

# PROJECT DEVELOPMENT PHASE

## SPRINT 4 CODING

Date	03 November 2022
Team ID	PNT2022TMID09610
Project Name	ESTIMATION OF CROP YIELD USING DATA ANALYTICS

## Registration Form

Name

Email

Password

## Login Form

Email

Password

[Register](#)

## DATABASE CONNECTIVITY:CODING CSS COMPONENT

```
mat-card {  
  max-width: 600px;  
  margin: 2em auto;  
  text-align: center;  
  max-height: 600px;  
}
```

```
.header{  
  text-align: center;  
}
```

```

.full-width {
  width: 80%;
}

.button-row {
  padding-top: 5px;
}

.button-row a {
  margin-right: 8px;
  text-align: center;
}

.forget-password{
  padding-left: 0px;
}

.emailInput{
  padding-top: 10px;
}

.contentBody {
  padding: 60px 1rem;
  background :#006064;
  display: block;
}

.aLink{
  float: right;
  padding-right: 60px;
  text-decoration: none;
}

```

## HTML COMPONENT:

```

<mat-card>
  <mat-card-content>
    <div class="header">
      <P>Sign Into Your Account </P>
    </div>
    <form (ngSubmit)="onLogin()" name="loginForm" [formGroup]="loginForm">
      <div class="emailInput">
        <mat-form-field class="full-width" appearance="outline">
          <mat-label>Email</mat-label>
          <input
            FormControlName="email"
            matInput

```

```

        placeholder="Enter email address" required
      />
      <mat-error *ngIf="!loginForm.controls['email'].valid">
        Email is required
      </mat-error>
    </mat-form-field>
  </div>

  <div>
    <span>
      <a class="text-link" class="aLink" routerLink="/auth/forgot-
password">Forgot Password?</a>
    </span>
    <mat-form-field class="full-width" appearance="outline">
      <mat-label>Password</mat-label>
      <input formControlName="password" matInput [type]=" hide ? 'password' :
'text'" required />
      <button mat-icon-button matSuffix (click)="hide = !hide" [attr.aria-
label]=" 'Hide Password'"
        [attr.aria-pressed]="hide">
        <mat-icon>
          {{hide ? 'visibility_off' : 'visibility'}}
        </mat-icon>
      </button>
      <mat-error *ngIf="!loginForm.controls['password'].valid">
        Password is required
      </mat-error>
    </mat-form-field>
  </div>
  <button mat-flat-button color="primary">Login</button>
</form>

<div class="button-row">
  <p>Create New Account</p>
</div>
</mat-card-content>
</mat-card>

```

+

## .SPEC.TS COMPONENT:

```

import { ComponentFixture, TestBed } from '@angular/core/testing';

import { LoginComponent } from './login.component';

describe('LoginComponent', () => {
  let component: LoginComponent;
  let fixture: ComponentFixture<LoginComponent>;

```

```

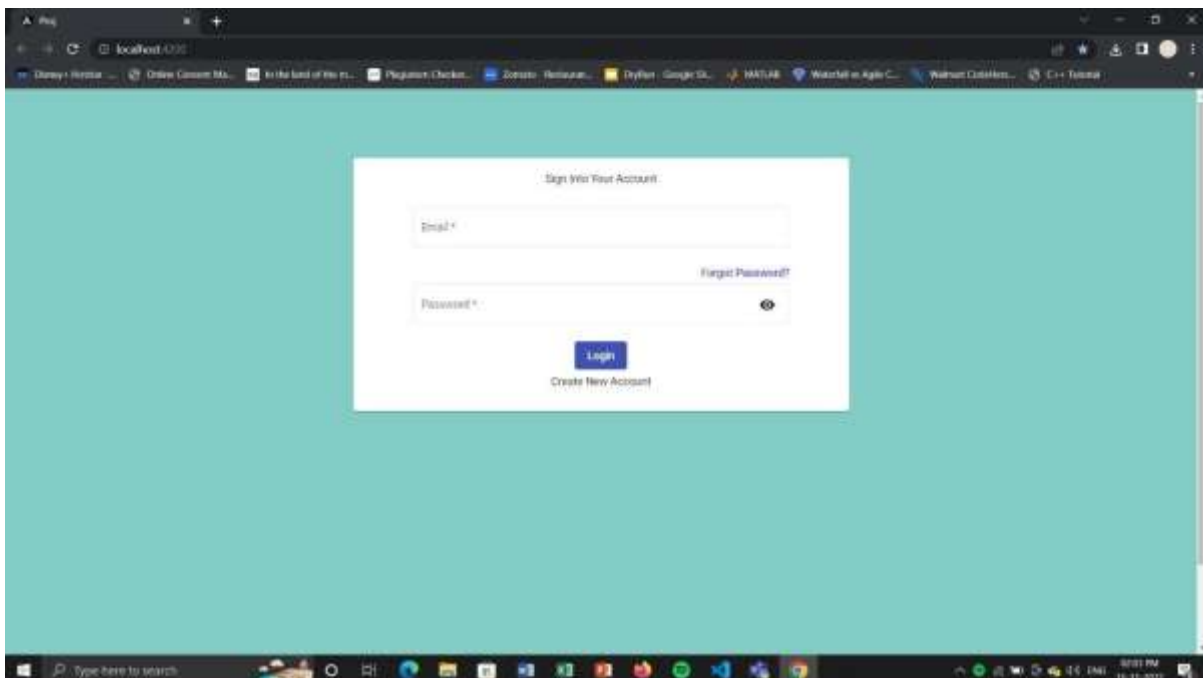
beforeEach(async () => {
  await TestBed.configureTestingModule({
    declarations: [ LoginComponent ]
  })
  .compileComponents();

  fixture = TestBed.createComponent(LoginComponent);
  component = fixture.componentInstance;
  fixture.detectChanges();
});

it('should create', () => {
  expect(component).toBeTruthy();
});
});

```

## SCREENSHOT :



# WORKING WITH DATASETS:

- Dataset used is as follows,

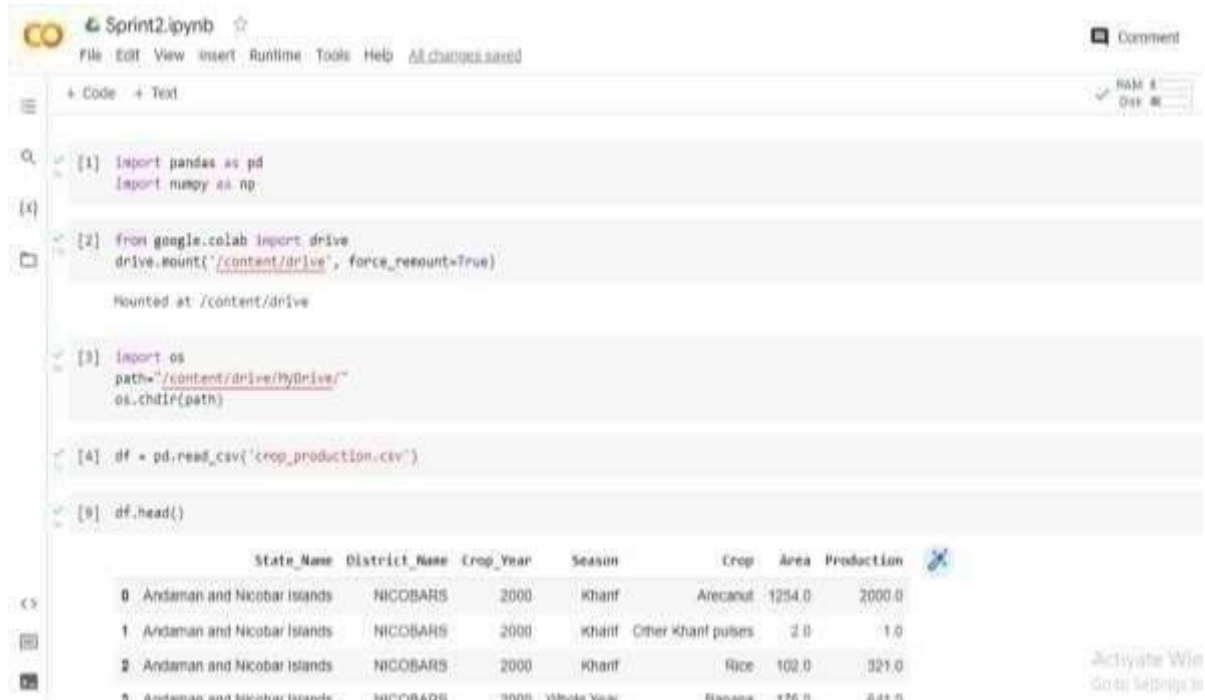
	A	B	C	D	E	F	G	H	I	J
1	State_Na	District_N	Crop_Year	Season	Crop	Area	Production			
2	Andaman	NICOBARS	2000	Kharif	Areca nut	1254	2000			
3	Andaman	NICOBARS	2000	Kharif	Other Kha	2	1			
4	Andaman	NICOBARS	2000	Kharif	Rice	102	321			
5	Andaman	NICOBARS	2000	Whole Ye	Banana	176	641			
6	Andaman	NICOBARS	2000	Whole Ye	Cashewnu	720	165			
7	Andaman	NICOBARS	2000	Whole Ye	Coconut	18168	65100000			
8	Andaman	NICOBARS	2000	Whole Ye	Dry ginger	36	100			
9	Andaman	NICOBARS	2000	Whole Ye	Sugarcane	1	2			
10	Andaman	NICOBARS	2000	Whole Ye	Sweet pot	5	15			
11	Andaman	NICOBARS	2000	Whole Ye	Tapioca	40	169			
12	Andaman	NICOBARS	2001	Kharif	Areca nut	1254	2061			
13	Andaman	NICOBARS	2001	Kharif	Other Kha	2	1			
14	Andaman	NICOBARS	2001	Kharif	Rice	83	300			
15	Andaman	NICOBARS	2001	Whole Ye	Cashewnu	719	192			
16	Andaman	NICOBARS	2001	Whole Ye	Coconut	18190	64430000			
17	Andaman	NICOBARS	2001	Whole Ye	Dry ginger	46	100			
18	Andaman	NICOBARS	2001	Whole Ye	Sugarcane	1	1			
19	Andaman	NICOBARS	2001	Whole Ye	Sweet pot	11	33			
20	Andaman	NICOBARS	2002	Kharif	Rice	189.2	510.84			
21	Andaman	NICOBARS	2002	Whole Ye	Areca nut	1258	2083			
22	Andaman	NICOBARS	2002	Whole Ye	Banana	213	1278			
23	Andaman	NICOBARS	2002	Whole Ye	Black pep	63	13.5			

crop production

READY

This dataset consists of columns like State Name, District Name, Crop, Season, Crop year, Area and Production.

➤ Importing and cleaning the dataset in Google Colab platform,



```
[1] import pandas as pd
import numpy as np

[2] from google.colab import drive
drive.mount('/content/drive', force_remount=True)

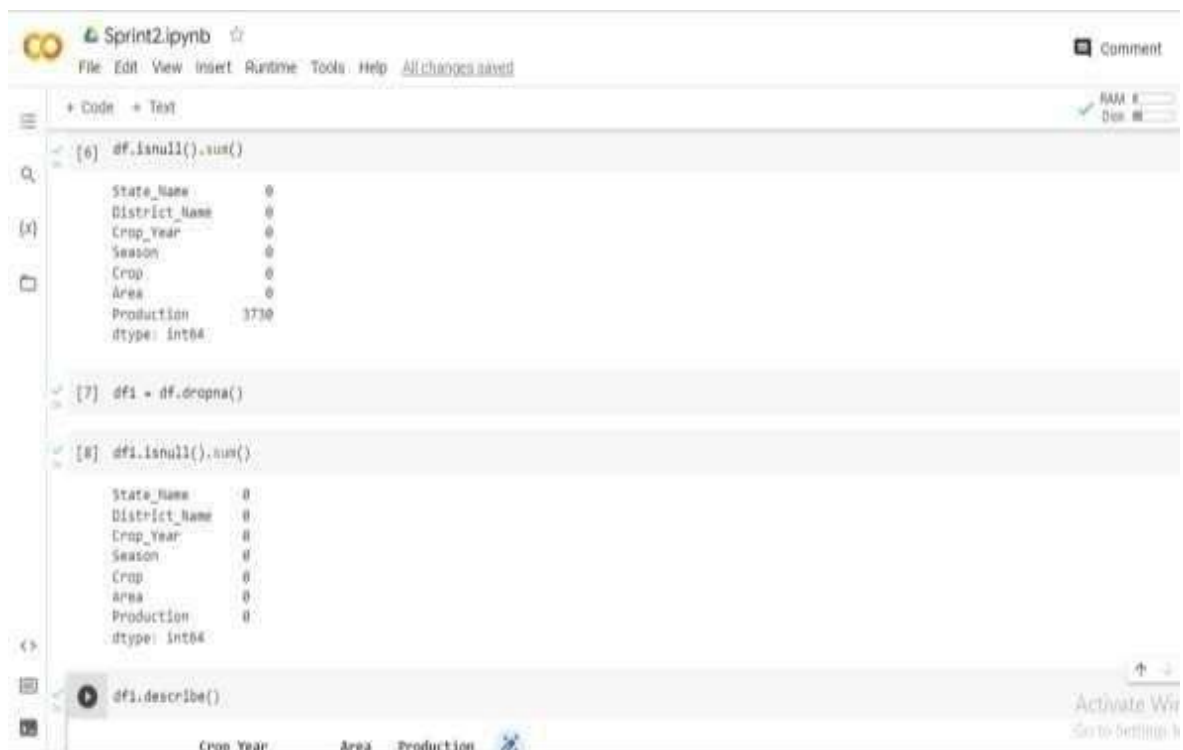
Mounted at /content/drive

[3] import os
path="/content/drive/MyDrive/"
os.chdir(path)

[4] df = pd.read_csv('crop_production.csv')

[5] df.head()
```

	State_Name	District_Name	Crop_Year	Season	Crop	Area	Production
0	Andaman and Nicobar Islands	NICOBARS	2000	Kharif	Areca nut	1254.0	2000.0
1	Andaman and Nicobar Islands	NICOBARS	2000	Kharif	Other Kharif pulses	2.0	1.0
2	Andaman and Nicobar Islands	NICOBARS	2000	Kharif	Rice	102.0	321.0
3	Andaman and Nicobar Islands	NICOBARS	2000	Winter Year	Rabana	176.0	641.0



```
[6] df.isnull().sum()

State_Name      0
District_Name   0
Crop_Year       0
Season          0
Crop            0
Area            0
Production      3730
dtype: int64

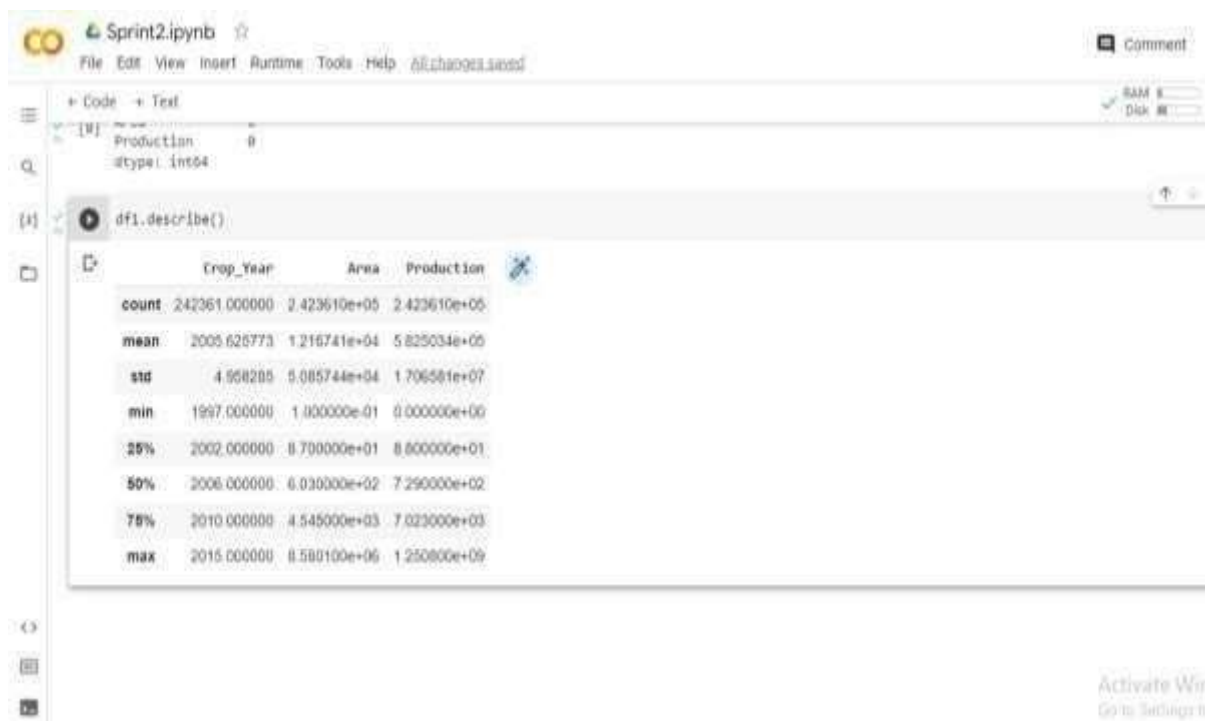
[7] df1 = df.dropna()

[8] df1.isnull().sum()

State_Name      0
District_Name   0
Crop_Year       0
Season          0
Crop            0
Area            0
Production       0
dtype: int64

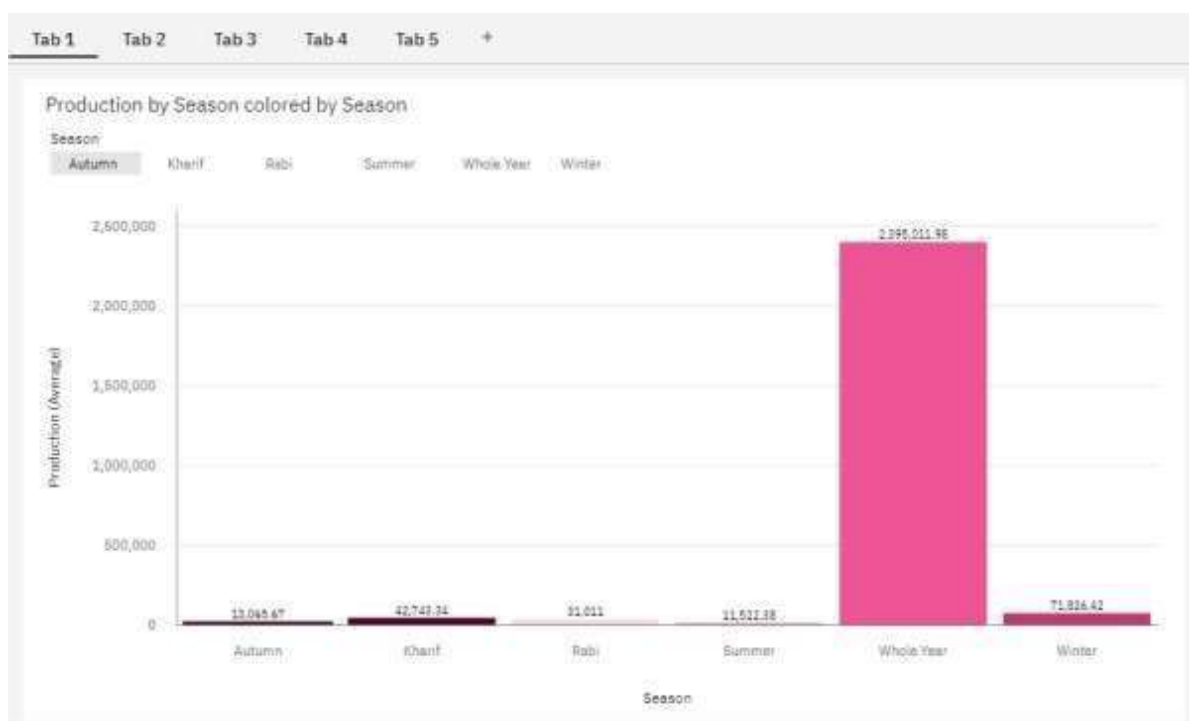
df1.describe()
```

	Crop_Year	Area	Production
count	3730	3730	3730
mean	2000.0	100.0	300.0
std	0.0	100.0	300.0
min	2000	0	0
max	2000	100	300



## DATA VISUALIZATION CHARTS:

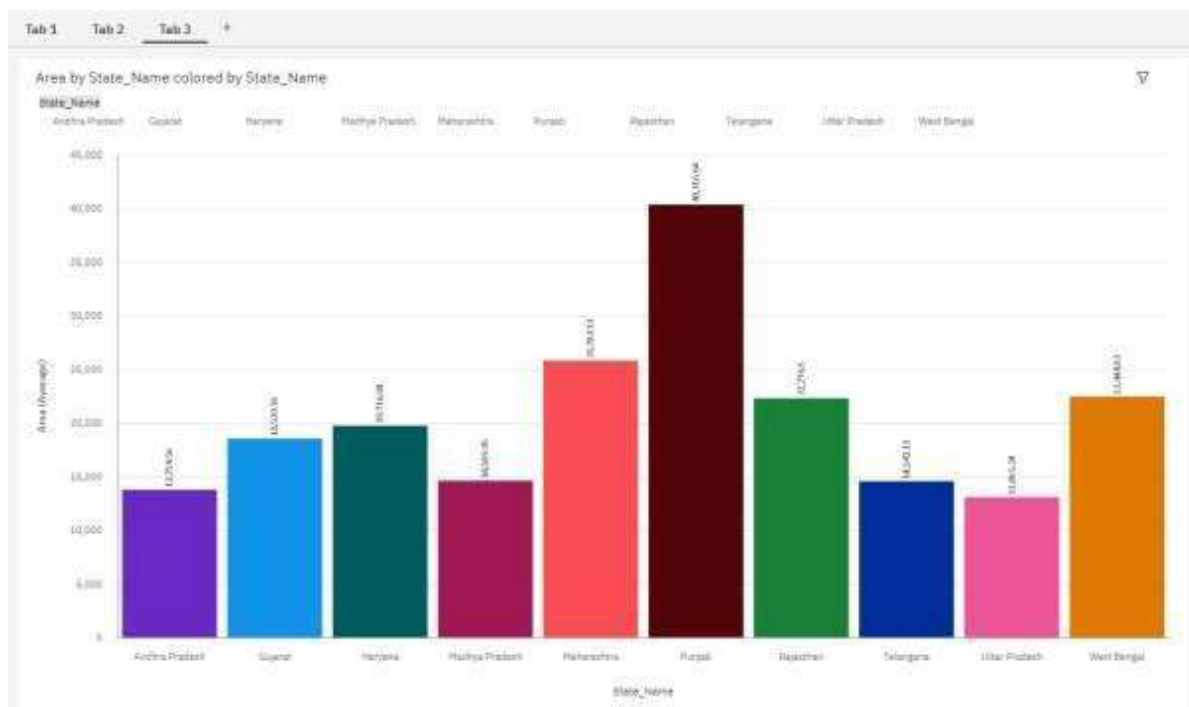
- Visualization on Seasons with average Production



- Visualization with years usage of Area and Production



- Visualization on top 10 States with most Area





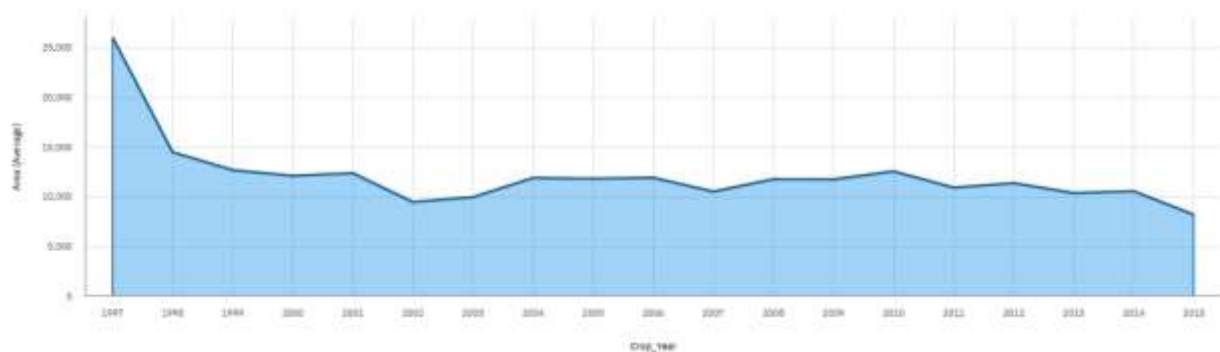
# Creating the dashboard in COGNOS analytics

Different data visualization charts are created using COGNOS analytics for different datasets and the production by season, area, year are estimated.

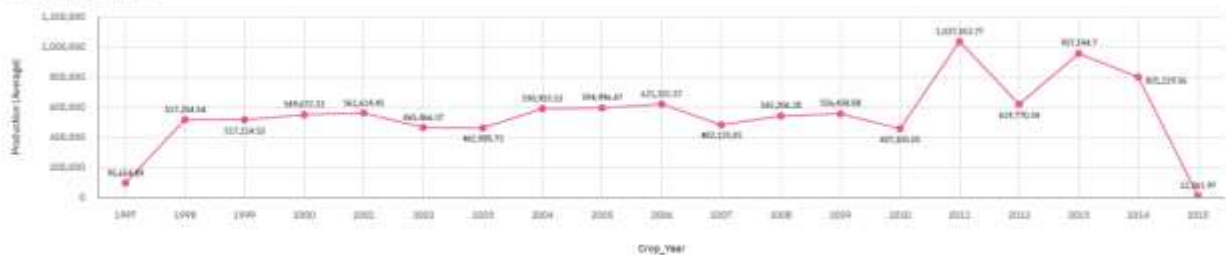
## DATASET 1

With years usage of Area and Production

Area by Crop\_Year



Production by Crop\_Year



States with the crop production along with seasons

State\_Name and Crop

Crop	State_Name
crops	Andhra Pradesh
	Assam
	Bihar
	Chhattisgarh
	Goa
	Gujarat
	Haryana
	Karnataka
	Kerala
	Madhya Pradesh
	Maharashtra
	Manipur
	Mizoram
	Nagaland
	Narayani
	Northeast
	Odisha
	Punjab
	Rajasthan
	Tamil Nadu
	Telangana

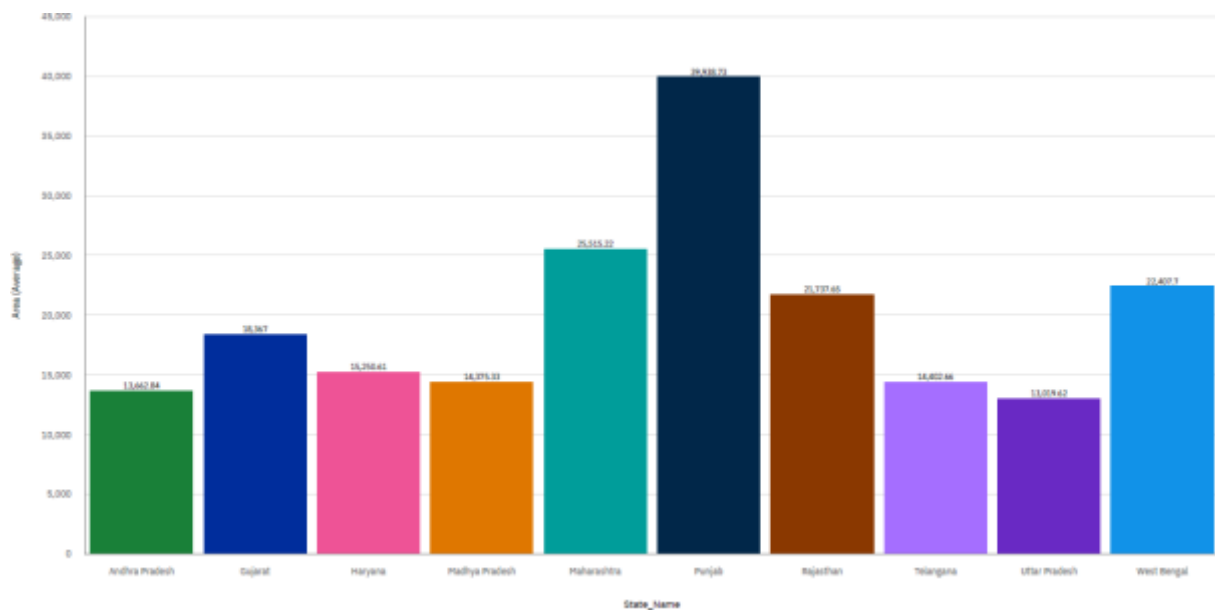
Season and Crop

Crop	Season
crops	Kharif
	Whole Year

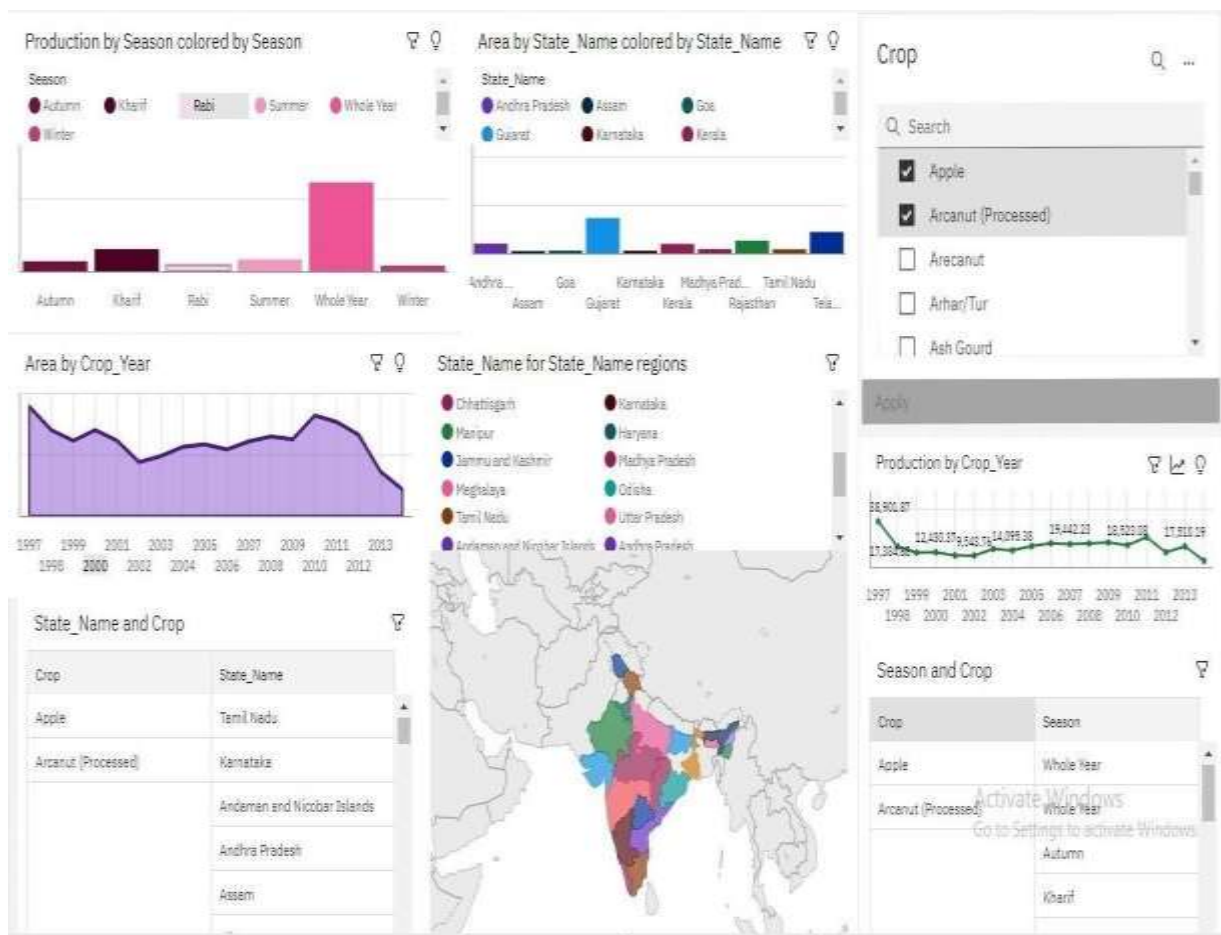
## Top 10 States With Most Area

Area by State\_Name colored by State\_Name

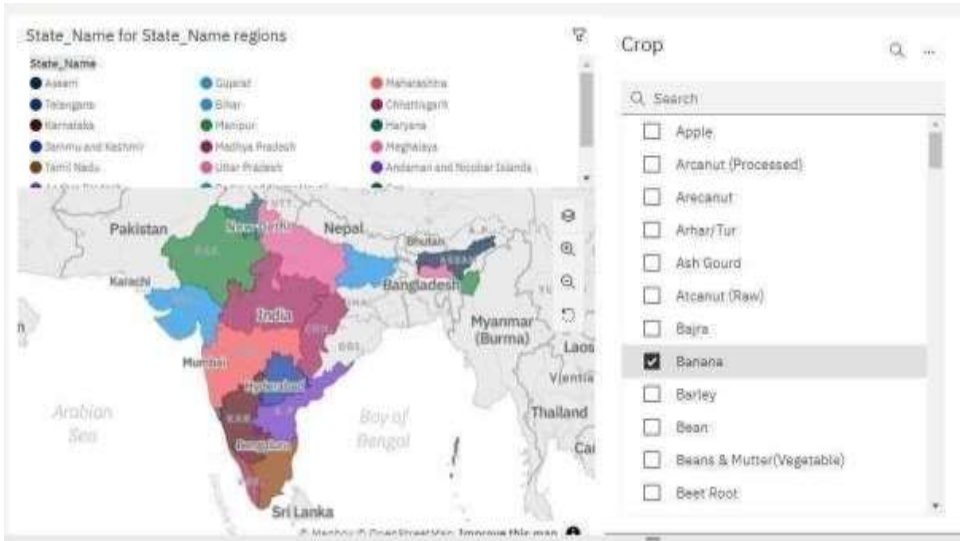




## DATASET 2



- Visualization on State with Crop Production



- Visualization on States with the Crop Production along with Season

State_Name and Crop		Season and Crop	
Crop	State_Name	Crop	Season
Apple	Tamil Nadu	Apple	Whole Year
Shades	Andhra Pradesh	Oranges	Kharif
	Haryana		Whole Year
	Karnataka		
	Madhya Pradesh		
	Maharashtra		
	Rajasthan		
	Tamil Nadu		
	Telangana		