1. Importa la base de datos utilizando R y realiza los siguientes procedimientos filtra los datos por año y variables a utilizar, generando un nuevo archivo que tenga sólo esta información.

- Elimina las variables que no van a ser utilizadas en la visualización - Remueve las letras DB del campo Year
- Calcula el número de días promedio entre hombres y mujeres, sumando los valores Starting a Business - Time – Men (days) y Starting a Business - Time – Women (days) y dividiéndolos por dos.
- Guarda este valor en un nuevo campo
- Elimina las filas que tenga campos vacíos o el texto **no practice.**

Año:2016
Año **Anio**
Anio `<- select(filter(DB, Year=='2016',` ("Starting a Business - Time – Men (days)"`)>=0,` ("Starting a Business - Time – Women (days)"`)>=0,` ("Overall DTF"`)>=0,` ("Registering Property - Cost (% of property value)"`) >=0,`("Registering Property - Procedures (number)"`) >=0 ,`("Paying Taxes - Profit tax (% of profit)"`) >=0),` "Year"`)`

Pais: Todos
Paises `<- select(filter(DB, Year=='2016',` ("Starting a Business - Time – Men (days)"`)>=0,` ("Starting a Business - Time – Women (days)"`)>=0,` ("Overall DTF"`)>=0,` ("Registering Property - Cost (% of property value)"`) >=0,`("Registering Property - Procedures (number)"`) >=0 ,`("Paying Taxes - Profit tax (% of profit)"`) >=0),` "Economy"`)`

Variables:
"Starting a Business - Time – Men (days)" **StarMen**
StarMen `<- select(filter(DB, Year=='2016',` ("Starting a Business - Time – Men (days)"`)>=0,` ("Starting a Business - Time – Women (days)"`)>=0,` ("Overall DTF"`)>=0,` ("Registering Property - Cost (% of property value)"`) >=0,`("Registering Property - Procedures (number)"`) >=0 ,`("Paying Taxes - Profit tax (% of profit)"`) >=0),` "Starting a Business - Time – Men (days)"`)`

"Starting a Business - Time – Women (days)" **StarWomen**
StarWomen `<- select(filter(DB, Year=='2016',` ("Starting a Business - Time – Men (days)"`)>=0,` ("Starting a Business - Time – Women (days)"`)>=0,` ("Overall DTF"`)>=0,` ("Registering Property - Cost (% of property value)"`) >=0,`("Registering Property - Procedures (number)"`) >=0 ,`("Paying Taxes - Profit tax (% of profit)"`) >=0),` "Starting a Business - Time – Women (days)"`)`

"Overall DTF" **Overall**
Overall `<- select(filter(DB, Year=='2016',` ("Starting a Business - Time – Men (days)"`)>=0,` ("Starting a Business - Time – Women (days)"`)>=0,` ("Overall DTF"`)>=0,` ("Registering Property - Cost (% of property value)"`) >=0,`("Registering Property - Procedures (number)"`) >=0 ,`("Paying Taxes - Profit tax (% of profit)"`) >=0),` "Overall DTF"`)`

"Registering Property - Cost (% of property value)" **PropertyV**
PropertyV `<- select(filter(DB, Year=='2016',` ("Starting a Business - Time – Men (days)"`)>=0,` ("Starting a Business - Time – Women (days)"`)>=0,` ("Overall DTF"`)>=0,` ("Registering Property - Cost (% of property value)"`) >=0,`("Registering Property - Procedures (number)"`) >=0 ,`("Paying Taxes - Profit tax (% of profit)"`) >=0),` "Registering Property - Cost (% of property value)"`)`

"Paying Taxes - Profit tax (% of profit)" **PayTax**

```
PayTax <- select(filter(DB, Year=='2016', ("Starting a Business - Time –
Men (days)")>=0, ("Starting a Business - Time – Women (days)")>=0, ("Overall
DTF")>=0, ("Registering Property - Cost (% of property value)") >=0,("Registering
Property - Procedures (number)") >=0 ,("Paying Taxes - Profit tax (% of profit)")
>=0),"Paying Taxes - Profit tax (% of profit)")
```

"Registering Property - Procedures (number)" **RegisterPropertyN**

```
RegisterPropertyN <- select(filter(DB, Year=='2016', ("Starting a Business -
Time – Men (days)")>=0, ("Starting a Business - Time – Women (days)")>=0, ("Overall
DTF")>=0, ("Registering Property - Cost (% of property value)") >=0,("Registering
Property - Procedures (number)") >=0 ,("Paying Taxes - Profit tax (% of profit)") >=0),
"Registering Property - Procedures (number)")
```

==(Starting a Business - Time – Men (days) + Starting a Business - Time – Women (days))/2==
StarBusiness "(StarMen+ StarWomen)/2"

- Cambia los nombres de las columnas de las variables que vas a utilizar por unos más cortos –
`X <- cbind(`**Paises, Anio, Overall, PropertyV, PayTax, StarBusiness , RegisterPropertyN)**

Cambia nombre de columnas
```
setnames(X, old=c("Economy","Year","Overall DTF","Registering Property
- Cost (% of property value)","Paying Taxes - Profit tax (% of profit)
","Starting a Business - Time – Men (days)","Registering Property - Pro
cedures (number)"), new=c("Paises", "Anio", "Overall", "PropertyV", "Pa
yTax", "StarBusiness", "RegisterPropertyN"))
```

- Genera un nuevo csv con los datos filtrados
```
datos<-data.frame(X)
write.csv(datos, "d3.csv")

read.csv("d3.csv")
```

2. Genera un vector de datos del archivo e importalo directamente utilizando la función d3.csv

```
d3.csv("d3.csv", function(data){
    //console.log(data.Overall);
      dataX = data.Overall;
      dataY = data.PropertyV;
      dataY1 = data.PropertyV;
      dataY2 = data.PayTax;
      dataY3 = data.StarBusiness;
      dataY4 = data.RegisterPropertyN;});
```

3. Identifica los tipos de datos de las variables de País, Año y las 5 variables de la base de datos que van a ser analizadas y clasifícalas entre ordinal, nominal, radio o intervalo.

Nominal: **Paises**
Ordinal: **Anio**
Radio o Intervalo: **StarMen, StarWomen, Overall, PropertyV, PayTax, StarBusiness ,
RegisterPropertyN**

4 . Selecciona la gráfica adecuada para la comparación de la relación entre los diferentes grupos de variables.

 Barras

7. Incluye un seleccionador que permitan cambiar las variables visualizadas en Y entre Registering Property - Cost (% of property value),Paying Taxes - Profit tax (% of profit), (Starting a Business - Time – Men (days) + Starting a Business - Time – Women (days))/2,IC.REG.DURS y Registering Property - Procedures (number). Actualiza los datos y el color de los elementos de la gráfica para distinguirlos.

```
<select id="datos" onchange="updateDataS(this.value)">
<option value="a">Overall DTF versus Registering Property - Cost (% of
property value)</option>
<option value="b">Overall DTF versus Paying Taxes - Profit tax (% of
profit)</option>
<option value="c">Overall DTF versus (Starting a Business - Time – Men
(days) + Starting a Business - Time – Women (days))/2</option>
<option value="d">Overall DTF versus Registering Property - Procedures
(number)</option>
</select>
```

8 Incluye transiciones entre los cambios de gráfica.

9 Incluye un tooltip en el elemento de la gráfica para visualizar la información de las dos variables dibujadas junto al nombre y el país.

10 Cuando actualices la gráficas recuerda cambiar las escalas y los ejes.

11 Con respecto a los resultados, identifica qué variables están directamente relacionadas (generan una gráfica ascendente) o inversamente relacionadas (genera una gráfica descendente).

 main.js