Task 1- Create a parent component named dashboard and child component named box.

Task 2- Using an array of names, use ngfor and display the box component and pass name as

input to box component

Task 3- Pass mark also to box component from dashboard component using array and display

box color based on users mark.

Task 4- Add two buttons inside the box component- Increment mark and delete . Using out put

complete the functionalities as per instructed in the video.

*Task 5- Toggle Switch:

● Createatoggle switch component that uses @Input to accept an initial state and

@Output to emit an event when the state changes.

● Turnthebulb On/off in the parent component based on the state change of the

toggle switch.

*Task 6- Rating Component:

● Task:Create a rating component that uses @Input to accept the current rating and

@Output to emit an event when a rating is selected.

● Display a Text in Parent component Poor/Average/Good based on user rating.

* Task 7- Create an Angular application for student management.

● Include a Student form component with fields for Name, Course, and Total Mark

out of 100.

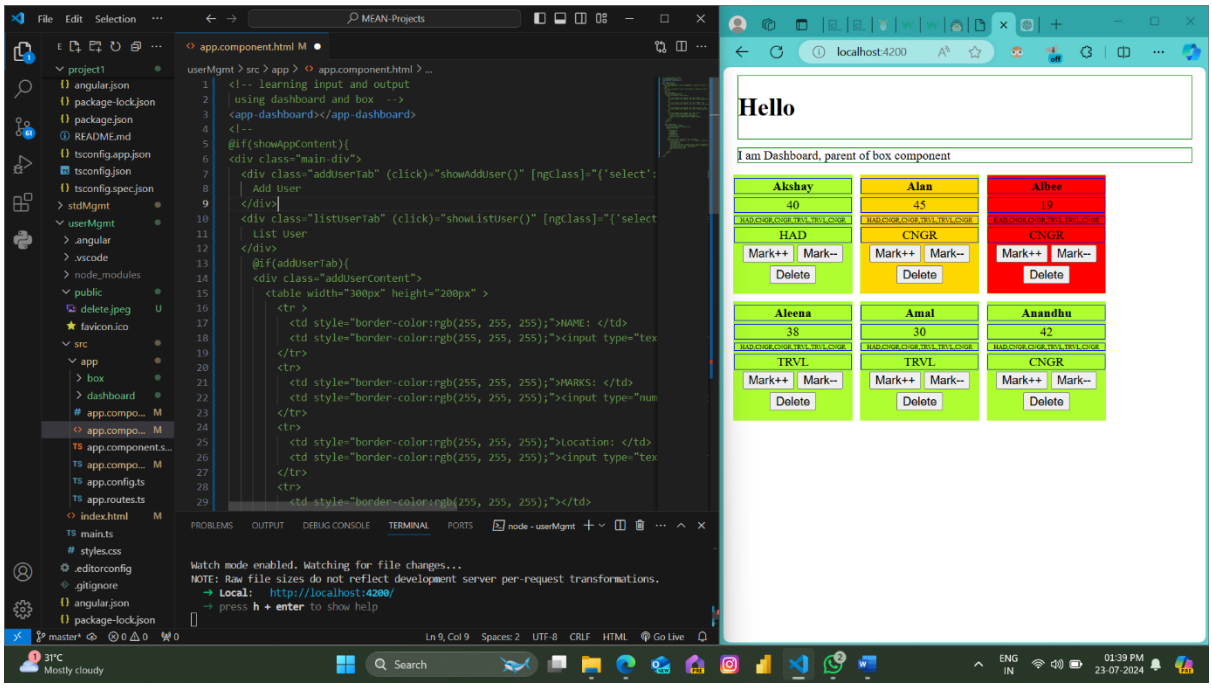
● Addasubmitbutton to receive and submit student details.

● Display the submitted student details on a Student list component.

● Calculate and display the student's grade based on the mark provided.

● Applyacolor code to the student's grade based on the grade achieved.

TASK 1 TO 4



Dashboard.component.ts

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

import { BoxComponent } from '../box/box.component';

@Component({
  selector: 'app-dashboard',
  standalone: true,
  imports: [BoxComponent],
  templateUrl: './dashboard.component.html',
  styleUrl: './dashboard.component.css'
})
export class DashboardComponent {
nameToPass: string[] = ['Akshay','Alan','Albee','Aleena','Amal','Anandhu'];
marksToPass: number[] = [40,45,19,38,30,42];
locationsToPass: string[] = ['HAD','CNGR','CNGR','TRVL','TRVL','CNGR'];

 incMarkEvent(name:string){
  let index = -1;
  for(let i = 0 ; i < this.nameToPass.length ; i++){
    if(this.nameToPass[i] === name){
        index = i;
```

```
        if(this.marksToPass[i] >= 50){
          alert(`Marks Can't be greater than 50`);
        }else {
          this.marksToPass[index]++;
        }
     }
  }
 }
 decMarkEvent(name:string){
  let index = -1;
  for(let i = 0 ; i < this.nameToPass.length ; i++){
    if(this.nameToPass[i] === name){
        index = i;
        if(this.marksToPass[i] <= 0){
          alert(`Marks Can't be less than 0`);
        }else {
          this.marksToPass[index]--;
        }
     }
  }
 }
 deleteUser(name:string){
  let index = -1;
  // for loop helps to find the index to the element
  for(let i=0; i<this.nameToPass.length ;i++){
    if(this.nameToPass[i] === name){
      index = i;
    }

  }
  // deleting the name from the index in all arrays
  this.nameToPass.splice(index,1);
  this.marksToPass.splice(index,1);
  this.locationsToPass.splice(index,1);
 }

}
```

****

Dashboard.component.html

```
<!-- implementing @input() in angular.
 Note: PARENT TO CHILD interaction-->
<div>
    <h1>Hello</h1>
```

```
</div>
<div>I am Dashboard, parent of box component
<!-- app-box is the child component -->
</div>
 <!--./box.ts <= name (name declared box)
  [marks] exist in box.ts -->
@for(nm of nameToPass; track nm; let i=$index){
<app-box [name] = 'nm' [marks] = "marksToPass[i]"
[locations]="locationsToPass"[loc] = 'locationsToPass[i]'
(incMarkEvent)="incMarkEvent($event)" (decMarkEvent)="decMarkEvent($event)"
(delEvent)="deleteUser($event)"/>
}
<!-- output event : CHILD TO PARENT interaction
  -->
```

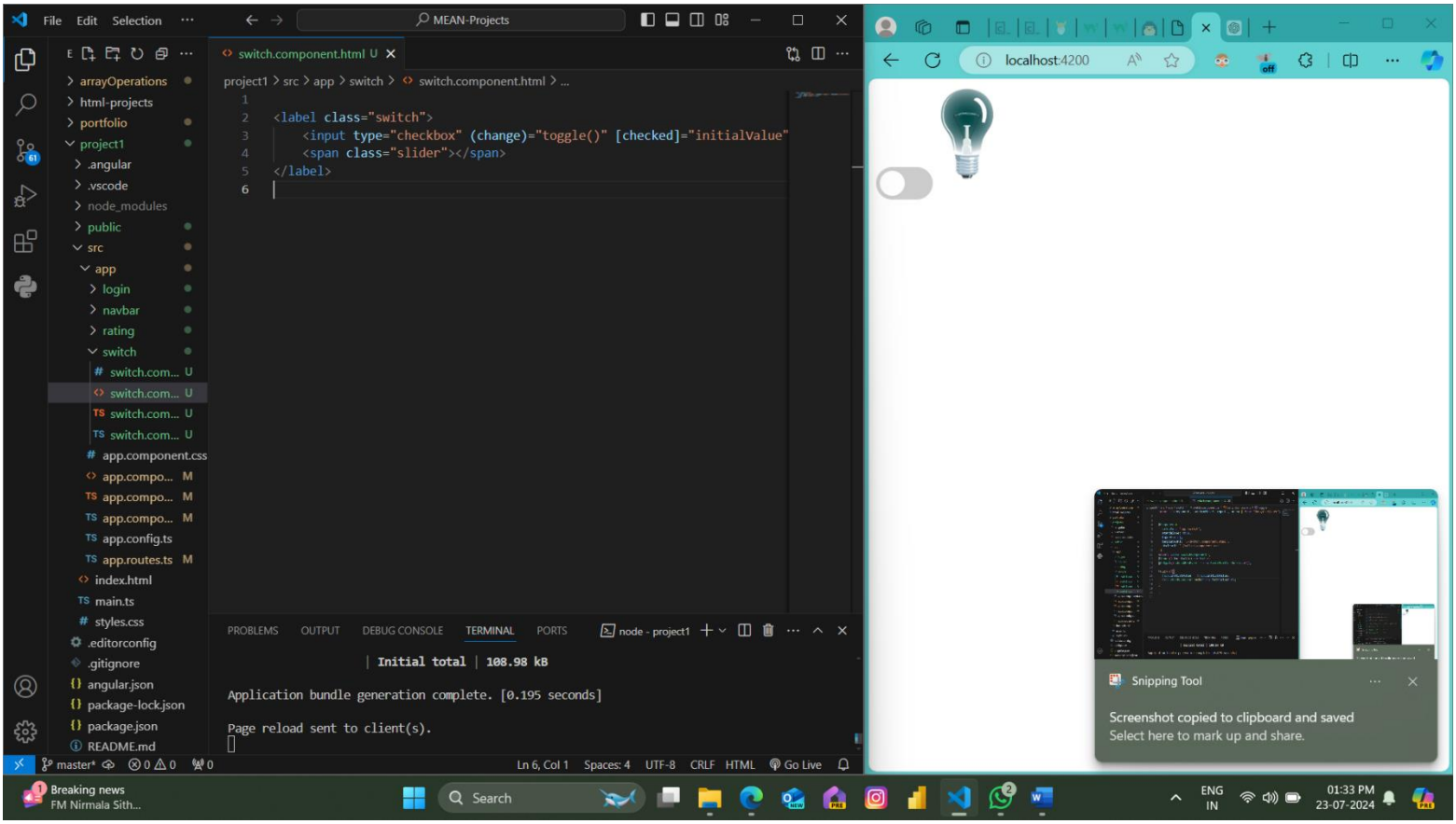
****

Box.component.ts

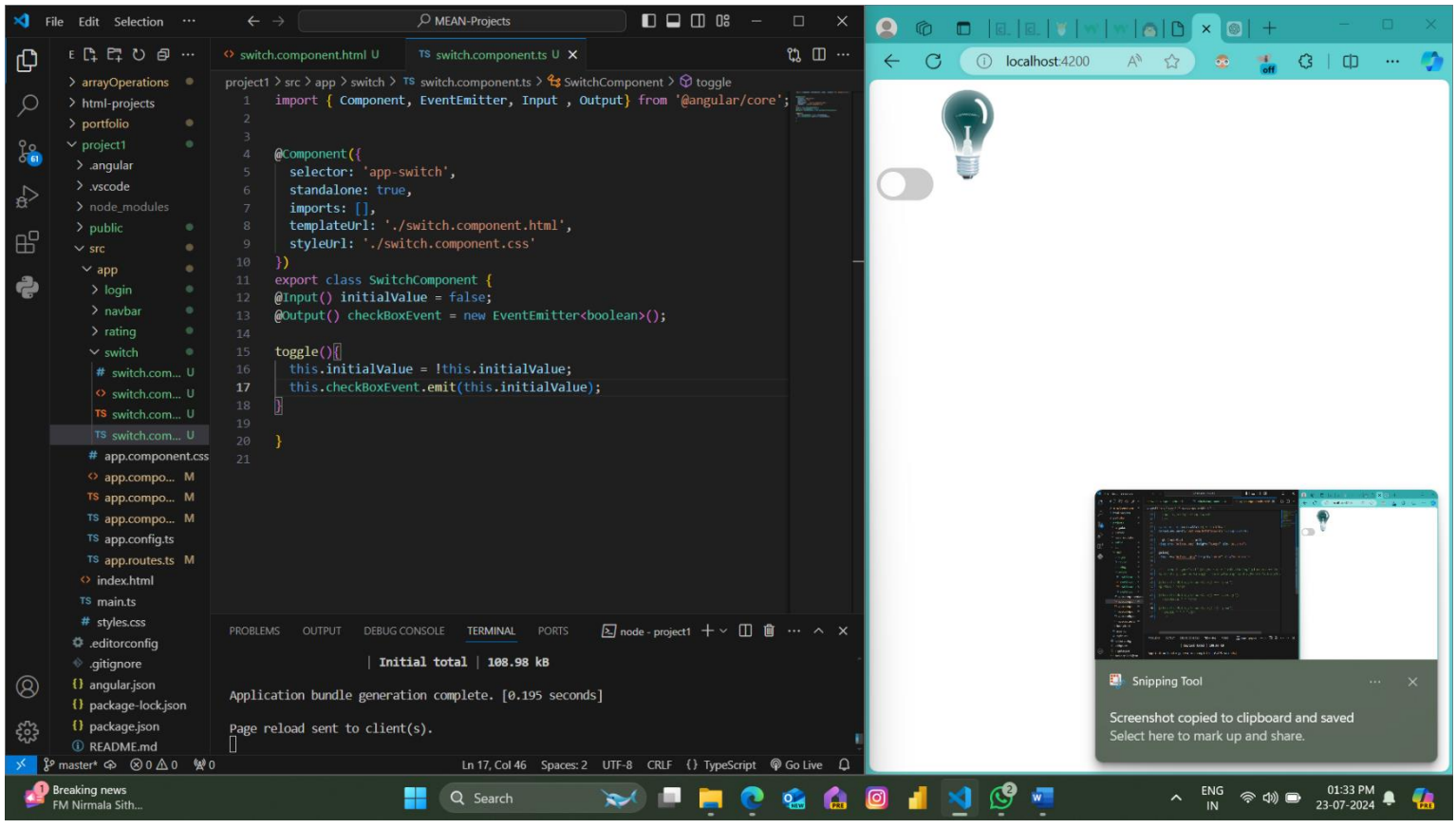
```
import { CommonModule } from '@angular/common';
import { Component,EventEmitter,Input, Output } from '@angular/core';

@Component({
  selector: 'app-box',
  standalone: true,
  imports: [CommonModule],
  templateUrl: './box.component.html',
  styleUrl: './box.component.css'
})
export class BoxComponent {
@Input() name:string = '';
@Input() marks:number = 0;
@Input() locations:string[] = [];
@Input() loc = '';
@Output() incMarkEvent = new EventEmitter<string>();
@Output() decMarkEvent = new EventEmitter<string>();
@Output() delEvent = new EventEmitter<string>();
    incMark(){
      this.incMarkEvent.emit(this.name);
    }
    decMark(){
      this.decMarkEvent.emit(this.name);
    }
    delUser(){
      this.delEvent.emit(this.name);
    }
}
```

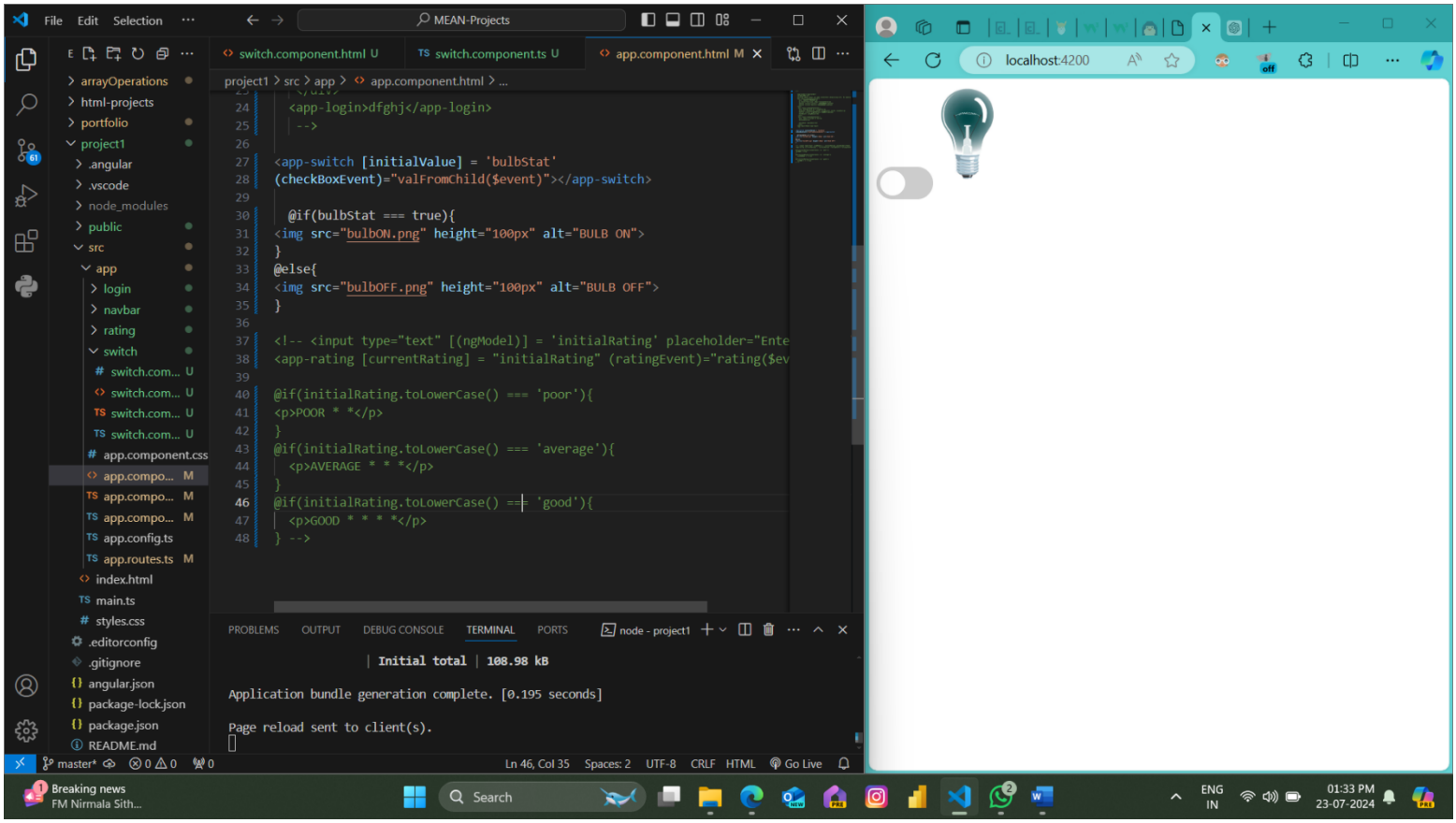
****

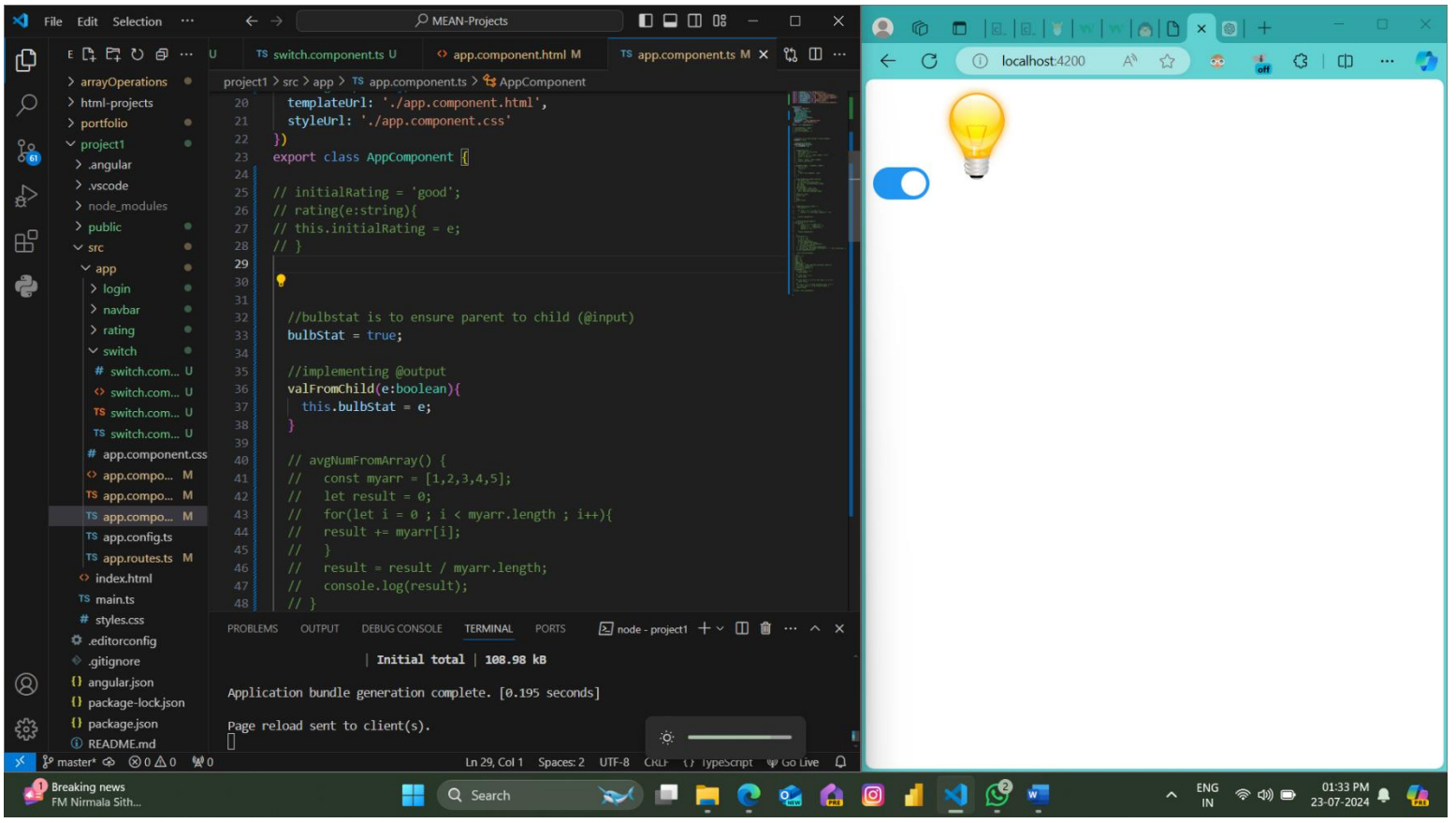
```
 Box.component.html


<!-- this value of name is coming from the
 DASHBOARD(parent) component using
 the @input inside box -->
<div class="box" [ngClass]="{'fail': (marks<20), 'good':(marks>=45)}">
        <div><b>{{name}}</b></div>
        <div>{{marks}}</div>
        <div class="loc">{{locations}}</div>
        <div>{{loc}}</div>
        <button (click)="incMark()">Mark++</button>
        <button (click)="decMark()">Mark--</button>
        <button (click)="delUser()">Delete</button>
</div>
```

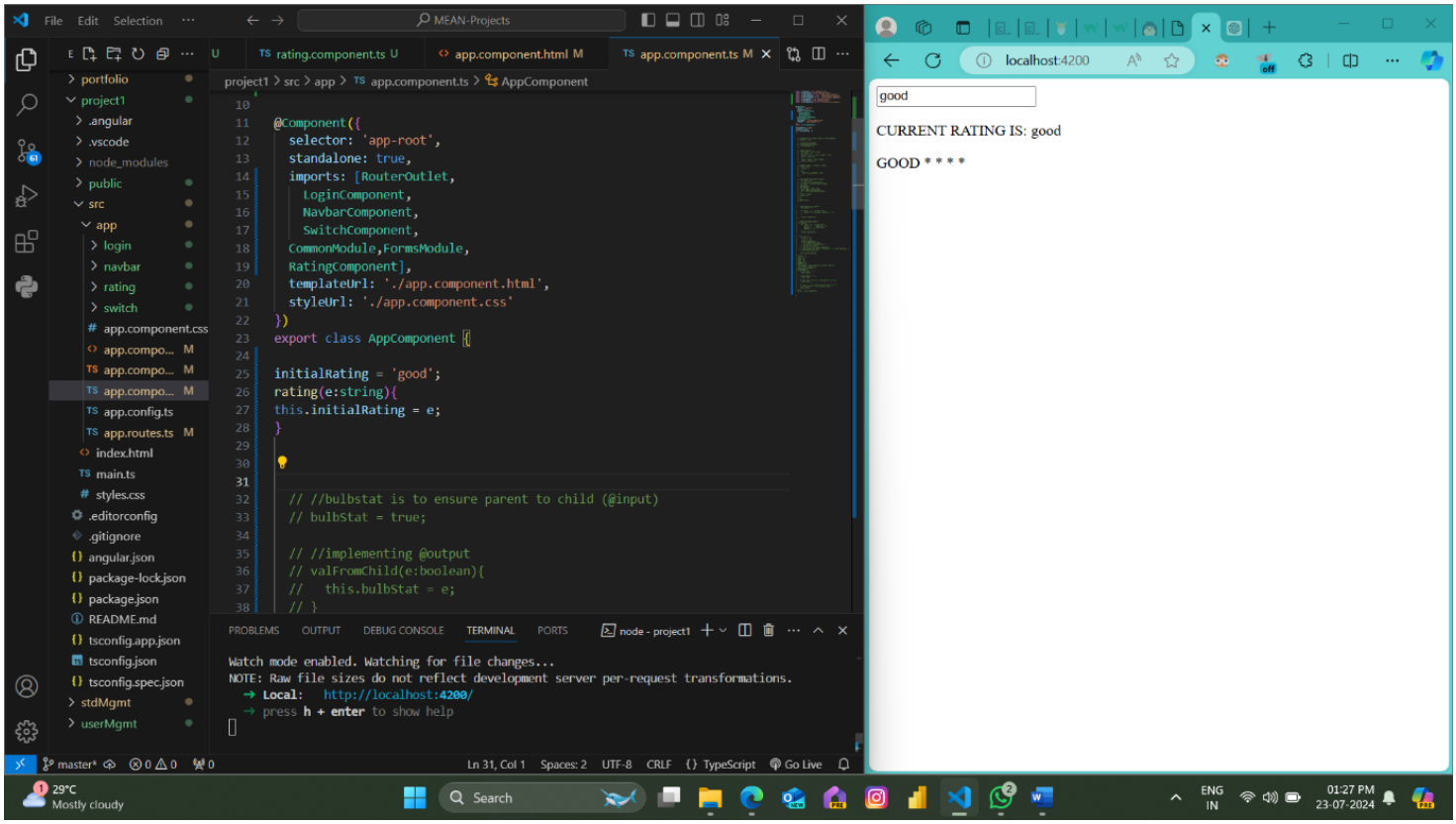

File Edit Selection
MEAN-Projects
switch.component.html U
project1 > src > app > switch > switch.component.html > ...
<label class="switch">
<input type="checkbox" (change)="toggle()" [checked]="initialValue"

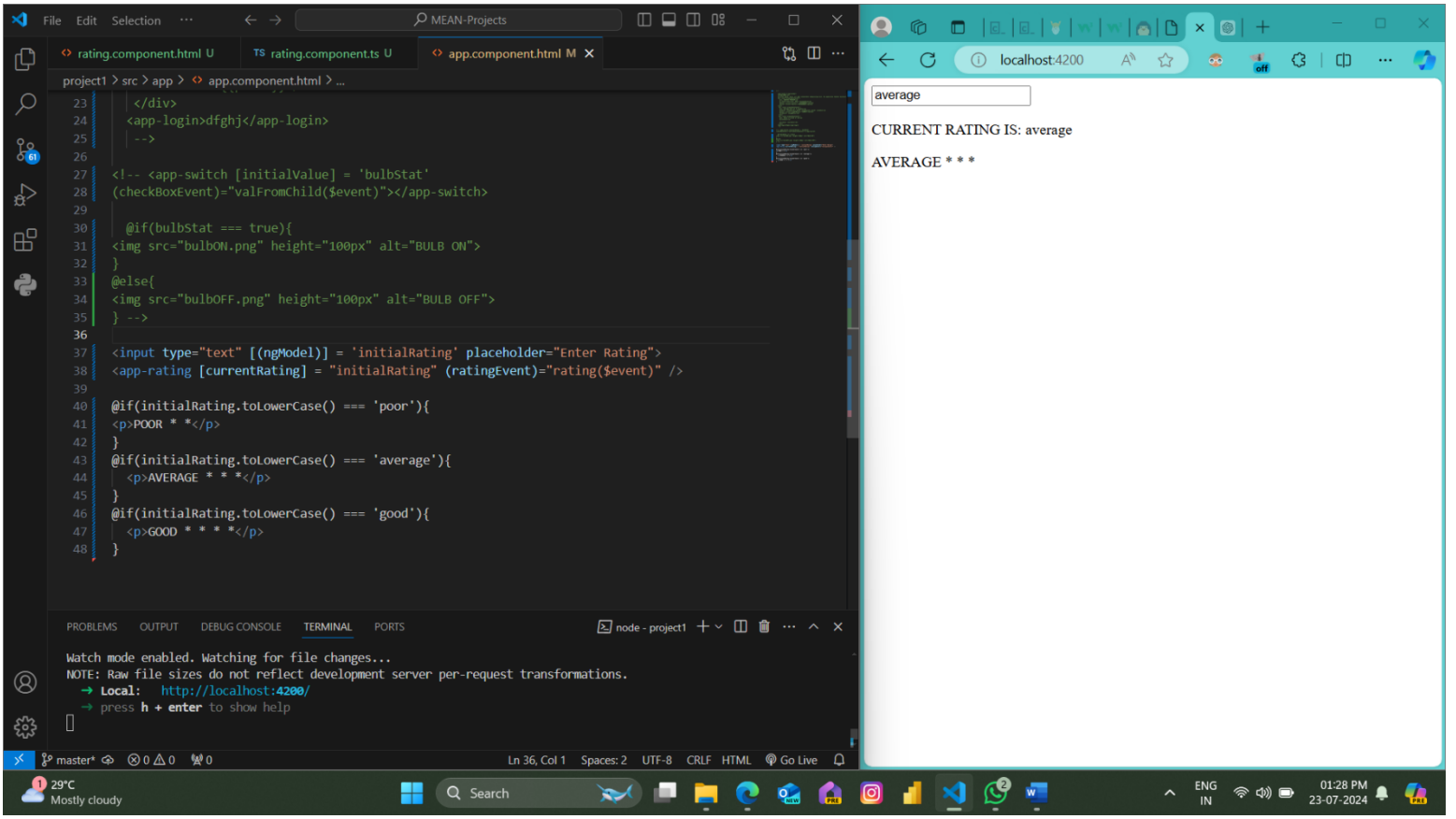
</label>
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
node - project1
Initial total | 108.98 kB
Application bundle generation complete. [0.195 seconds]
Page reload sent to client(s).
localhost:4200
Snipping Tool
Screenshot copied to clipboard and saved
Select here to mark up and share.
Search
ENG IN
01:33 PM 23-07-2024


File Edit Selection
MEAN-Projects
switch.component.html U
switch.component.ts U
project1 > src > app > switch > switch.component.ts > SwitchComponent > toggle
import { Component, EventEmitter, Input , Output} from '@angular/core';
@Component({
selector: 'app-switch',
standalone: true,
imports: [],
templateUrl: './switch.component.html',
styleUrl: './switch.component.css'
})
export class SwitchComponent {
@Input() initialValue = false;
@Output() checkBoxEvent = new EventEmitter<boolean>();
toggle(){
this.initialValue = !this.initialValue;
this.checkBoxEvent.emit(this.initialValue);
}
}
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
node - project1
Initial total | 108.98 kB
Application bundle generation complete. [0.195 seconds]
Page reload sent to client(s).
localhost:4200
Snipping Tool
Screenshot copied to clipboard and saved
Select here to mark up and share.
Search
ENG IN
01:33 PM 23-07-2024

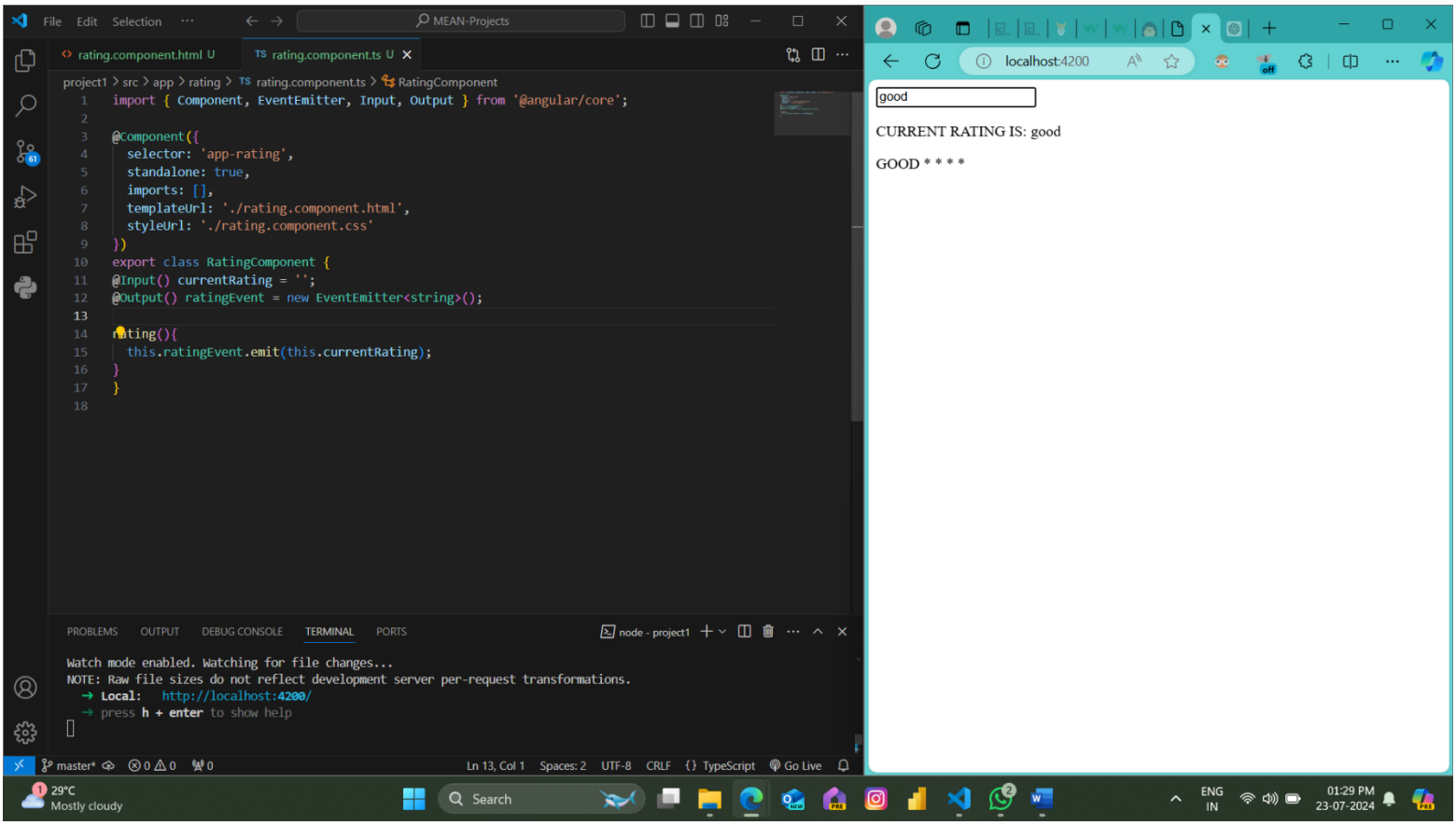

File Edit Selection
MEAN-Projects
switch.component.html U
switch.component.ts U
app.component.html M
project1 > src > app > app.component.html > ...
<app-login>dfghj</app-login>
<app-switch [initialValue] = 'bulbStat'
(checkBoxEvent)="valFromChild($event)"></app-switch>
@if(bulbStat === true){
<img src="bulbON.png" height="100px" alt="BULB ON">
}
@else{
<img src="bulbOFF.png" height="100px" alt="BULB OFF">
}
<!-- <input type="text" [(ngModel)] = 'initialRating' placeholder="Ente
<app-rating [currentRating] = "initialRating" (ratingEvent)="rating($ev
@if(initialRating.toLowerCase() === 'poor'){
POOR * *
}
@if(initialRating.toLowerCase() === 'average'){
AVERAGE * * *
}
@if(initialRating.toLowerCase() == 'good'){
GOOD * * * *
} -->
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
node - project1
| Initial total | 108.98 kB
Application bundle generation complete. [0.195 seconds]
Page reload sent to client(s).
Ln 46, Col 35 Spaces: 2 UTF-8 CRLF HTML Go Live
localhost:4200
Breaking news
FM Nirmala Sith...
Search
ENG
IN
01:33 PM
23-07-2024

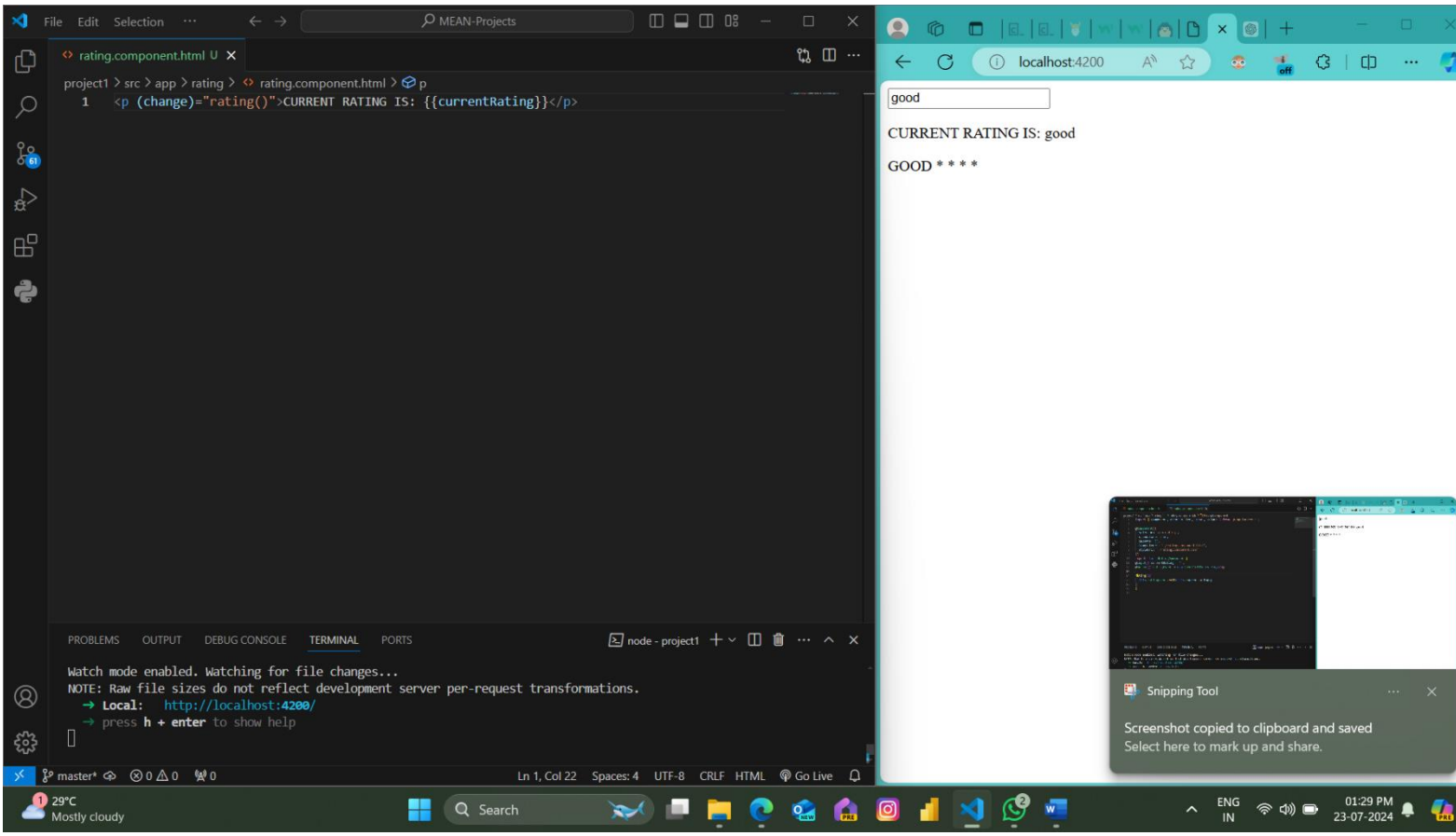

File Edit Selection
MEAN-Projects
switch.component.ts U
app.component.html M
app.component.ts M
project1 > src > app > app.component.ts > AppComponent
templateUrl: './app.component.html',
styleUrl: './app.component.css'
})
export class AppComponent {
// initialRating = 'good';
// rating(e:string){
// this.initialRating = e;
// }
//bulbstat is to ensure parent to child (@input)
bulbStat = true;
//implementing @output
valFromChild(e:boolean){
this.bulbStat = e;
}
// avgNumFromArray() {
// const myarr = [1,2,3,4,5];
// let result = 0;
// for(let i = 0 ; i < myarr.length ; i++){
// result += myarr[i];
// }
// result = result / myarr.length;
// console.log(result);
// }
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
node - project1
| Initial total | 108.98 kB
Application bundle generation complete. [0.195 seconds]
Page reload sent to client(s).
Ln 29, Col 1 Spaces: 2 UTF-8 CRLF TypeScript Go Live
localhost:4200
Breaking news
FM Nirmala Sith...
Search
ENG
IN
01:33 PM
23-07-2024


File Edit Selection
MEAN-Projects
rating.component.ts U
app.component.html M
app.component.ts M
project1 > src > app > app.component.ts > AppComponent
@Component({
selector: 'app-root',
standalone: true,
imports: [RouterOutlet,
LoginComponent,
NavbarComponent,
SwitchComponent,
CommonModule,FormsModule,
RatingComponent],
templateUrl: './app.component.html',
styleUrl: './app.component.css'
})
export class AppComponent {
initialRating = 'good';
rating(e:string){
this.initialRating = e;
}
// //bulbstat is to ensure parent to child (@input)
// bulbStat = true;
// //implementing @output
// valFromChild(e:boolean){
// this.bulbStat = e;
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
node - project1
Watch mode enabled. Watching for file changes...
NOTE: Raw file sizes do not reflect development server per-request transformations.
Local: http://localhost:4200/
press h + enter to show help
Ln 31, Col 1 Spaces: 2 UTF-8 CRLF TypeScript Go Live
localhost:4200
good
CURRENT RATING IS: good
GOOD * * * *
29°C
Mostly cloudy
Search
ENG
IN
01:27 PM
23-07-2024


File Edit Selection
MEAN-Projects
rating.component.html U
rating.component.ts U
app.component.html M
project1 > src > app > app.component.html > ...

<app-login>dfghjk</app-login>
-->
<!-- <app-switch [initialValue] = 'bulbStat'
(checkBoxEvent)="valFromChild($event)"></app-switch>
@if(bulbStat === true){
<img src="bulbON.png" height="100px" alt="BULB ON">
}
@else{
<img src="bulbOFF.png" height="100px" alt="BULB OFF">
} -->
<input type="text" [(ngModel)] = 'initialRating' placeholder="Enter Rating">
<app-rating [currentRating] = "initialRating" (ratingEvent)="rating($event)" />
@if(initialRating.toLowerCase() === 'poor'){
POOR * *
}
@if(initialRating.toLowerCase() === 'average'){
AVERAGE * * *
}
@if(initialRating.toLowerCase() === 'good'){
GOOD * * * *
}
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
node - project1
Watch mode enabled. Watching for file changes...
NOTE: Raw file sizes do not reflect development server per-request transformations.
Local: http://localhost:4200/
press h + enter to show help
Ln 36, Col 1 Spaces: 2 UTF-8 CRLF HTML Go Live
localhost:4200
average
CURRENT RATING IS: average
AVERAGE * * *
29°C
Mostly cloudy
Search
ENG
IN
01:28 PM
23-07-2024


File Edit Selection
MEAN-Projects
rating.component.html U
rating.component.ts U
project1 > src > app > rating > rating.component.ts > RatingComponent
import { Component, EventEmitter, Input, Output } from '@angular/core';
@Component({
selector: 'app-rating',
standalone: true,
imports: [],
templateUrl: './rating.component.html',
styleUrl: './rating.component.css'
})
export class RatingComponent {
@Input() currentRating = '';
@Output() ratingEvent = new EventEmitter<string>();
rating(){
this.ratingEvent.emit(this.currentRating);
}
}
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
node - project1
Watch mode enabled. Watching for file changes...
NOTE: Raw file sizes do not reflect development server per-request transformations.
Local: http://localhost:4200/
press h + enter to show help
master*
Ln 13, Col 1 Spaces: 2 UTF-8 CRLF TypeScript Go Live
localhost:4200
good
CURRENT RATING IS: good
GOOD * * * *
29°C
Mostly cloudy
Search
ENG
IN
01:29 PM
23-07-2024


File Edit Selection
MEAN-Projects
rating.component.html U
project1 > src > app > rating > rating.component.html > p
<p (change)="rating()">CURRENT RATING IS: {{currentRating}}</p>
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
node - project1
Watch mode enabled. Watching for file changes...
NOTE: Raw file sizes do not reflect development server per-request transformations.
Local: http://localhost:4200/
press h + enter to show help
master*
Ln 1, Col 22 Spaces: 4 UTF-8 CRLF HTML Go Live
localhost:4200
good
CURRENT RATING IS: good
GOOD * * * *
Snipping Tool
Screenshot copied to clipboard and saved
Select here to mark up and share.
29°C
Mostly cloudy
Search
ENG
IN
01:29 PM
23-07-2024

App-stdcomponent.html

```
<table>
    <tr>
        <td>NAME:</td>
        <td><input type="text" id='stdName' placeholder="Name"
[(ngModel)]="eachName"></td>
    </tr>
    <tr>
        <td>COURSE:</td>
        <td><input type="text" id='stdCourse' placeholder="Course"
[(ngModel)]="eachCourse"></td>
    </tr>
    <tr>
        <td>MARKS:</td>
        <td><input type="number" id='stdMarks' placeholder="Marks out of 100"
[(ngModel)]="eachMark" min="0" max="100"></td>
    </tr>
    <tr>
        <td></td>
        <td><button (click)="stdSubmit()">SUBMIT</button></td>
    </tr>
</table>

<!-- @if(display === true){
    @for(name of NAME; track name; let i=$index){
    <div>{{NAME[i]}}</div>
    <div>{{MARKS[i]}}</div>
    <div>{{COURSE[i]}}</div>
    }

} -->

<app-std-list [studentNames]="NAME"
[studentCourse]="COURSE"[studentMarks]="MARKS"[studentGrade]="GRADE"></app-
std-list>
```

Std-component.ts

```
import { Component } from '@angular/core';
import { FormsModule } from '@angular/forms';
import { StdListComponent } from '../std-list/std-list.component';

@Component({
  selector: 'app-std-component',
  standalone: true,
```

```
  imports: [FormsModule,
    StdListComponent
  ],
  templateUrl: './std-component.component.html',
  styleUrl: './std-component.component.css'
})
export class StdComponentComponent {
  eachName = '';
  eachMark = 0;
  eachCourse = '';
  NAME:string[] = ['AKSHAY','ALAN','ALBEE','ALEENA','AMAL','ANANDHU'];
  COURSE:string[] = ['CSE','CSE','CSE','CSE','CSE','CSE'];
  MARKS:number[] = [80,90,96,70,60,19];
  GRADE:string[] = ['A','A+','S','B+','B','F'];


    clearForm(){
      this.eachName = '';
      this.eachCourse = '';
      this.eachMark = 0;
    }
    stdSubmit(){
      if(this.eachName.length >= 3){
        this.NAME.push(this.eachName.toLocaleUpperCase());
        this.MARKS.push(this.eachMark);
        this.COURSE.push(this.eachCourse.toLocaleUpperCase());
        this.GRADE.push(this.assignGrade(this.eachMark));
        this.clearForm();
      }
      else{
        alert('invalid name');
      }
    }

    assignGrade(mark:number):string{
      if (mark < 20) return 'F';
      if (mark < 30) return 'P';
      if (mark < 40) return 'D';
      if (mark < 50) return 'C';
      if (mark < 60) return 'C+';
      if (mark < 70) return 'B';
      if (mark < 80) return 'B+';
      if (mark < 90) return 'A';
      if (mark < 95) return 'A+';
      return 'S';
    }
}
```

****

Std-list.component.html

```
<table>

    <tr>
        <th>NAME</th>
        <th>COURSE</th>
        <th>MARKS</th>
        <th>GRADE</th>
    </tr>
@for(name of studentNames; track name; let i=$index){
    <tr [ngClass]="{ 'sgrade':(studentGrade[i]==='S'),
    'fgrade':(studentGrade[i]==='F')}">
        <td>{{name}}</td>
        <td>{{studentCourse[i]}}</td>
        <td>{{studentMarks[i]}}</td>
        <td>{{studentGrade[i]}}</td>
    </tr>
}

</table>
```

Std-list.component.ts

```
import { CommonModule } from '@angular/common';

import { Component,Input } from '@angular/core';

@Component({
  selector: 'app-std-list',
  standalone: true,
  imports: [CommonModule],
  templateUrl: './std-list.component.html',
  styleUrl: './std-list.component.css'
})
export class StdListComponent {
@Input() studentNames:string[] = [];
@Input() studentCourse:string[] = [];
@Input() studentMarks:number[] = [];
@Input() studentGrade:string[] = [];

}
```