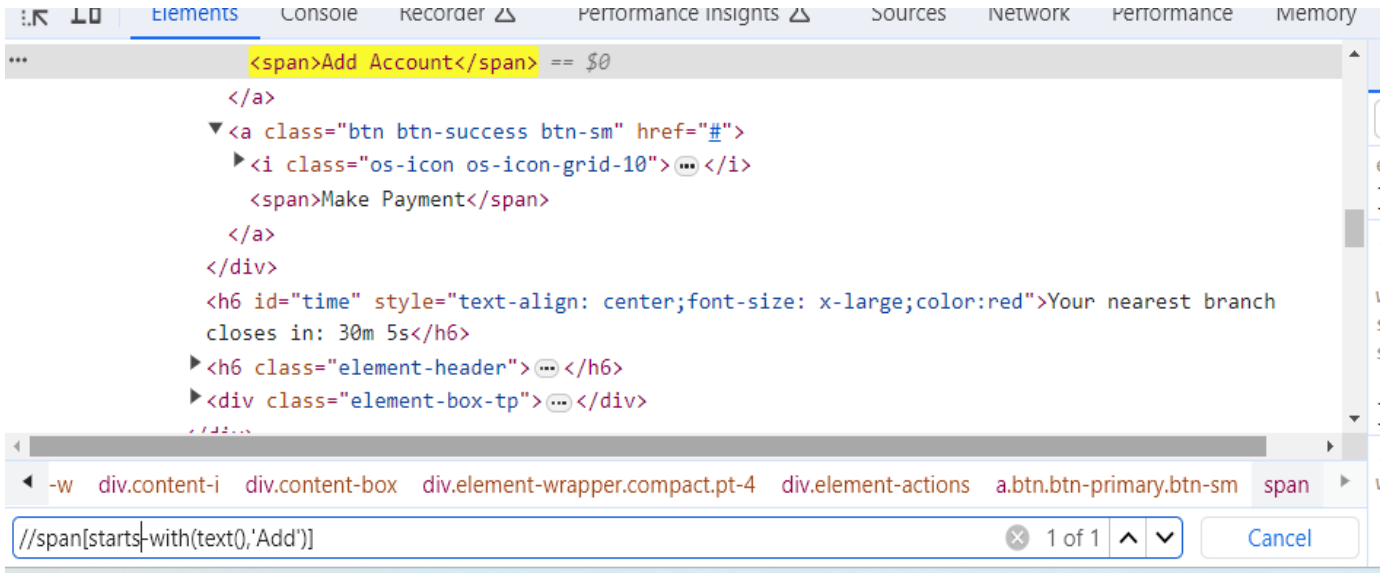


//span[contains(text(),'Add')]



//input[contains(@placeholder, "Email address")]

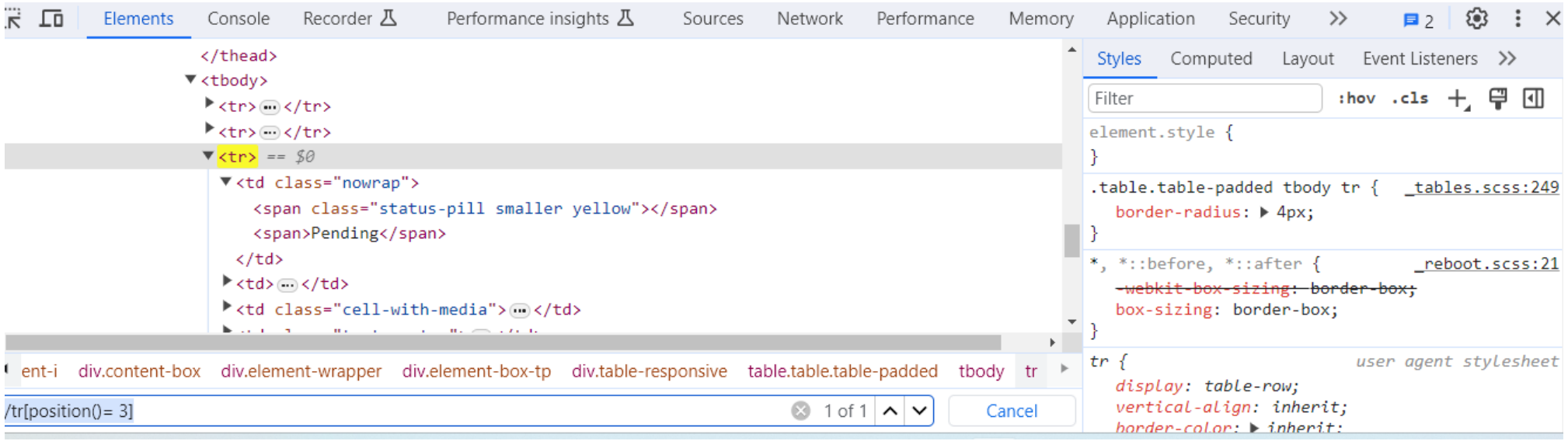
starts-with()



//span[starts-with(text(),'Add')]

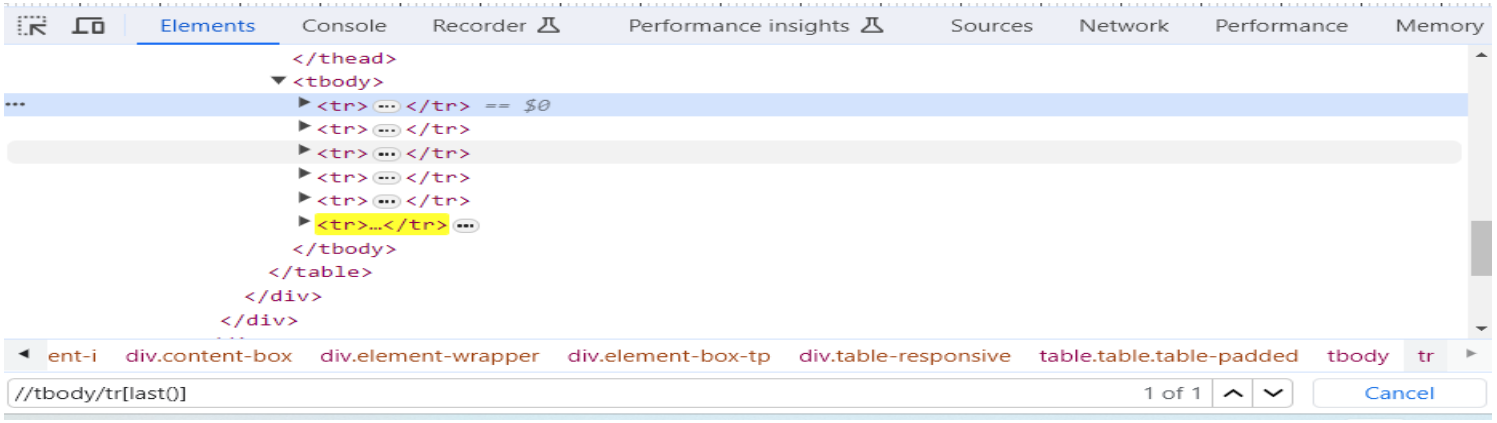
//input[starts-with(@placeholder, "Email address")]

position()



//tr[position()= 3]

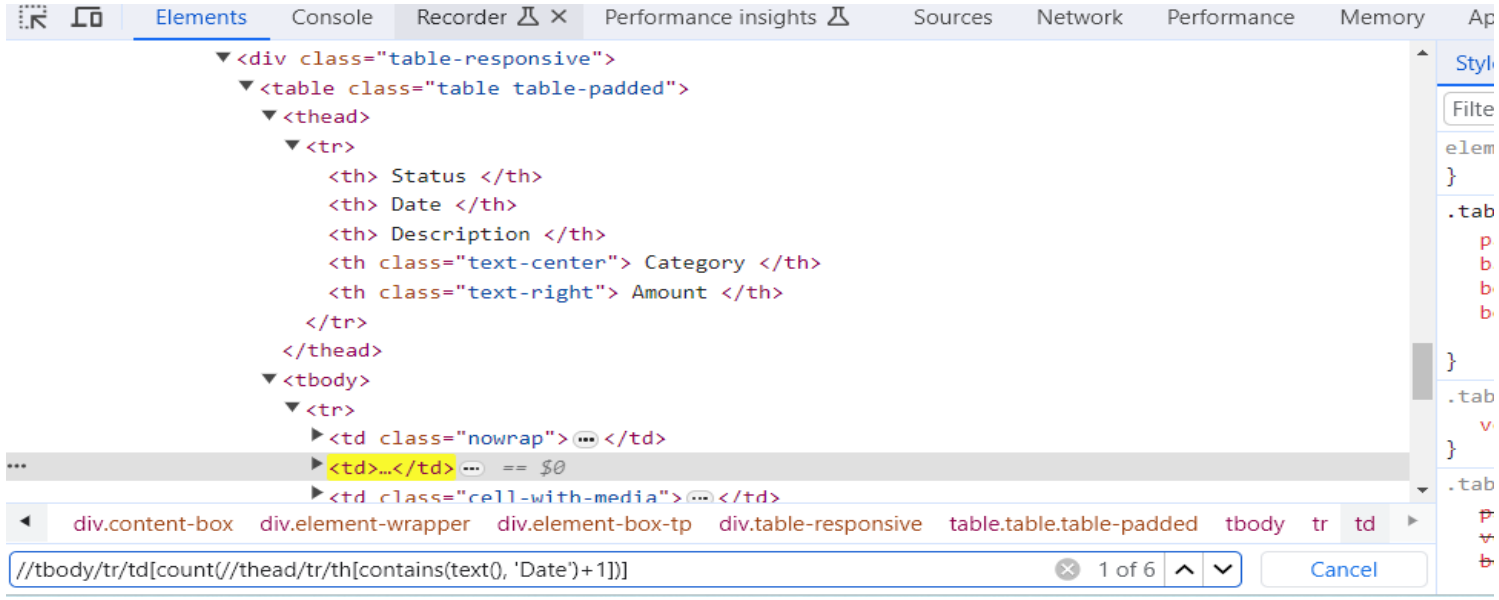
last()



//tbody/tr[last()]

count()

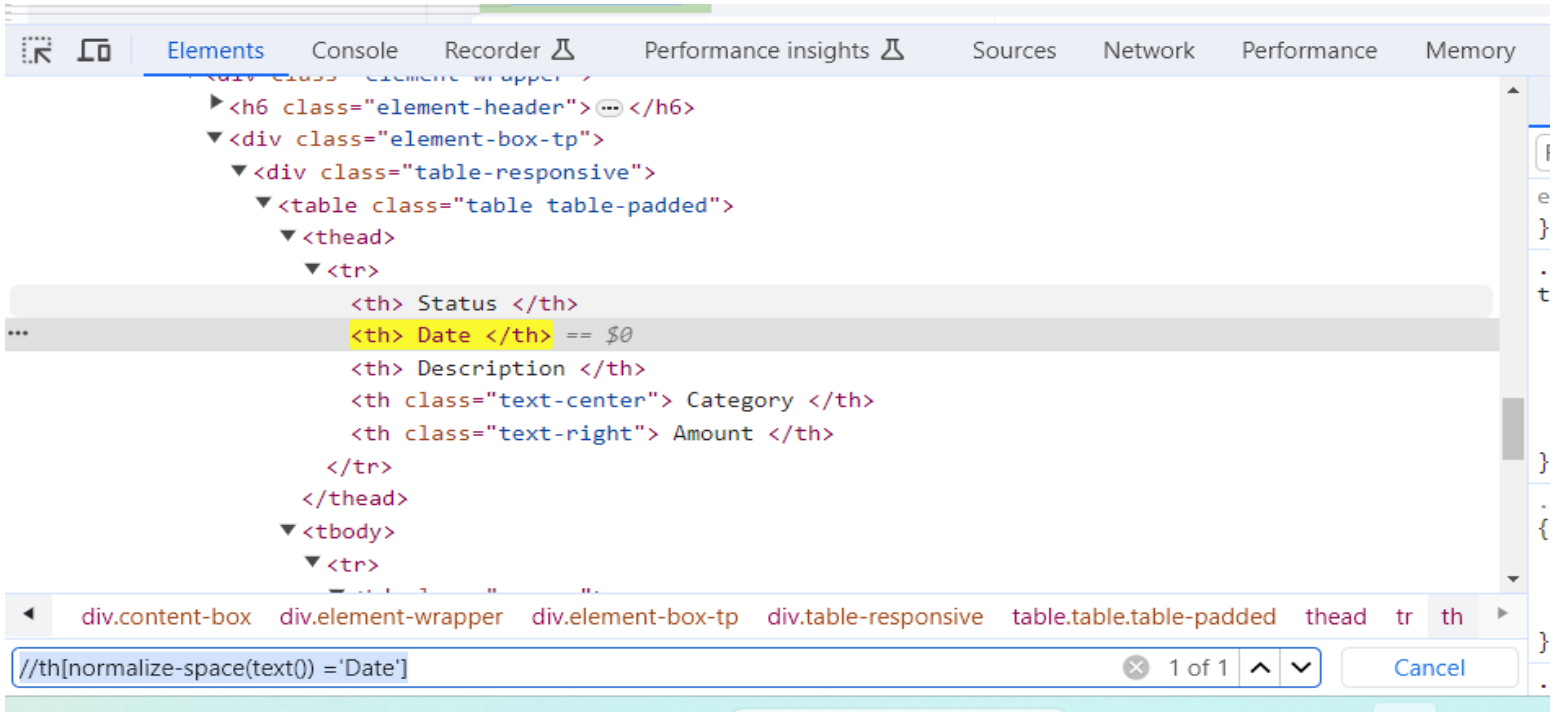
//tbody/tr/td[count(//thead/tr/th[contains(text(), 'Date')+1])]



normalize-space()

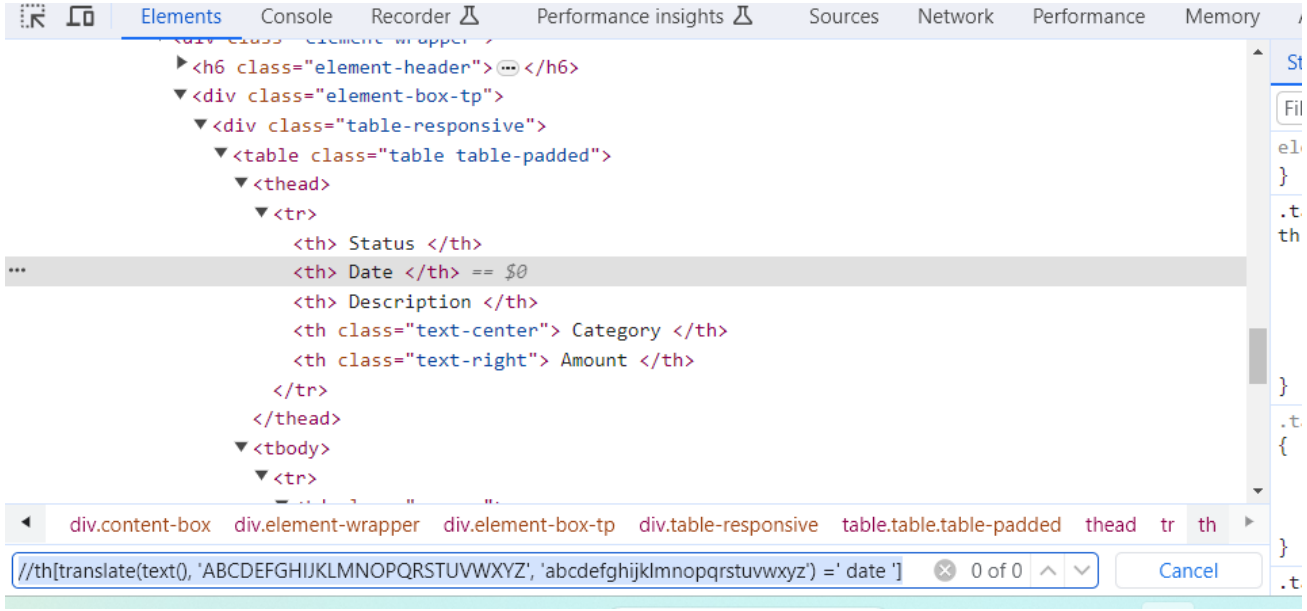
If an element has spaces in its text or in the value of any attribute, then to create an XPath for such an element we have to use the normalize-space function. It removes all the trailing and leading spaces from the string. It also removes every new tab or line existing within the string.

//th[normalize-space(text()) ='Date']



translate()

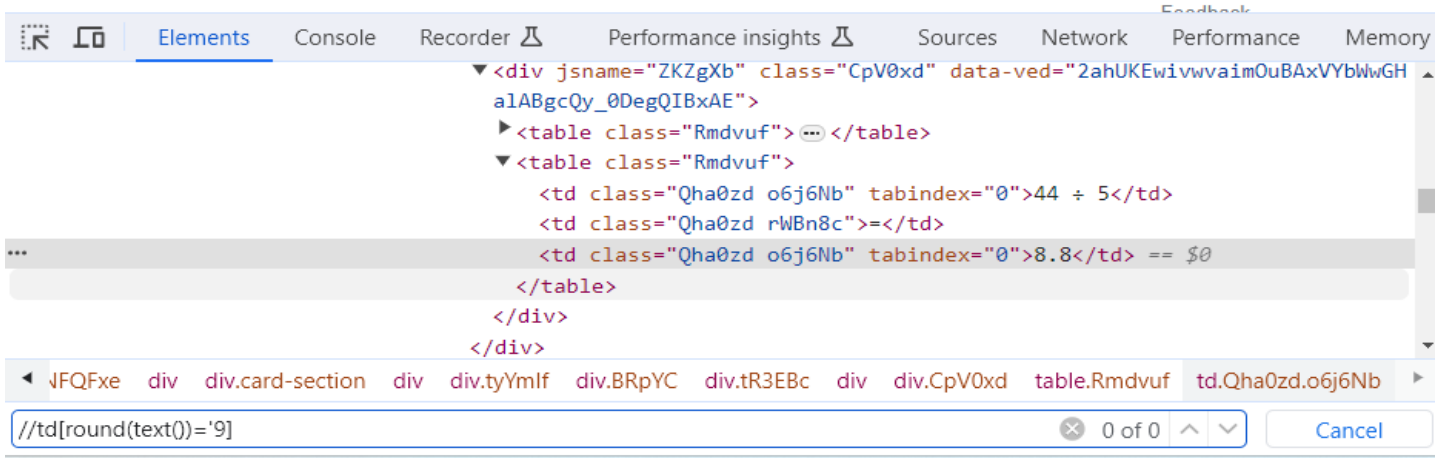
//th[translate(text(), 'ABCDEFGHIJKLMNOPQRSTUVWXYZ', 'abcdefghijklmnopqrstuvwxyz') =' date ']



//th[normalize-space(translate(text(), 'ABCDEFGHIJKLMNOPQRSTUVWXYZ', 'abcdefghijklmnopqrstuvwxyz')) ='date']

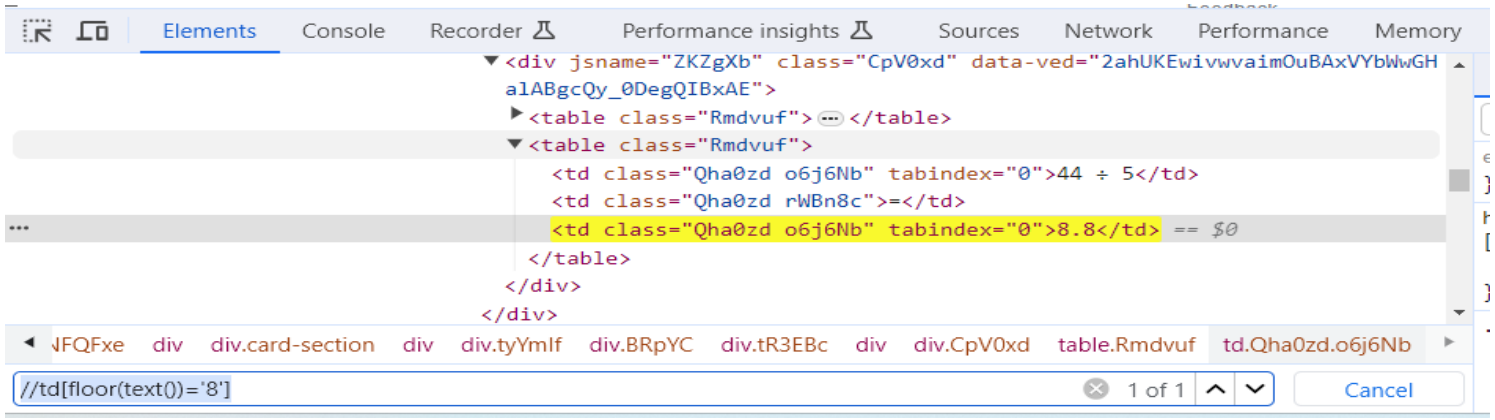
round()

//td[round(text())='9']



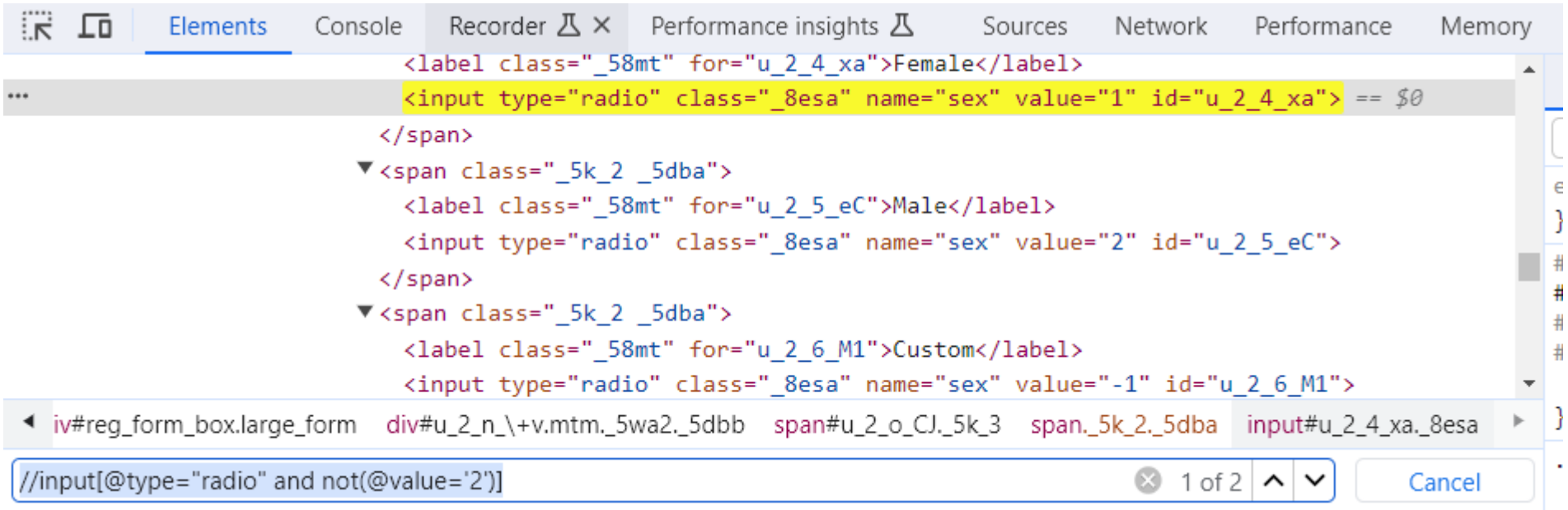
floor()

//td[floor(text())='8']



not()

//input[@type="radio" and not(@value='2')]

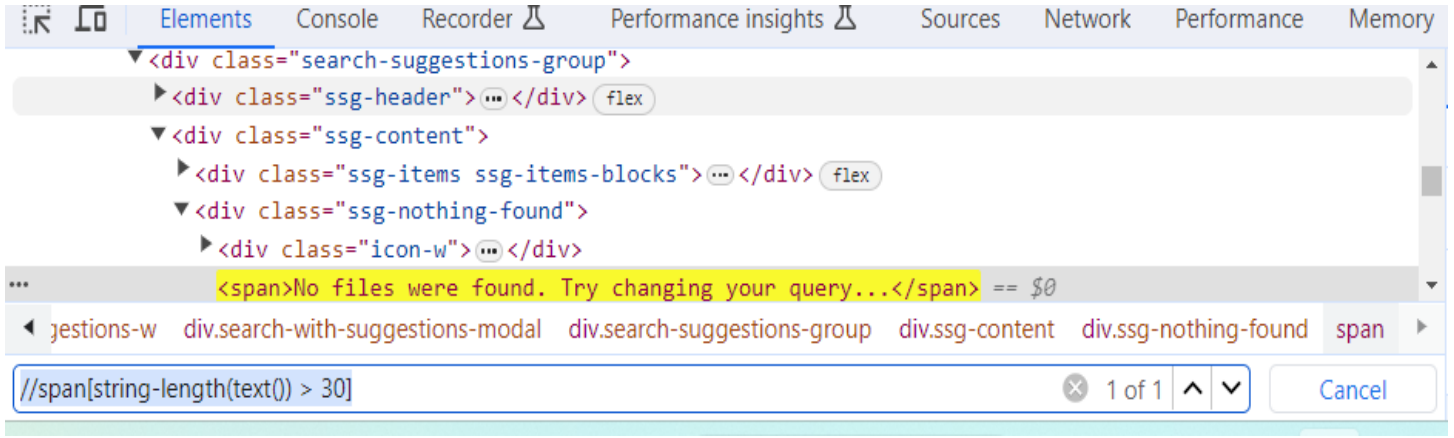


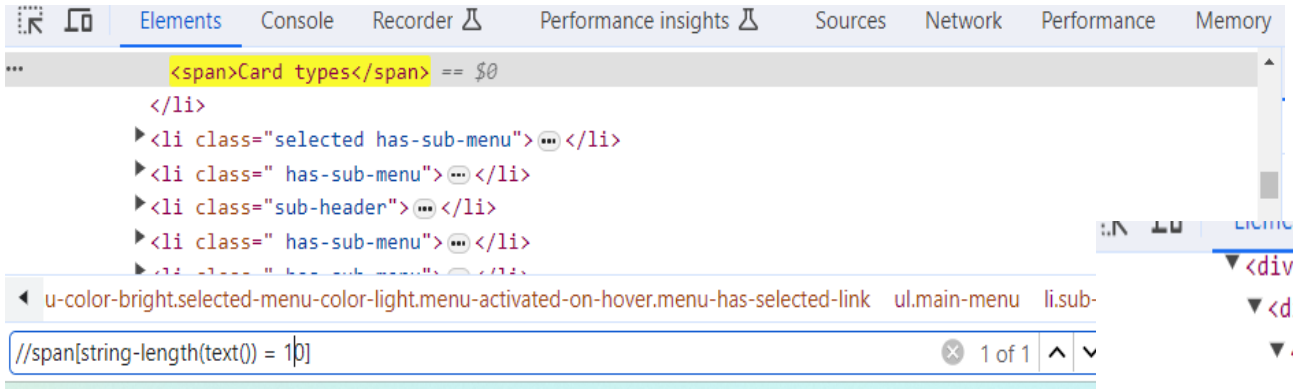
string-length()

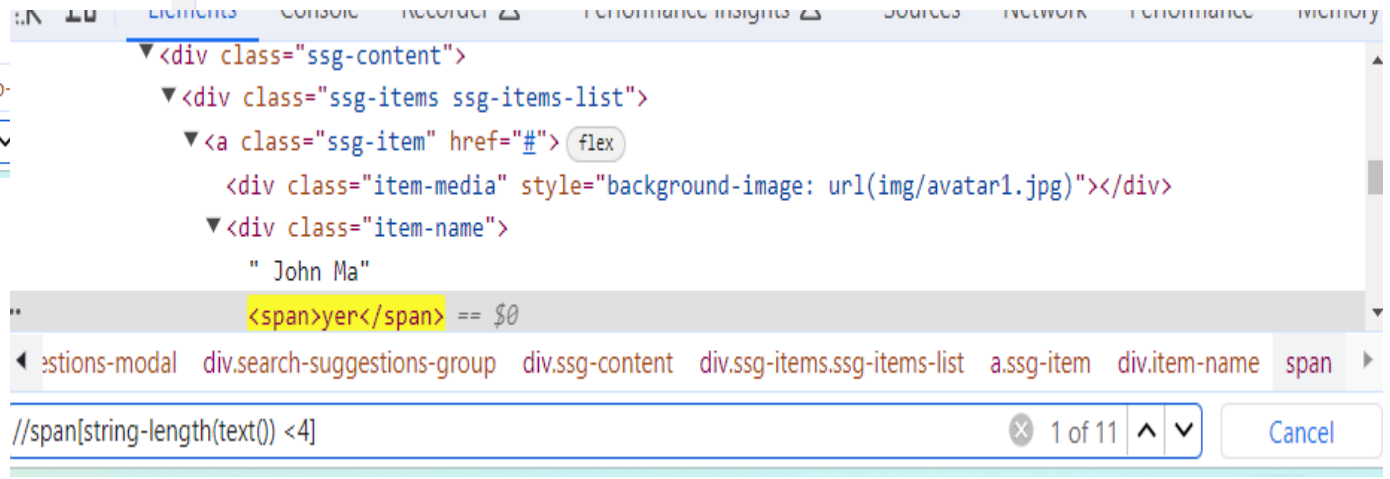
//span[string-length(text()) = 10]

//span[string-length(text()) > 30]

//span[string-length(text()) < 4]





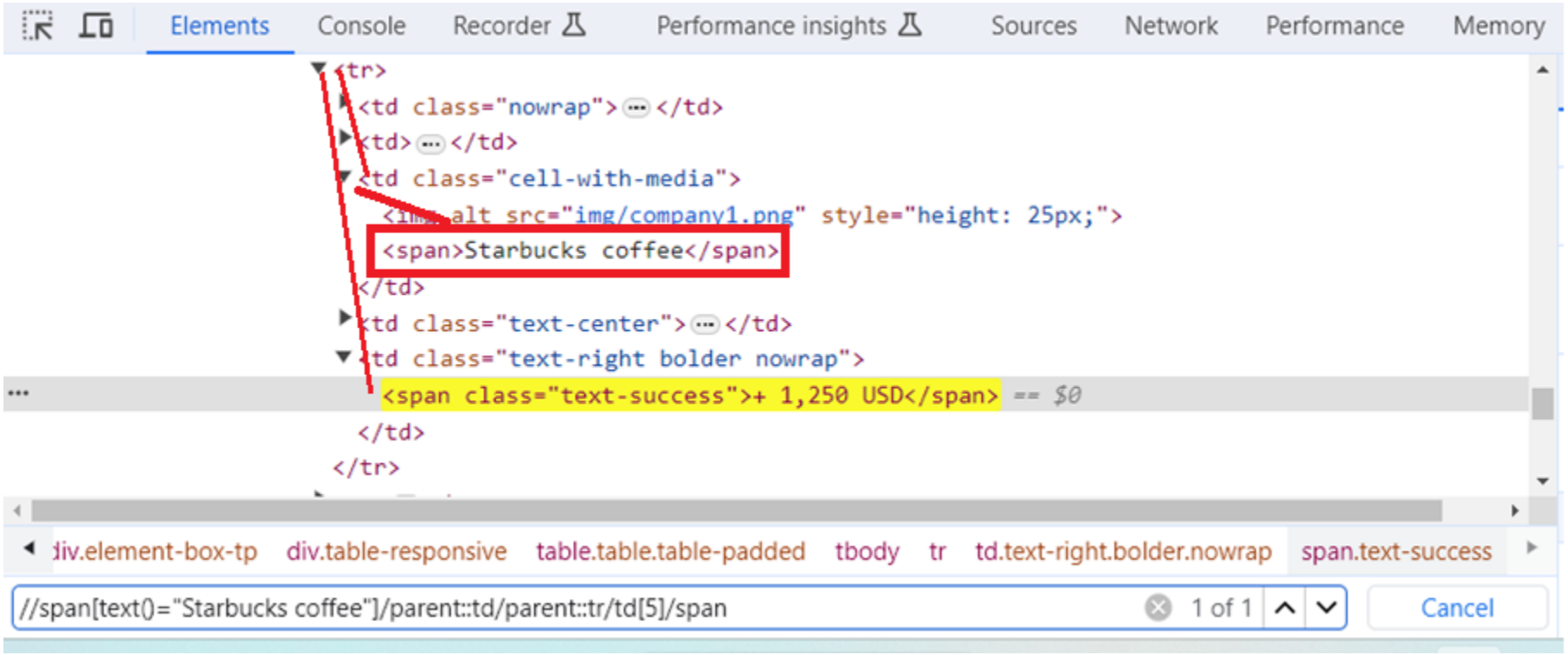


XPath Axes

- parent
- child
- ancestor
- ancestor-or-self
- descendent
- descendent-or-self
- following
- following-sibling
- preceding
- preceding-sibling

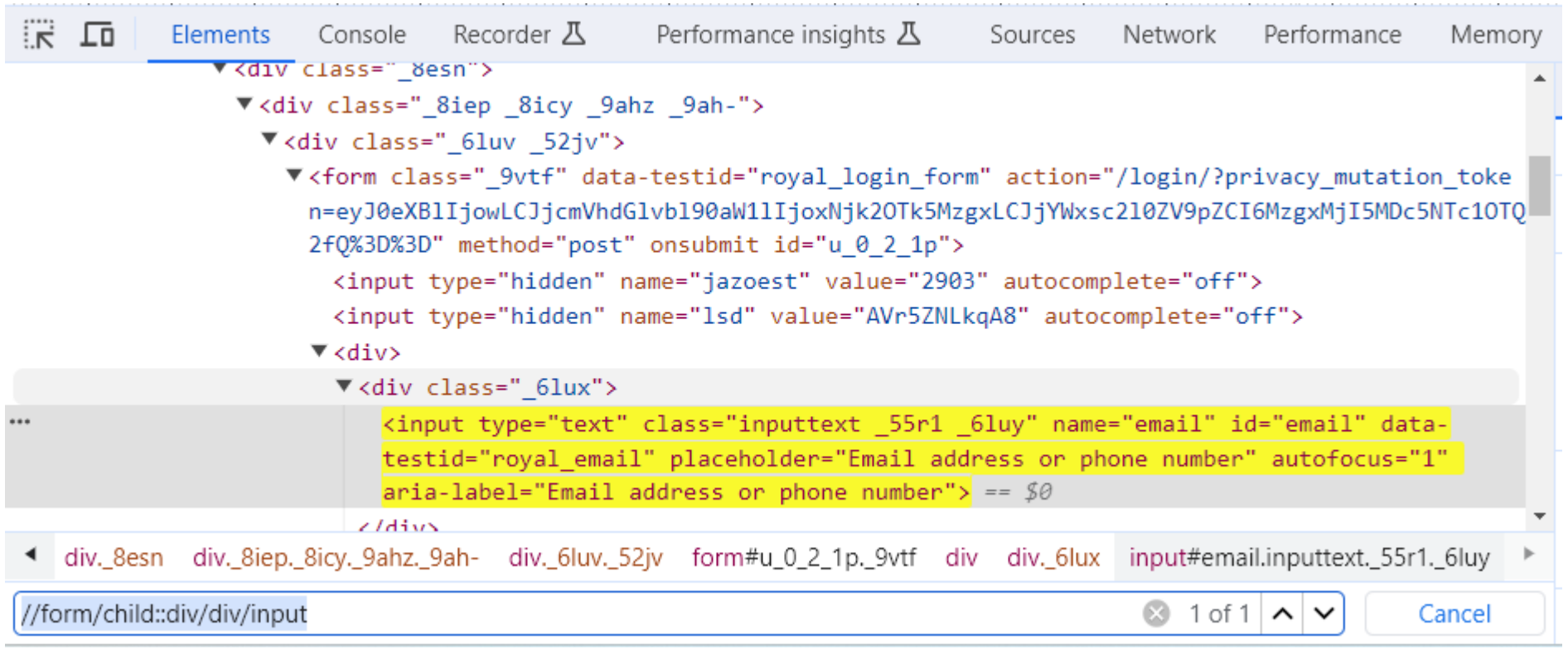
parent

//span[text()="Starbucks coffee"]/parent::td/parent::tr/td[5]/span



child

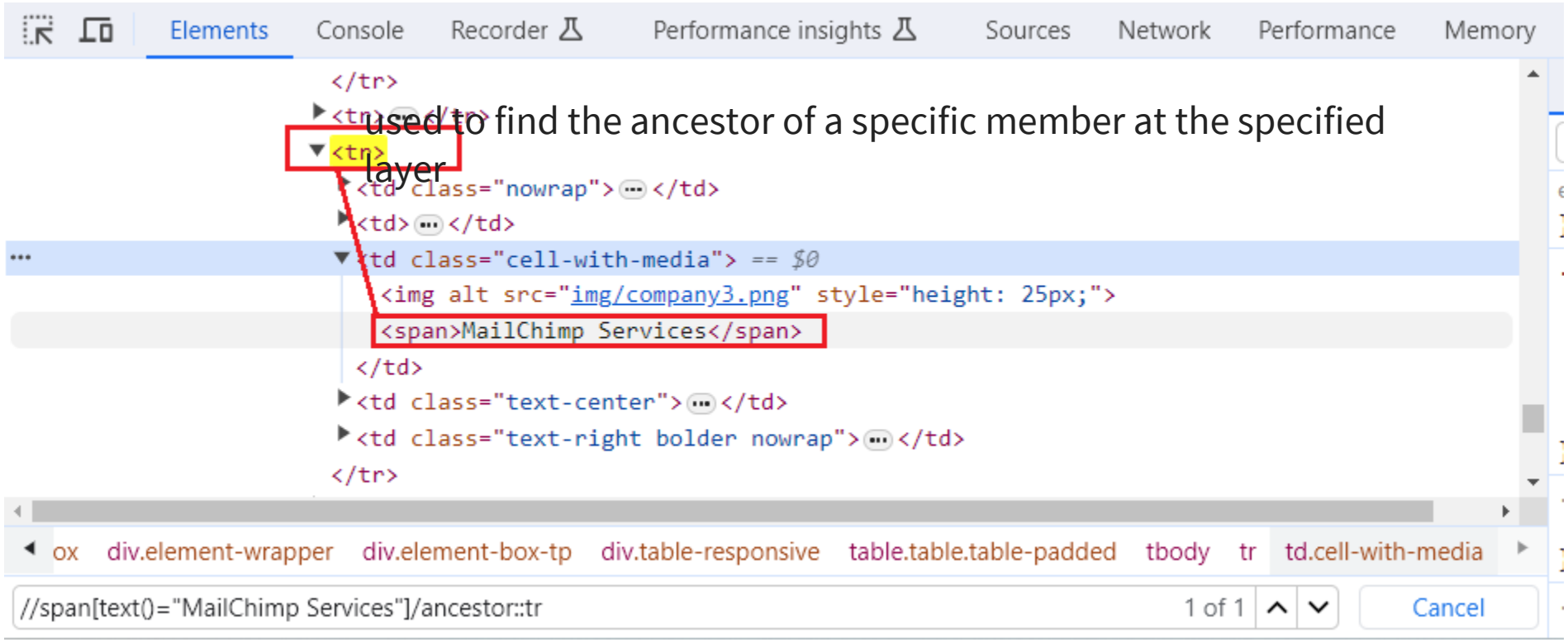
//form/child::div/div/input



ancestor

used to find the ancestor of a specific member at the specified layer

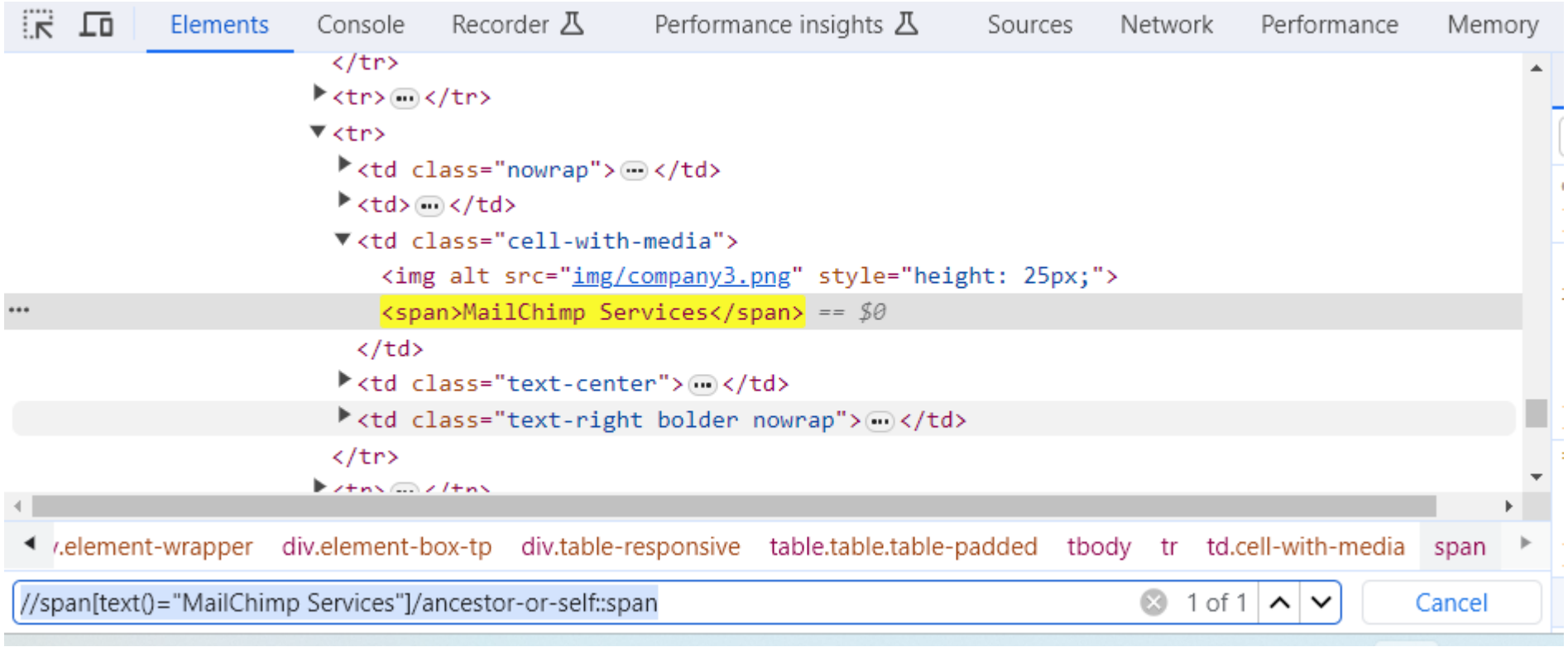
//span[text()="MailChimp Services"]/ancestor::table
//span[text()="MailChimp Services"]/ancestor::tr



ancestor-or-self

//span[text()="MailChimp Services"]/ancestor-or-self::span

//span[text()="MailChimp Services"]/ancestor-or-self::td

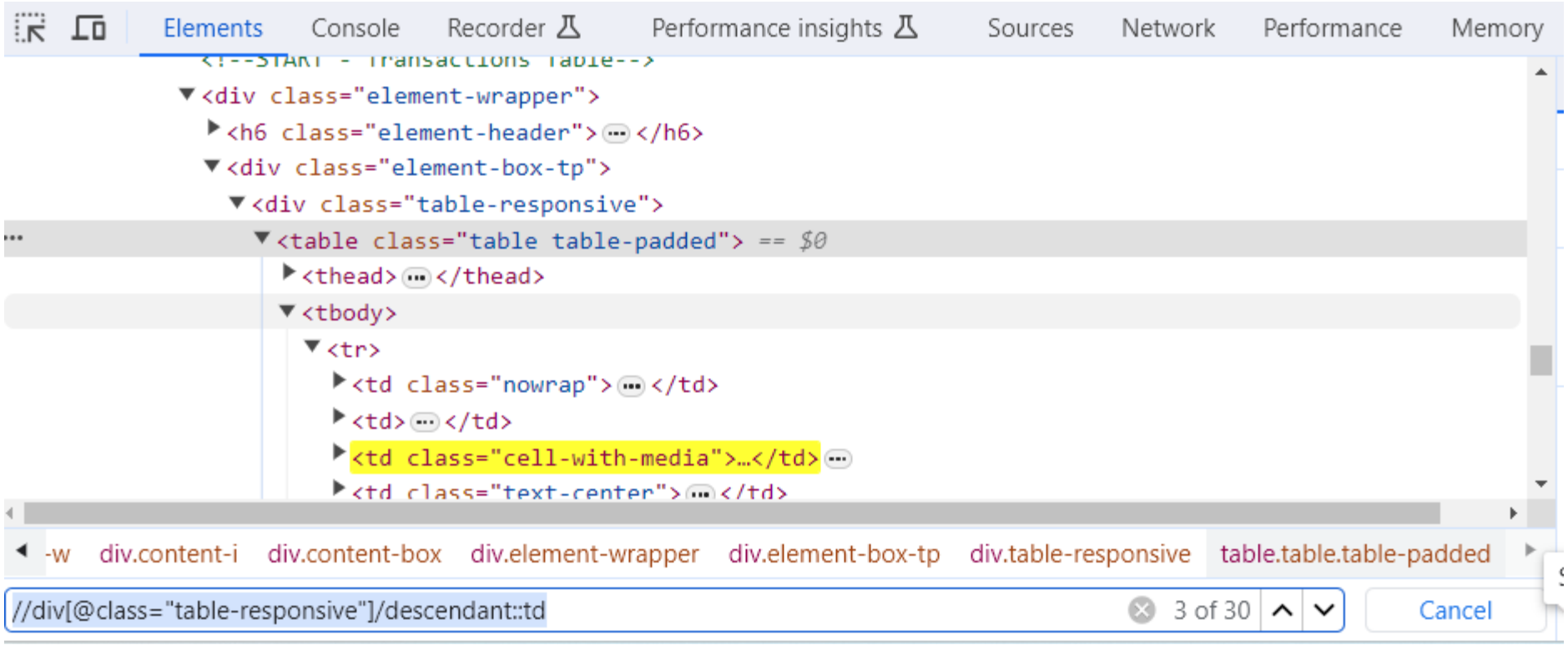


descendent

This function will return the descendant element of the particular element.

//div[@class="table-responsive"]/descendant::tr

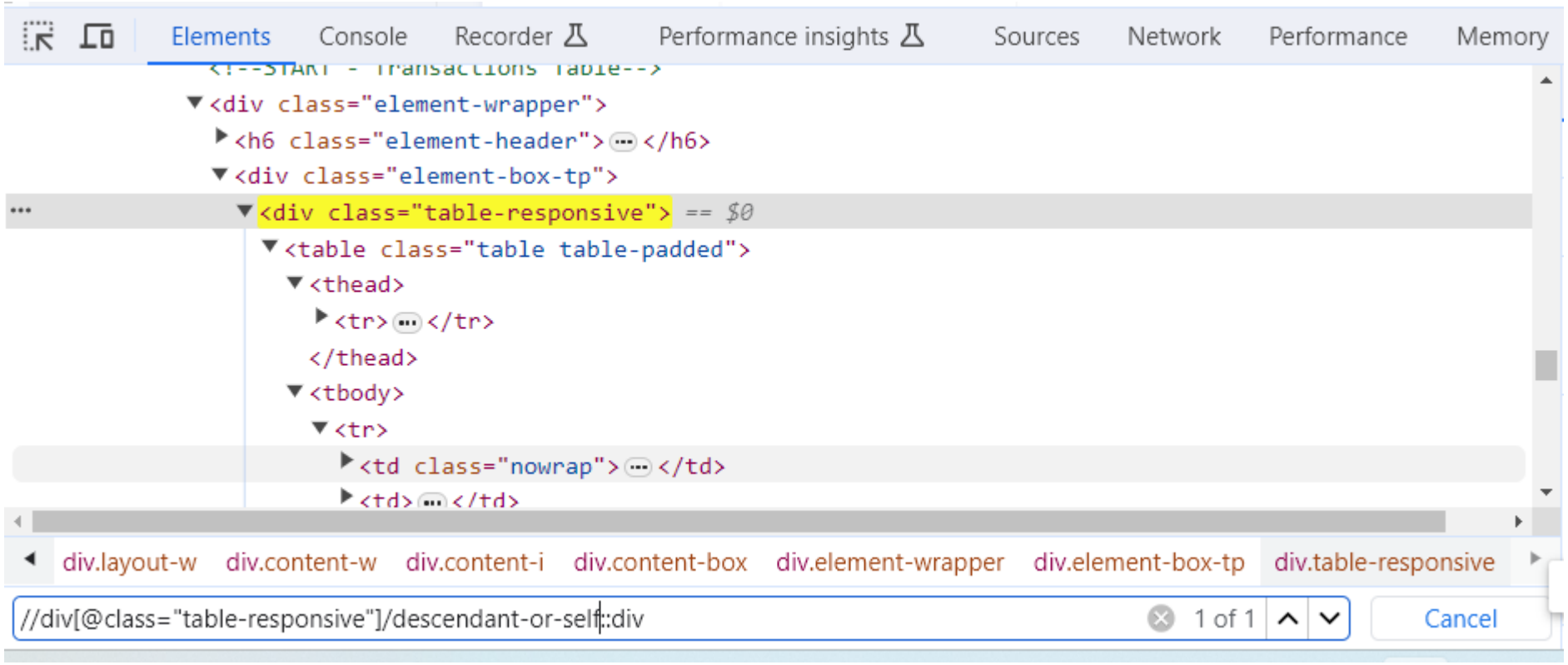
//div[@class="table-responsive"]/descendant::td



descendent-or-self

//div[@class="table-responsive"]/descendant-or-self::div

//div[@class="table-responsive"]/descendant-or-self::td

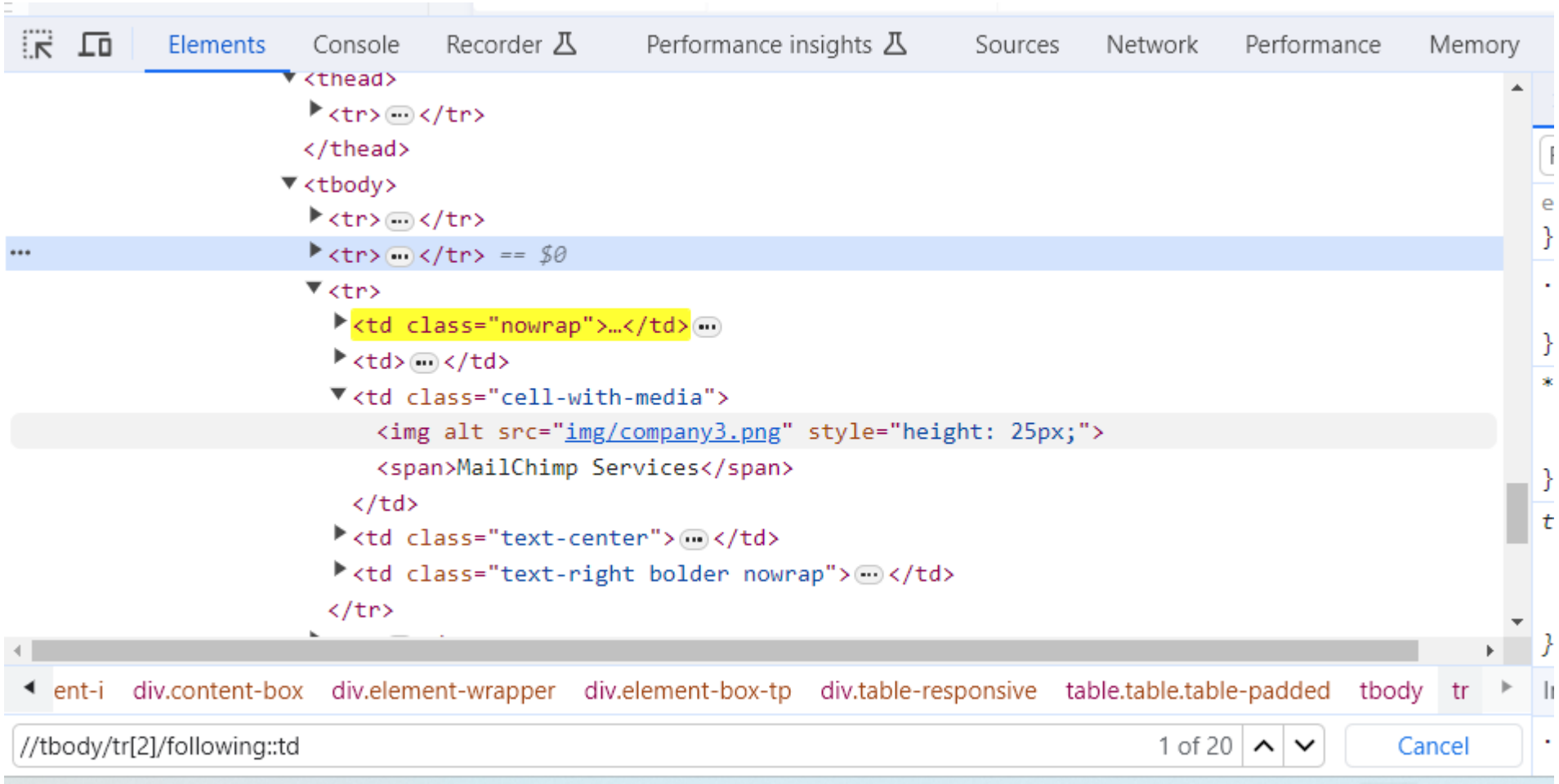


following

This function will return the immediate element of the particular component

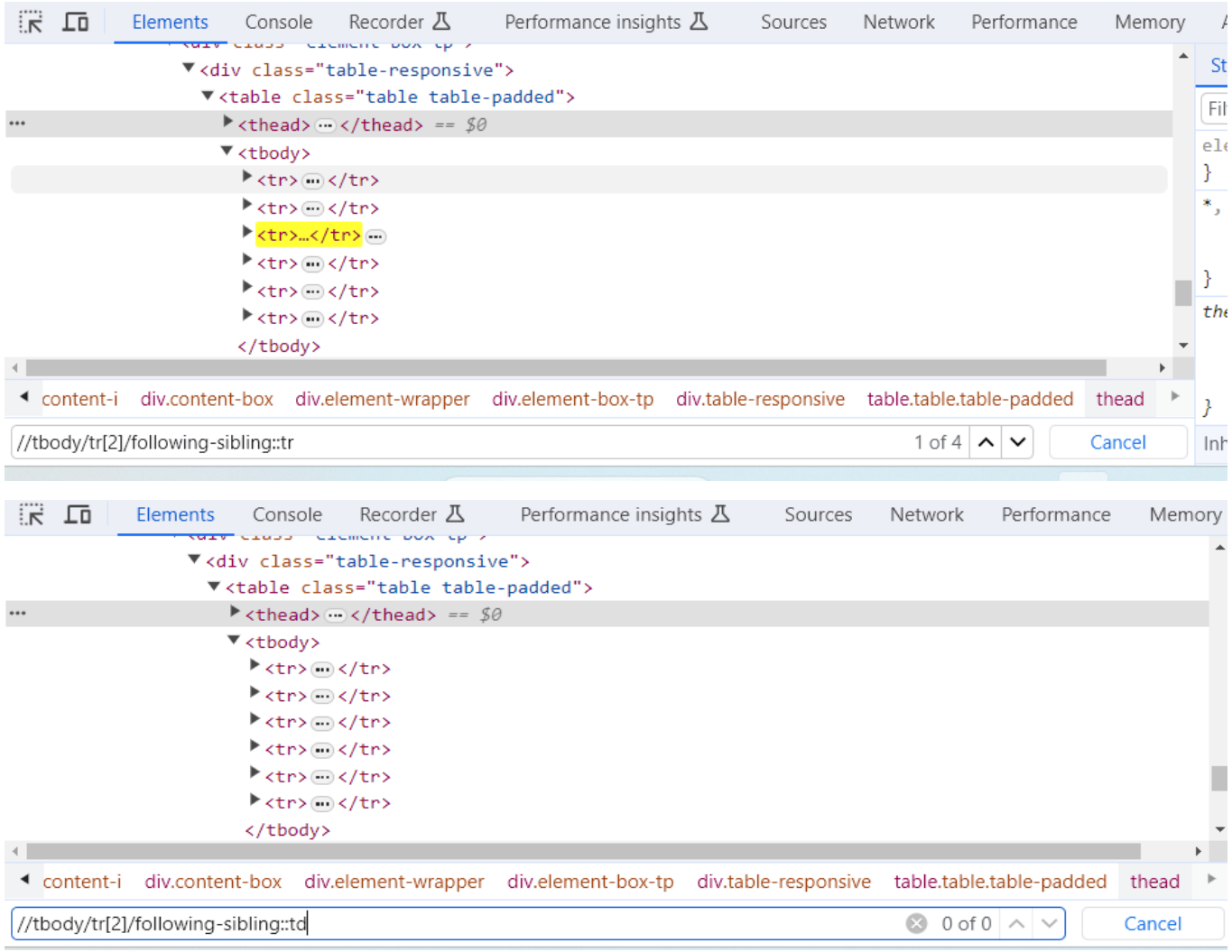
//tbody/tr[2]/following::tr

//tbody/tr[2]/following::td



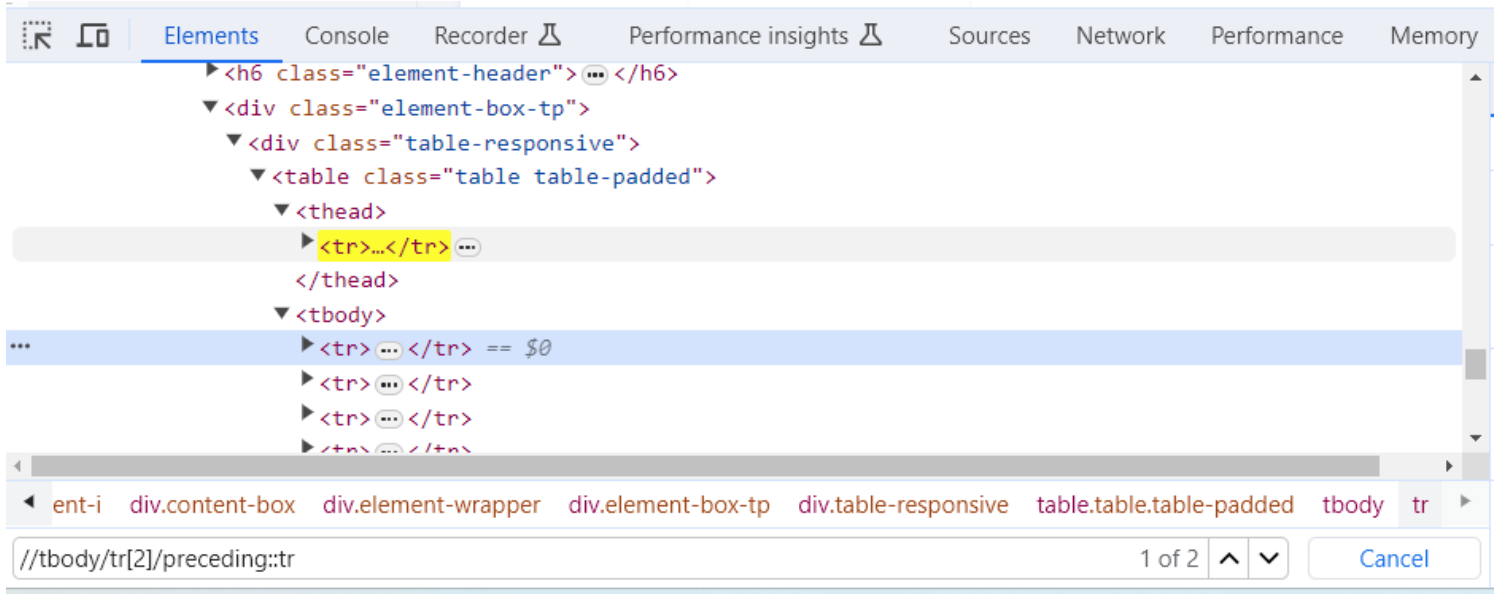
following-sibling

//tbody/tr[2]/following-sibling::tr

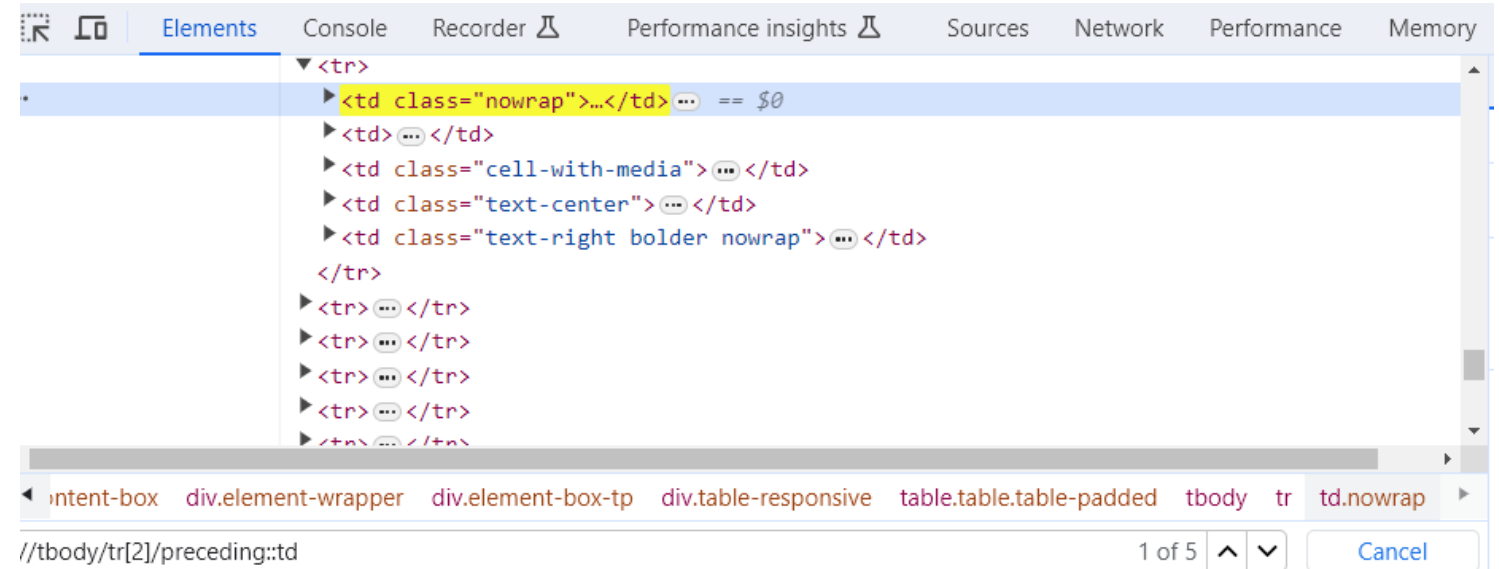


Preceding

This function will return the preceding element of the particular element



//tbody/tr[2]/preceding::tr



//tbody/tr[2]/preceding::td

preceding-sibling

//tbody/tr[2]/preceding-sibling::tr

//tbody/tr[2]/preceding-sibling::td

THANKS FOR READING