**ANIMATIONS**

Animations add a lot of interaction between the html elements. Animation was available with Angular 2, from Angular 4 onwards animation is no more a part of the @angular/core library, but is a separate package that needs to be imported in app.module.ts.

To start with, we need to import the library with the below line of code

**import { BrowserAnimationsModule } from '@angular/platform-browser/animations';**

Import animation function as follows in .ts file

**import { trigger, state, style, transition, animate } from '@angular/animations';**

Trigger defines the start of the animation. The first parameter to it is the name of the animation to be given to the html tag to which the animation needs to be applied. The second param are the functions we have imported - state, transition, etc.

The state function involves the animation steps, which the element will transition between. Right now we have defined two states, smaller and larger. For smaller state, we have given the style **transform:translateY(100px)** and **transform:translateY(100px)**.

Transition function adds animation to the html element. The first argument takes the start and end states, the second argument accepts the animate function. The animate function allows you to define the length, delay, and ease of a transition.

**MATERIALS**

Materials offer a lot of built-in modules for your project. Features such as autocomplete, Datepicker, slider, menus, grids, and toolbar are available for use with materials in Angular 7.

To use materials, we need to import the package. Angular 2 also has all the above features but they are available as part of the **@angular/core module**. From Angular 4, Materials module has been made available with a separate module @angular/materials. This helps the user to import only the required materials in their project.

To start using materials, you need to install two packages: **materials and cdk**. Material components depend on the animation module for advanced features. Hence you need the animation package for the same, **@angular/animations**

**>Menus**

The **<mat-menu>**, an Angular Directive, is used to create a menu and attach it with a control with material design styling and animation capabilities.

## >SideNav

The **<mat-sidenav>**, an Angular Directive, is used to create a side navigation bar and main content panel with material design styling and animation capabilities.

* **<mat-sidenav-container>** - Represents the main container.
* **<mat-sidenav-content>** - Represents the content panel.
* **<mat-sidenav>** - Represents the side panel.

## >Datepicker

The **<mat-datepicker>**, an Angular Directive, is used to create a datepicker control using which date can be selected from a calendar or can be input directly using input box.

**>AutoComplete**

The **<mat-autocomplete>**, an Angular Directive, is used as a special input control with an inbuilt dropdown to show all possible matches to a custom query. This control acts as a real-time suggestion box as soon as the user types in the input area. **<mat-autocomplete>** can be used to provide search results from local or remote data sources.

>**Slider**

The **<mat-slider>**, an Angular Directive, is used as an enhanced range selector with material design styling and animation capabilities.

**>GridList**

The <mat-grid-list>, an Angular Directive, is used to create a two dimensional view arranging cells into grid based layout.

**>Tool Bar**

The <mat-toolbar>, an Angular Directive, is used to create a toolbar to show title, header or any action button.

* <mat-toolbar> - Represents the main container.
* <mat-toolbar-row> - Add a new row.