

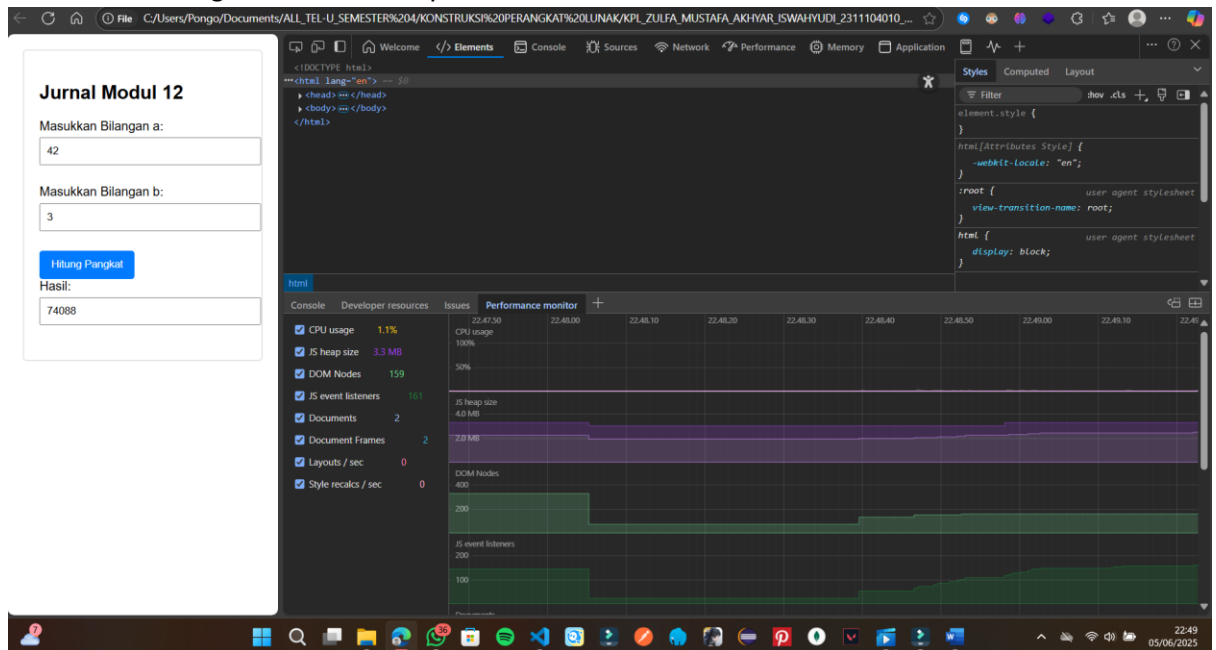
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2311104010

Jurnal

Project kali ini adalah untuk mengetes performa sebuah program yang mengkalkulasi bilangan a yang berfungsi sebagai bilangan real dan b sebagai bilangan pangkat. Beberapa testing dilakukan untuk mengambil data ujicoba namun sepertinya di saya gagal entah kenapa.

1.) Performa Profiling CPU dan Memory



2.) Unit Testing Terminal (Failed)

```
PS C:\Users\Pongo\Documents\ALL_TEL-U_SEMESTER 4\KONSTRUKSI PERANGKAT LUNAK\KPL_ZULFA_MUSTAFA_AKHYAR_ISWAHYUDI_2311104010_SE0701\12>
npm test
> 12@1.0.0 test
> jest

FAIL ./test.js
  ✕ test bilangan b negatif (1 ms)
  ✕ test bilangan b nol
  ✕ test batas maksimal
  ✕ test overflow (1 ms)
  ✕ test pangkat normal
  ✕ test DOM (1 ms)

  ● test bilangan b negatif

    TypeError: cariNilaiPangkat is not a function

       3 |
       4 |   test('test bilangan b negatif', () => {
    >    5 |     expect(cariNilaiPangkat(5, -3)).toBe(-1);
         |               ^
       6 |   });
       7 |
       8 |   test('test bilangan b nol', () => {
         at Object.cariNilaiPangkat (test.js:5:12)

  ● test bilangan b nol

    TypeError: cariNilaiPangkat is not a function

       7 |
    >    8 |
         at Object.cariNilaiPangkat (test.js:5:12)

  ● test DOM

    TypeError: Cannot set properties of null (setting 'value')

       29 |     const lblResult = document.getElementById('lblResult');
         |
    >    31 |     txtInputA.value = '2';
         |                   ^
       32 |     txtInputB.value = '3';
       33 |     btnCalculate.click();
       34 |
         at Object.<anonymous> (test.js:31:20)

Test Suites: 1 failed, 1 total
Tests:       6 failed, 6 total
Snapshots:  0 total
Time:        0.699 s, estimated 1 s
Ran all test suites.
```

3.) Syntax Script, UnitTest, HTML:

KONSTRUKSI PERANGKAT LUNAK

node_modules

TP

index.html

script.js

test.js

globalSetup.js

index.html

package-lock.json

package.json

script.js

test.js

.gitignore

.hintrc

KPL_ZULFA_MUSTAFA_AKHYAR_ISWAHYUDI_2311104010_SE0701 > 12 > </> index.html > html > body > div.container > div.input-group

1<!DOCTYPE html>

2<html lang="en">

3<head>

4<meta charset="UTF-8">

5<meta name="viewport" content="width=device-width, initial-scale=1.0">

6<title>Jurnal Modul 12</title>

7<style>

8body {

9font-family: Arial, sans-serif;

10max-width: 500px;

11margin: 0 auto;

12padding: 20px;

13}

14.container {

15border: 1px solid #ccc;

16padding: 20px;

17border-radius: 5px;

18}

19.input-group {

20margin-bottom: 15px;

21}

22label {

23display: block;

24margin-bottom: 5px;

25}

26input {

27width: 100%;

28padding: 8px;

29margin-bottom: 10px;

30}

31button {

32background-color: #007bff;

33color: white;

34border: none;

35padding: 10px 15px;

36cursor: pointer;

37border-radius: 4px;

38}

39button:hover {

40background-color: #0056b3;

41}

42</style>

43</head>

44<body>

45<div class="container">

46<h2>Jurnal Modul 12</h2>

47<div class="input-group">

48<label for="textInputA">Masukkan Bilangan a:</label>

49<input type="text" id="textInputA">

50</div>

51<div class="input-group">

52<label for="textInputB">Masukkan Bilangan b:</label>

53<input type="text" id="textInputB">

54</div>

55<button id="btnCalculate">Hitung Pangkat</button>

56<div class="input-group">

57<label for="lblResult">Hasil:</label>

58<input type="text" id="lblResult" readonly>

59</div>

60</div>

61

62<script src="script.js"></script>

63</body>

64</html>

KONSTRUKSI PERANGKAT LUNAK

> .qodo

KPL_ZULFA_MUSTAF...

> 01_Pengantar_Praktikum...

> 02_Pengenalan_IDE_dan...

> 03_HTML

> 04_OOP

> 05_Generics

> 06_DBC

> 07_Parsing

> 08_Runtime_Configuratio...

> 09_API_Design_dan_Const...

> 10_Library

> 11

12

node_modules

TP

</> index.html U

JS script.js U

JS test.js U

JS globalSetup.js U

</> index.html U

npm package-lock.json U

npm package.json U

JS script.js U

JS test.js U

KPL_ZULFA_MUSTAFA_AKHYAR_ISWAHYUDI_2311104010_SE0701 > 12 > npm package.json > ...

1 {

2 "name": "12",

3 "version": "1.0.0",

4 "main": "script.js",

5 > Debug

6 "scripts": {

7 "test": "jest"

8 },

9 "keywords": [],

10 "author": "",

11 "license": "ISC",

12 "description": "",

13 "devDependencies": {

14 "jest": "^29.7.0",

15 "@testing-library/jest-dom": "^5.16.5",

16 "jsdom": "^20.0.0",

17 "jest-environment-jsdom": "^15.0.0"

18 },

19 "jest": {

20 "testEnvironment": "jest-environment-jsdom"

21 }

22 }

KONSTRUKSI PE...

> .qodo

KPL_ZULFA_MUSTAF...

> 01_Pengantar_Praktikum...

> 02_Pengenalan_IDE_dan...

> 03_HTML

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node_modules

TP

</> index.html U

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JS test.js U

JS globalSetup.js U

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npm package-lock.json U

npm package.json U

JS script.js U

JS test.js U

KPL_ZULFA_MUSTAFA_AKHYAR_ISWAHYUDI_2311104010_SE0701 > 12 > JS script.js > ...

1 // Fungsi function cariNilaiPangkat di file script.js

2 function cariNilaiPangkat(a, b) {

3 if (b === 0) return 1;

4 if (b < 0) return -1;

5 if (b > 10 || a > 100) return -2;

6

7 let result = 1;

8 for (let i = 1; i <= b; i++) {

9 result *= a;

10 if (result < 0) return -3;

11 }

12 return result;

13 }

14

15 // Kode DOM dan event listener lainnya

16 document.addEventListener('DOMContentLoaded', () => {

17 const txtInputA = document.getElementById('txtInputA');

18 const txtInputB = document.getElementById('txtInputB');

19 const btnCalculate = document.getElementById('btnCalculate');

20 const lblResult = document.getElementById('lblResult');

21

22 btnCalculate.addEventListener('click', () => {

23 const a = parseInt(txtInputA.value);

24 const b = parseInt(txtInputB.value);

25 lblResult.value = cariNilaiPangkat(a, b);

26 });

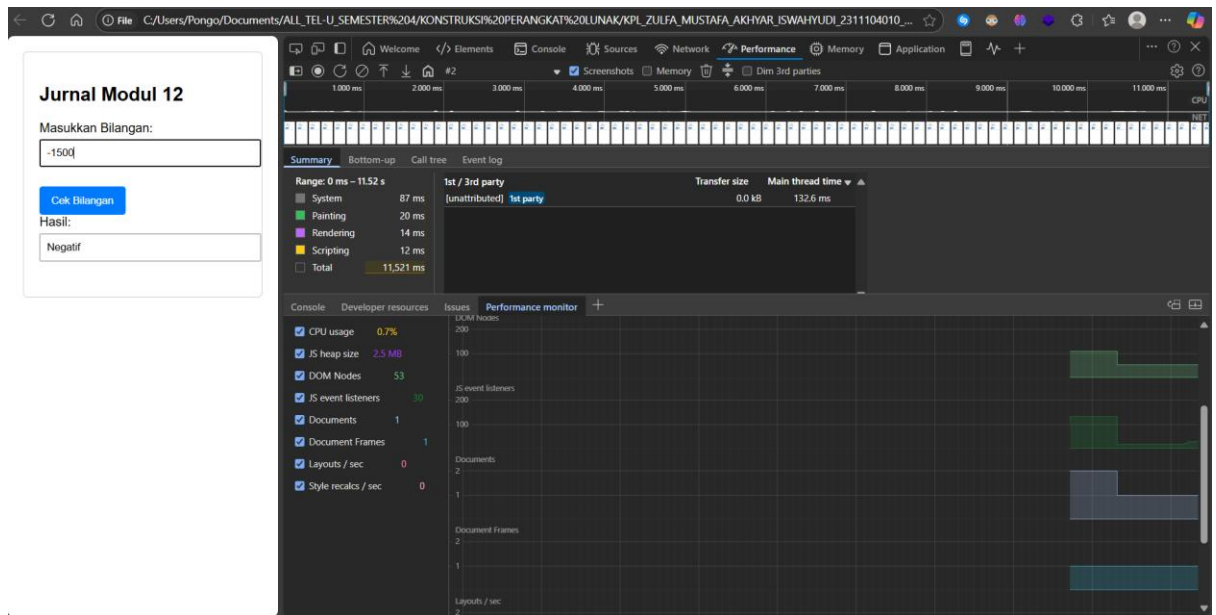
27 });

```
KPL_ZULFA_MUSTAFA_AKHYAR_ISWAHYUDI_2311104010_SE0701 > 12 > JS test.js > ...  
1 // Uji function dari file script.js  
2 const { cariNilaiPangkat } = require('./script.js');  
3  
4 test('test bilangan b negatif', () => {  
5   expect(cariNilaiPangkat(5, -3)).toBe(-1);  
6 });  
7  
8 test('test bilangan b nol', () => {  
9   expect(cariNilaiPangkat(0, 0)).toBe(1);  
10  });  
11  
12 test('test batas maksimal', () => {  
13   expect(cariNilaiPangkat(101, 5)).toBe(-2);  
14 });  
15  
16 test('test overflow', () => {  
17   expect(cariNilaiPangkat(2, 31)).toBe(-3);  
18 });  
19  
20 test('test pangkat normal', () => {  
21   expect(cariNilaiPangkat(2, 3)).toBe(8);  
22 });  
23  
24 // Menguji kode DOM  
25 test('test DOM', () => {  
26   const txtInputA = document.getElementById('txtInputA');  
27   const txtInputB = document.getElementById('txtInputB');  
28   const btnCalculate = document.getElementById('btnCalculate');  
29   const lblResult = document.getElementById('lblResult');  
30  
31   txtInputA.value = '2';  
32   txtInputB.value = '3';  
33   btnCalculate.click();  
34  
35   expect(lblResult.value).toBe('8');  
36 });
```

TP

Kali ini adalah project untuk mengecek bilangan genap/ganjil. Kurang lebih sama hasil uji test-nya, masih gagal.

1.) Monitoring Profiling



2.) Unit Test Terminal

```
PS C:\Users\Pongo\Documents\ALL_TEL-U_SEMESTER 4\KONSTRUKSI PERANGKAT LUNAK\KPL_ZULFA_MUSTAFA_AKHAR_ISWAHYUDI_2311104010_SE0701\12\TP> npm test

> 12@1.0.0 test
> jest

FAIL ./test.js
  ✕ test bilangan negatif (1 ms)
  ✕ test bilangan positif
  ✕ test bilangan nol

  • test bilangan negatif

    TypeError: cariTandaBilangan is not a function

       2 |
       3 | test('test bilangan negatif', () => {
    >    4 |     expect(cariTandaBilangan(-5)).toBe("Negatif");
         |           ^
       5 | });
       6 |
       7 | test('test bilangan positif', () => {
         at Object.cariTandaBilangan (test.js:4:12)

  • test bilangan positif

    TypeError: cariTandaBilangan is not a function

       6 |
       7 | test('test bilangan positif', () => {
    >    8 |     expect(cariTandaBilangan(5)).toBe("Positif");
         |           ^
       9 | });
      10 |
      11 | test('test bilangan nol', () => {
         at Object.cariTandaBilangan (test.js:8:12)

  • test bilangan nol

    TypeError: cariTandaBilangan is not a function

      10 |
      11 | test('test bilangan nol', () => {
    >    12 |     expect(cariTandaBilangan(0)).toBe("Nol");
         |           ^
      13 | });
         at Object.cariTandaBilangan (test.js:12:12)

Test Suites: 1 failed, 1 total
Tests:       3 failed, 3 total
Snapshots:  0 total
Time:        0.714 s
Ran all test suites.
```