NAME – Prashant Kumar

Registration no. – 201900231

Code for app.component.html

```
<div class="container">
  <div class="row">
    <div class="col-md-4"></div>
    <div class="col-md-4">
      <div class="base">
        <div class="maindisplay">
          <div class="subdisplay">{{ subDisplayText }}</div>
          {{ mainDisplayText }}
        </div>
        <div class="keypad">
          <table style="width: 100%;">
            <tr>
              <td class="keys ackey" colspan="3"
(click)="allClear()">AC</td>
              <td class="keys opkey" colspan="1"
(click)="pressKey('/')">/</td>
            </tr>
            <tr>
              <td class="keys numkey" (click)="pressKey('7')">7</td>
              <td class="keys numkey" (click)="pressKey('8')">8</td>
              <td class="keys numkey" (click)="pressKey('9')">9</td>
              <td class="keys opkey" (click)="pressKey('x')">x</td>
            </tr>
            <tr>
              <td class="keys numkey" (click)="pressKey('4')">4</td>
              <td class="keys numkey" (click)="pressKey('5')">5</td>
              <td class="keys numkey" (click)="pressKey('6')">6</td>
              <td class="keys opkey" (click)="pressKey('-')">-</td>
            </tr>
            <tr>
              <td class="keys numkey" (click)="pressKey('3')">3</td>
              <td class="keys numkey" (click)="pressKey('2')">2</td>
              <td class="keys numkey" (click)="pressKey('1')">1</td>
              <td class="keys opkey" (click)="pressKey('+')">+</td>
            </tr>
            <tr>
              <td colspan="2" class="keys numkey"
(click)="pressKey('0')">0</td>
              <td class="keys numkey" (click)="pressKey('.')">.</td>
              <td class="keys equalkey" (click)="getAnswer()">=</td>
            </tr>
          </table>
        </div>
      </div>
    </div>
    <div class="col-md-4"></div>
  </div>
</div>
```

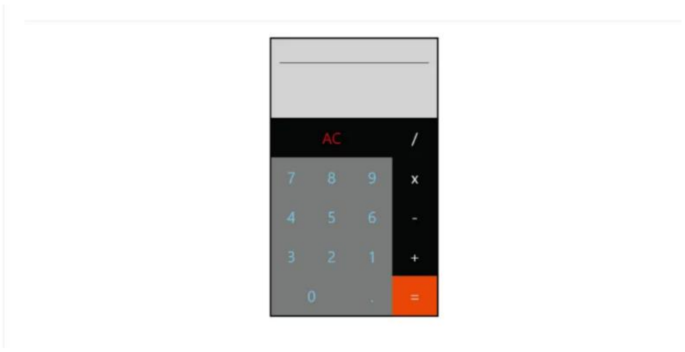
Code for app.component.css

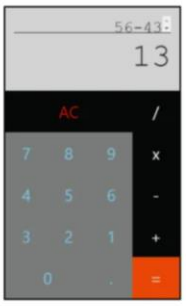
```
.base {
    background: darkslategray;
    margin-top: 5vh;
    border: 3px solid black;
    width: 100%;
}

.maindisplay {
    background: lightgrey;
    height: 25vh;
    padding: 5% !important;
    font-size: 4rem;
    text-align: right;
    font-family: Courier, monospace;
    overflow: auto;
}

.subdisplay {
    border-bottom: 1px solid black;
    height: 25%;
    font-size: 2rem;
    overflow: auto;
}

.keypad {
    height: calc(200% / 3);
}

.keys {
    margin: 0;
    height: 20%;
    background: whitesmoke;
    color: grey;
    padding: 5%;
    font-size: 2rem;
    text-align: center;
    cursor: pointer;
    opacity: 0.9;
}

.keys:hover {
    opacity: 1;
}

.ackey {
    color: red;
    background: black;
}

.equalkey {
    color: white;
    background-color: orangered;
}

.numkey {
    color: skyblue;
    background-color: grey;
}

.opkey {
    color: white;
    background-color: black;
}
```

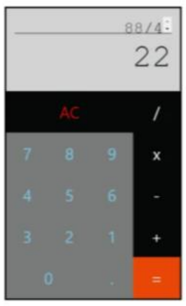
Code for app.component.ts

```
import { Component } from '@angular/core';

@Component({
  selector: 'app-root',
  templateUrl: './app.component.html',
  styleUrls: ['./app.component.css']
})
export class AppComponent {
  title = 'angular-calculator-app';
  subDisplayText = '';
  mainDisplayText = '';
  operand1: number;
  operand2: number;
  operator = '';
  calculationString = '';
  // This string  denotes the operation being performed
  answered = false;
  //  flag to check whether the solution has been processed
  operatorSet = false;

  pressKey(key: string) {
    if (key === '/' || key === 'x' || key === '-' || key === '+') {
      const lastKey =
this.mainDisplayText[this.mainDisplayText.length - 1];
      if (lastKey === '/' || lastKey === 'x' || lastKey === '-' ||
lastKey === '+') {
        this.operatorSet = true;
      }
      if ((this.operatorSet) || (this.mainDisplayText === '')) {
        return;
      }
      this.operand1 = parseFloat(this.mainDisplayText);
      this.operator = key;
      this.operatorSet = true;
    }
    if (this.mainDisplayText.length === 10) {
      return;
    }
    this.mainDisplayText += key;
  }
  allClear() {
    this.mainDisplayText = '';
    this.subDisplayText = '';
    this.operatorSet = false;
  }
  getAnswer() {
    this.calculationString = this.mainDisplayText;
    this.operand2 =
parseFloat(this.mainDisplayText.split(this.operator)[1]);
    if (this.operator === '/') {
      this.subDisplayText = this.mainDisplayText;
      this.mainDisplayText = (this.operand1 /
this.operand2).toString();
      this.subDisplayText = this.calculationString;
      if (this.mainDisplayText.length > 9) {
        this.mainDisplayText = this.mainDisplayText.substr(0, 9);
      }
    } else if (this.operator === 'x') {
      this.subDisplayText = this.mainDisplayText;
      this.mainDisplayText = (this.operand1 *
this.operand2).toString();
      this.subDisplayText = this.calculationString;
      if (this.mainDisplayText.length > 9) {
        this.mainDisplayText = 'ERROR';
        this.subDisplayText = 'Range Exceeded';
      }
    } else if (this.operator === '-') {
      this.subDisplayText = this.mainDisplayText;
      this.mainDisplayText = (this.operand1 -
this.operand2).toString();
      this.subDisplayText = this.calculationString;
    } else if (this.operator === '+') {
      this.subDisplayText = this.mainDisplayText;
      this.mainDisplayText = (this.operand1 +
this.operand2).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;
    }
}
```

Screenshots : -


AC
/
7
8
9
x
4
5
6
-
3
2
1
+
0
.
=


56-43
13
AC
/
7
8
9
x
4
5
6
-
3
2
1
+
0
.
=


88/4
22
AC
/
7
8
9
x
4
5
6
-
3
2
1
+
0
.
=