**1.pipe:** :- Angular Pipes takes data as input and formats or transform the data to display in the template. We use them to change the appearance of the data before presenting it to the user.

Syntax:- expression|pipeoperator:[‘arguments’]

Expression is expression which we want to transform. Pipeoperator is name of pipe.

The angular provided several built-in pipes. The built-in pipes names are

1. uppercase:- transforms all the text to uppercase.

2. lowercase:- transforms all the text to lowercase.

3. titlecase:- Capitalizes the first letter of each word and transforms the rest of the word to lower case. Words are delimited by any whitespace character, such as a space, tab, or line-feed character.

4.slice:- create new array or string containing the sub element of element.

Syntax:- slice:start [:end]

The start is starting index. The end reperesents ending index.

5.currency:- Transforms a number to a currency string, formatted according to locale rules that determine group sizing and separator, decimal-point character, and other locale-specific configurations.

Syntax:- currency [: currencycode][:display] [:digitsinfo] [:locale];

Currencycode is name of country currency.

Display is code,symbol,symbol-narrow.

Digitsinfo:- it has spefical syntax.

‘minIntegerDigits}.{minFractiondigits}-{maxFractionDigits}’

Ex:’1.3-5’

6. Json:- it convers the object into json format.

7. percent:- Transforms a number to a percentage string.

Syntax:

percent[:{minIntegerDigits}.{minFractiondigits}-{maxFractionDigits}]

8. date:- It formats a date value.

Syntax:- date[:’format’.

The predefined format are short, medium,l ong,full,shotDate ,mediumDate,longDate,fullDate,shortTime,longTime,mediumTime,and fulltime.

9. keyValue:- consider the following object and map objects.

obj = { c: 123, b: 456, a: 789,};

We cannot use ngFor to iterate over it as it requires an array. This is where the KeyValue pipe comes into play. It will convert them to an array of key-value pair.

The keyvalue pipe converts them as arrary of objects.

Obj=[{key:a,value:789},{key:b,value:456},{key:c,value:123}]

Syntax:

objet|keyValue[:orderbyValueASC] [:orderbyValueDsc][:orderOriginal]

Sorting:- keyvaluepipe use key to sort result of array.

* Ascending Order if the keys are number
* Alphabetical Order if keys are strings
* if keys are are of different types. then covert them to to their string values and use Alphabetical Order
* If key is a either Null or undefined, put then at the end of the sort.

Example:

1.App.component.html

<h2 [ngStyle]="sapp">StudentName:{{sData.name|uppercase}}</h2>

<h2 [ngStyle]="sapp">Age:{{sData.age|currency}}</h2>

<h2 [ngStyle]="sapp">Marks:{{sData.marks|json}}</h2>

<h2 \*ngFor="let x of sData.address|keyvalue">

    <p [ngStyle]="sapp" style="margin-left:15px">{{x.key}}----{{x.value}}</p>

</h2>

<h2 [ngStyle]="sapp">Current Date:{{sData.tdate|date}}</h2>

<h2 [ngStyle]="sapp">Short Date:{{sData.tdate|date:'shortDate'}}</h2>

<h2 [ngStyle]="sapp">Long Date:{{sData.tdate|date:'long'}}</h2>

<h2 [ngStyle]="sapp">Medium Date:{{sData.tdate|date:'medium'}}</h2>

<h2 [ngStyle]="sapp">Full Date:{{sData.tdate|date:'fullDate'}}</h2>

<h2 [ngStyle]="sapp">Short Time:{{sData.tdate|date:'shortTime'}}</h2>

<h2 [ngStyle]="sapp">Full Time  Date:{{sData.tdate|date:'fullTime'}}</h2>

**2.app.component.html**

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

import { reduce } from 'rxjs';

@Component({

  selector: 'app-root',

  templateUrl: './app.component.html',

  styleUrls: ['./app.component.css']

})

export class AppComponent {

  sData:Student=new Student('suku',41,[1,2,3],{'street':'kamati','drno':16,'town':'nlr'});

  sapp:object={'border':'1px solid green','margin':'5px 0px','width':'50vw','position':'relative','left':'25vw'} ;

}

class Student{

  public name:string;

  public age:number;

  public marks:number[];

  public address:object;

  public tdate:Date=new Date;

  constructor(a:string,b:number,c:number[],d:object)

  {

    this.name=a;

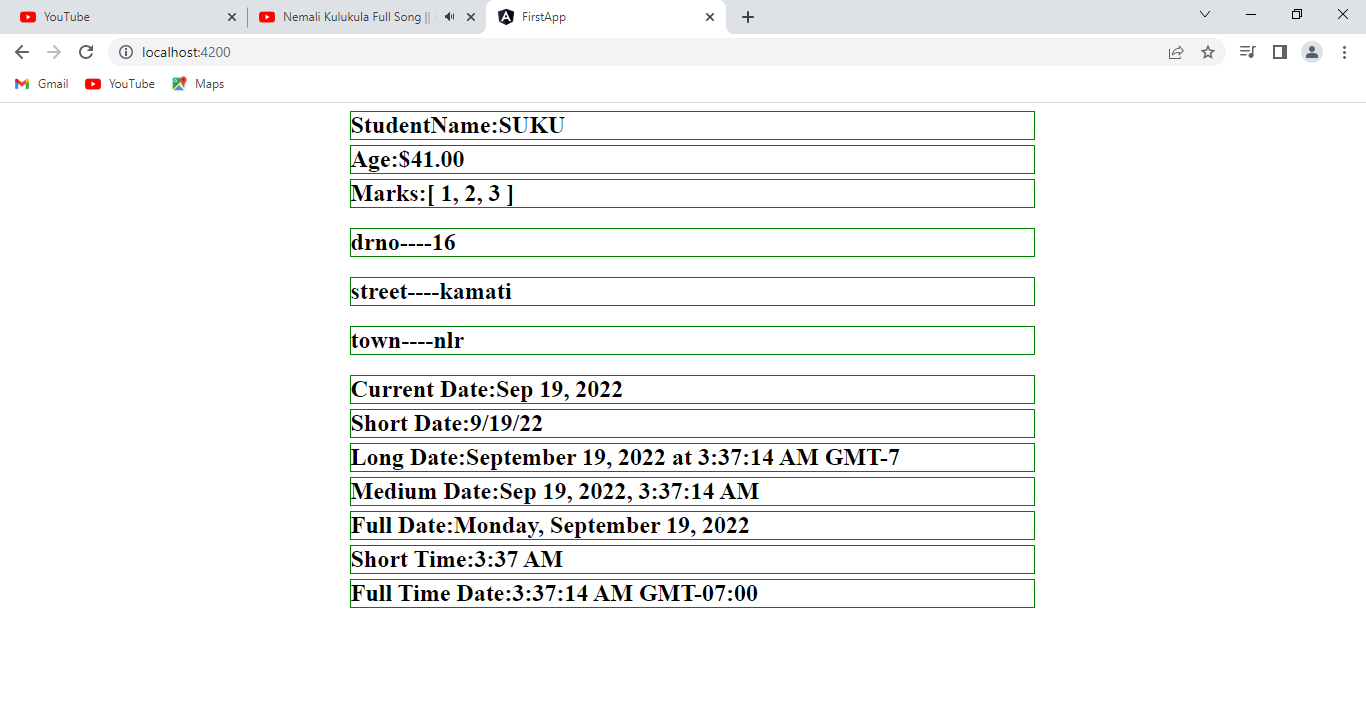
    this.age=b;

    this.marks=c;

    this.address=d;

  }

}

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