

Name-Tushar Singh Thakur

Sec-C

Reg no.-201900400

Create a calculator app using Angular which is capable of performing following operations:

1. Addition of two numbers
2. Subtraction of two numbers
3. Multiplication of two numbers
4. Division of two numbers
5. Factorial of a number
6. Checking if a given number is Prime or not

App.component.ts

```
app.component.ts X app.component.html app.component.css
calculator > src > app > app.component.ts > AppComponent > getAnswer > isPrime
1  import { Component } from '@angular/core';
2
3  @Component({
4    selector: 'app-root',
5    templateUrl: './app.component.html',
6    styleUrls: ['./app.component.css']
7  })
8  export class AppComponent {
9    title = 'calculator';
10   subDisplayText = '';
11   mainDisplayText = '';
12   operand1: number;
13   operand2: number;
14   operator = '';
15   calculationString = '';
16   answered = false;
17
18   operatorSet = false;
19
20   pressKey(key: string) {
21     if (key === '/' || key === 'x' || key === '-' || key === '+' || key === 'Factorial' || key === 'Prime') {
22       const lastKey = this.mainDisplayText[this.mainDisplayText.length - 1];
23       if (lastKey === '/' || lastKey === 'x' || lastKey === '-' || lastKey === '+' || key === 'Factorial' || key === 'Prime') {
24         this.operatorSet = true;
25       }
26       if ((this.operatorSet) || (this.mainDisplayText === '')) {
27         return;
28       }
29       this.operand1 = parseFloat(this.mainDisplayText);
30       this.operator = key;
31       this.operatorSet = true;
32     }
33     if (this.mainDisplayText.length === 10) {
34       return;
35     }
36     this.mainDisplayText += key;
37   }
38   allClear() {
39     this.mainDisplayText = '';
40     this.subDisplayText = '';
41     this.operatorSet = false;
42   }
43
44   getAnswer() {
45     this.calculationString = this.mainDisplayText;
46     this.operand2 = parseFloat(this.mainDisplayText.split(this.operator)[1]);
47     if (this.operator === '/') {
48       this.subDisplayText = this.mainDisplayText;
49       this.mainDisplayText = (this.operand1 / this.operand2).toString();
50       this.subDisplayText = this.calculationString;
51       if (this.mainDisplayText.length > 9) {
52         this.mainDisplayText = this.mainDisplayText.substr(0, 9);
53       }
54     } else if (this.operator === 'x') {
55       this.subDisplayText = this.mainDisplayText;
56       this.mainDisplayText = (this.operand1 * this.operand2).toString();
57       this.subDisplayText = this.calculationString;
58       if (this.mainDisplayText.length > 9) {
59         this.mainDisplayText = 'ERROR';
60         this.subDisplayText = 'Range Exceeded';
61       }
62     } else if (this.operator === '-') {
63       this.subDisplayText = this.mainDisplayText;
64       this.mainDisplayText = (this.operand1 - this.operand2).toString();
65       this.subDisplayText = this.calculationString;
66     } else if (this.operator === '+') {
67       this.subDisplayText = this.mainDisplayText;
68       this.mainDisplayText = (this.operand1 + this.operand2).toString();
69       this.subDisplayText = this.calculationString;
70       if (this.mainDisplayText.length > 9) {
71         this.mainDisplayText = 'ERROR';
72         this.subDisplayText = 'Range Exceeded';
73       }
74     }
75     else {
76       this.subDisplayText = 'ERROR: Invalid Operation';
77     }
78   }
79 }
```

```

        this.subDisplayText = this.mainDisplayText;
        this.mainDisplayText = (factorial).toString();
        this.subDisplayText = this.calculationString;
        if (this.mainDisplayText.length > 9) {
            this.mainDisplayText = 'ERROR';
            this.subDisplayText = 'Range Exceeded';
        }
    }
    else if (this.operator === 'Prime') {

        this.subDisplayText = this.mainDisplayText;
        this.mainDisplayText = (isPrime(this.operand1)).toString();
        this.subDisplayText = this.calculationString;
        if (this.mainDisplayText.length > 9) {
            this.mainDisplayText = 'ERROR';
            this.subDisplayText = 'Range Exceeded';
        }
    }
    else {
        this.subDisplayText = 'ERROR: Invalid Operation';
    }
    this.answered = true;
}
}

function isPrime(num: number) {
    for(var i = 2; i < num; i++)
        if(num % i === 0) return 'Not Prime';
    return 'Prime';
}

function calcFact( num: number )
{
    var i;
    var fact = 1;
    for( i = 1; i <= num; i++ )
    {
        fact = fact * i;
    }
    return fact;
}

```

App.component.html

```
calculator > src > app > app.component.html > body > div.container > div.row > div.col-md-4 > div.base > div.keypad > table > tr > td.keys.opkey
Go to component
1 <body>
2   <div class="container">
3     <div class="row">
4       <div class="col-md-4"></div>
5       <div class="col-md-4">
6         <div class="base">
7           <div class="maindisplay">
8             <div class="subdisplay">{{ subDisplayText }}</div>
9             {{ mainDisplayText }}
10          </div>
11          <div class="keypad">
12            <table style="width: 100%;">
13              <tr>
14                <td class="keys ackey" colspan="3" (click)="allClear()">AC</td>
15                <td class="keys opkey" colspan="1" (click)="pressKey('/')">/</td>
16              </tr>
17              <tr>
18                <td class="keys numkey" (click)="pressKey('7')">7</td>
19                <td class="keys numkey" (click)="pressKey('8')">8</td>
20                <td class="keys numkey" (click)="pressKey('9')">9</td>
21                <td class="keys opkey" (click)="pressKey('x')">x</td>
22              </tr>
23              <tr>
24                <td class="keys numkey" (click)="pressKey('4')">4</td>
25                <td class="keys numkey" (click)="pressKey('5')">5</td>
26                <td class="keys numkey" (click)="pressKey('6')">6</td>
27                <td class="keys opkey" (click)="pressKey('.')">.</td>
28              </tr>
29              <tr>
30                <td class="keys numkey" (click)="pressKey('3')">3</td>
31                <td class="keys numkey" (click)="pressKey('2')">2</td>
32                <td class="keys numkey" (click)="pressKey('1')">1</td>
33                <td class="keys opkey" (click)="pressKey('+')">+</td>
34              </tr>
35              <tr>
36                <td colspan="2" class="keys numkey" (click)="pressKey('0')">0</td>
37                <td class="keys numkey" (click)="pressKey('.')">.</td>
38                <td class="keys equalkey" (click)="getAnswer()">=</td>
39              </tr>
40              <tr>
41                <td colspan="2" class="keys opkey" (click)="pressKey('!')">Factorial</td>
42                <td colspan="2" class="keys opkey" (click)="pressKey('p|')">Prime</td>
43              </tr>
44            </table>
45          </div>
46        </div>
47      </div>
48    <div class="col-md-4"></div>
49  </div>
50 </div>
51
52 </body>
53
```

App.component.css

```
calculator > src > app > app.component.css > .base
1  body {
2    background-color: #000000;
3    box-shadow: 0px 0px 0px 10px #666;
4    border: 5px solid black;
5    border-radius: 10px;
6  }
7  .base {
8    background: black;
9    margin-top: 5vh;
10   margin-left: 65vh;
11   border: 3px solid black;
12   width: 35%;
13 }
14
15
16 .maindisplay {
17   background: #3A4655;
18   height: 20vh;
19   padding: 5% !important;
20   font-size: 4rem;
21   text-align: right;
22   font-family: Courier, monospace;
23   overflow: auto;
24 }
25
26 .subdisplay {
27   border-bottom: 1px solid #727B86;
28   height: 15%;
29   font-size: 2rem;
30   overflow: auto;
31 }
32
33 .keypad {
34   height: calc(50%);
35 }
36
37 .keys {
38   margin: 0;
39   height: 5%;
40   background: whitesmoke;
41   color: #425062;
42   padding: 5%;
```

```
42 | padding: 5%;
43 | font-size: 2rem;
44 | text-align: center;
45 | cursor: pointer;
46 | opacity: 0.9;
47 | }
48 |
49 | .keys:hover {
50 | | opacity: 1;
51 | }
52 |
53 | .ackey {
54 | | color: red;
55 | | background: rgb(48, 45, 45);
56 | }
57 |
58 | .equalkey {
59 | | color: white;
60 | | background-color: orangered;
61 | }
62 |
63 | .numkey {
64 | | color: skyblue;
65 | | background-color: grey;
66 | }
67 |
68 | .opkey {
69 | | color: white;
70 | | background-color: rgb(48, 45, 45);
71 | }
72 |
```

Output:

