Data Visualization –

Assignment 3

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**Link to Dashboard:** <https://rpubs.com/varunram/honey_prodAnalysis>

**Code:**

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title: "Varun's Dashboard"

output:

flexdashboard::flex\_dashboard:

orientation: rows

vertical\_layout: scroll

social: ["twitter", "facebook", "menu"]

source\_code: embed

theme: united

---

```{r setup, include=FALSE}

library(flexdashboard)

library(knitr)

library(DT)

library(rpivotTable)

library(ggplot2)

library(plotly)

library(dplyr)

library(openintro)

library(highcharter)

library(ggvis)

library(tidyverse)

library(crosstalk)

library(shiny)

require(plotly)

```

```{r}

df <- read.csv("honeyproduction.csv")

```

.tabset {

background-color: #D8BFD8;

color:white

}

Interactive Data Visualization

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### Honey Production

```{r}

valueBox(paste("Honey Production Analysis"),

color = "orange")

```

Column {.tabset .tabset-fade data-width=100 .colored}

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### Average State wise Production Map

```{r}

map1 <- df %>%

group\_by(state) %>%

summarize(total = round(mean(totalprod)),2)

map1$state <- abbr2state(map1$state)

highchart() %>%

hc\_title(text = "Honey Production in the USA (lbs)") %>%

hc\_subtitle(text = "Source: honeyproduction.csv") %>%

hc\_add\_series\_map(usgeojson, map1,

name = "state",

value = "total",

joinBy = c("woename", "state")) %>%

hc\_mapNavigation(enabled = T)

```

### Average Price per pound Map

```{r}

map2 <- df %>%

group\_by(state) %>%

summarize(total = round(mean(priceperlb)),2)

map2$state <- abbr2state(map2$state)

highchart() %>%

hc\_title(text = "Honey price perLb in the USA (USD)") %>%

hc\_subtitle(text = "Source: honeyproduction.csv") %>%

hc\_add\_series\_map(usgeojson, map2,

name = "state",

value = "total",

joinBy = c("woename", "state")) %>%

hc\_mapNavigation(enabled = T)

```

### Average Yield per colony Map

```{r}

map3 <- df %>%

group\_by(state) %>%

summarize(total = round(mean(yieldpercol)),2)

map3$state <- abbr2state(map3$state)

highchart() %>%

hc\_title(text = "Yield per Colony (lbs)") %>%

hc\_subtitle(text = "Source: honeyproduction.csv") %>%

hc\_add\_series\_map(usgeojson, map3,

name = "state",

value = "total",

joinBy = c("woename", "state")) %>%

hc\_mapNavigation(enabled = T)

```

### Average Stock by State Map

```{r}

map4 <- df %>%

group\_by(state) %>%

summarize(total = round(mean(stocks)),2)

map4$state <- abbr2state(map4$state)

highchart() %>%

hc\_title(text = "Stocks per State by Colonies (lbs)") %>%

hc\_subtitle(text = "Source: honeyproduction.csv") %>%

hc\_add\_series\_map(usgeojson, map3,

name = "state",

value = "total",

joinBy = c("woename", "state")) %>%

hc\_mapNavigation(enabled = T)

```

### Overview

```{r}

allPlots <- df %>%

group\_by(year) %>%

mutate(

colNum.year = mean(numcol),

colYield.year = mean(yieldpercol),

totalprod.year = mean(totalprod),

totalStocks.year = mean(stocks),

priceperlb.year = mean(priceperlb),

totalProdValue.year = mean(prodvalue)) %>%

select(contains("year")) %>%

gather(key = "type", value = "value", -year)

label <- c(

"colNum.year" = "No. of Honey colonies",

"priceperlb.year" = "Average price per pound (USD)",

"totalProdValue.year" = "Total production value(USD)",

"totalStocks.year" = "Total Stocks (lbs)",

"totalprod.year" = "Total production (lbs)",

"colYield.year" = "Honey yield per colony (lbs)"

)

plot1 <- allPlots %>%

ggplot(aes(x = year, y = value, group = type, color = type)) +

geom\_line(show.legend = F) +

facet\_wrap(~type, scales = "free\_y", labeller = as\_labeller(label), shrink = TRUE) +

labs(y = "")

plot1%>% ggplotly()

```

Row {.tabset .tabset-fade data-width=200 .colored }

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### State wise production graph

```{r}

state.production <- df %>%

ggplot(aes(x = year, y = totalprod/1000000, color = state)) +

geom\_smooth(show.legend = T, se = FALSE) +

labs(title = "Honey Production from 1998 to 2012 by each state") +

ylab("Total Production in Millions")+

xlab("Years ")

state.production %>% ggplotly()

```

### Price per pound graph

```{r}

pricePerPound <- df %>%

ggplot(aes(x = year, y = priceperlb, color = state)) +

geom\_smooth(show.legend = T, se = FALSE) +

labs(title = "Price per pound from 1998 to 2012 by each state") +

ylab("State-wise Price in Million Dollars")+

xlab("Years ")

pricePerPound %>% ggplotly()

```

### Yield Per Colony Graph

```{r}

yieldPerColony <- df %>%

ggplot(aes(x = year, y = yieldpercol, color = state)) +

geom\_smooth(show.legend = T, se = FALSE) +

labs(title = "Honey yield per colony from 1998 to 2012 by each state") +

ylab("Total yield in lbs")+

xlab("Years ")

yieldPerColony %>% ggplotly()

```

### Stock by State Graph

```{r}

p3 <- state.production <- df %>%

ggplot(aes(x = year, y = stocks, color = state)) +

geom\_smooth(show.legend = T, se = FALSE) +

labs(title = "Honey Stock from 1998 to 2012 by each state") +

ylab("Stocks of Honey per State in lbs")+

xlab("Years ")

state.production %>% ggplotly()

p3 %>% ggplotly()

```

References

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### Dataset Reference

Li, J. (2018). Honey Production in the USA (1998-2012). Kaggle.com. Retrieved 4 June 2020, from https://www.kaggle.com/jessicali9530/honey-production.

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### Bibliography

\* Using flexdashboard. Rmarkdown.rstudio.com. (2020). Retrieved 16 June 2020, from https://rmarkdown.rstudio.com/flexdashboard%2Fusing.html%23value\_boxes%2F#appearance.

\* Honey production. Kaggle.com. (2020). Retrieved 17 June 2020, from https://www.kaggle.com/arthurpaulino/honey-production.

\* Rai, B. (2018). How to use flexi Dashboards [Video]. Retrieved 17 June 2020, from https://www.youtube.com/watch?v=\_a4S4tq62OE.

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