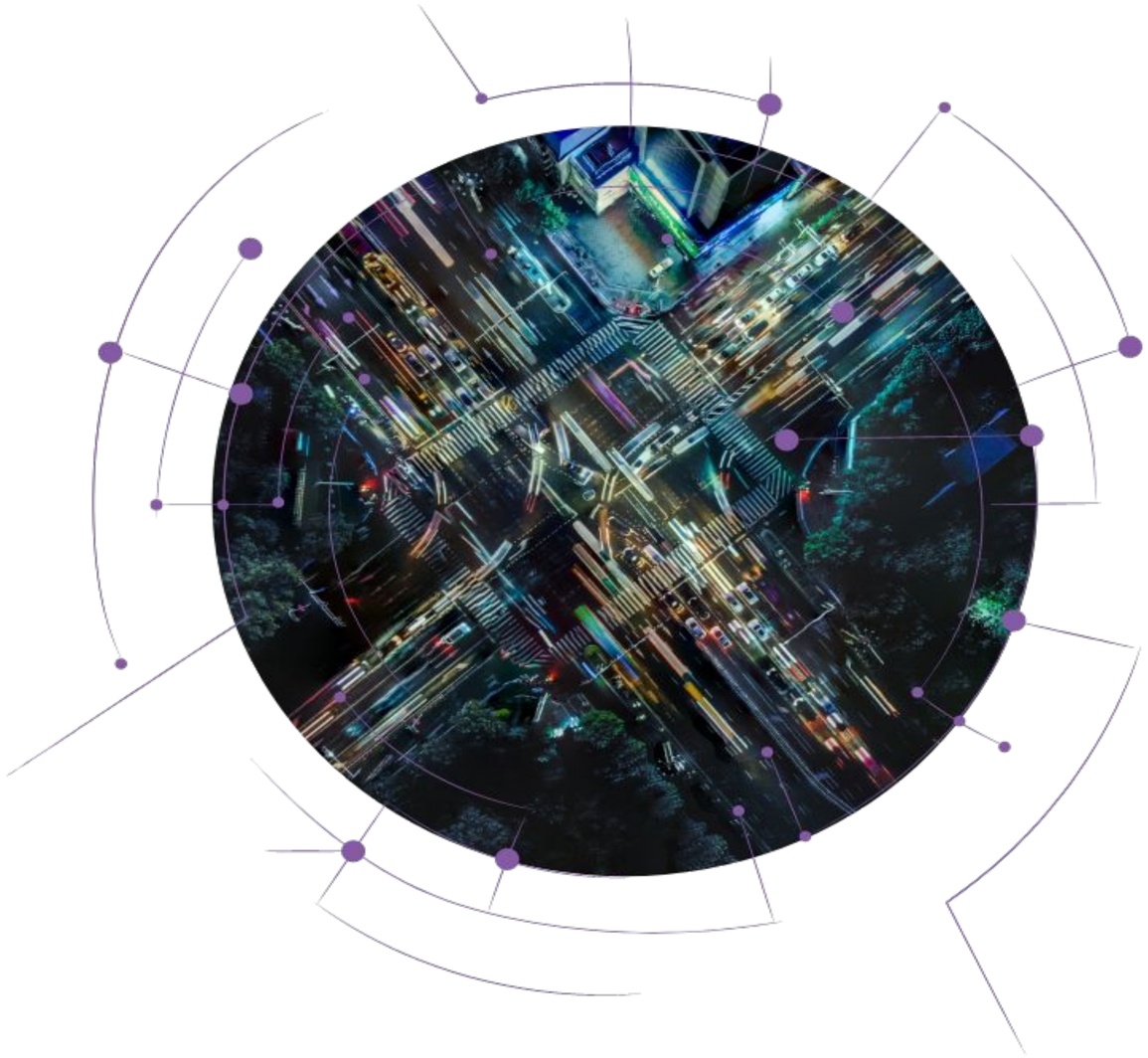
DATASOCIETY:

Introduction to Tableau

Part 10

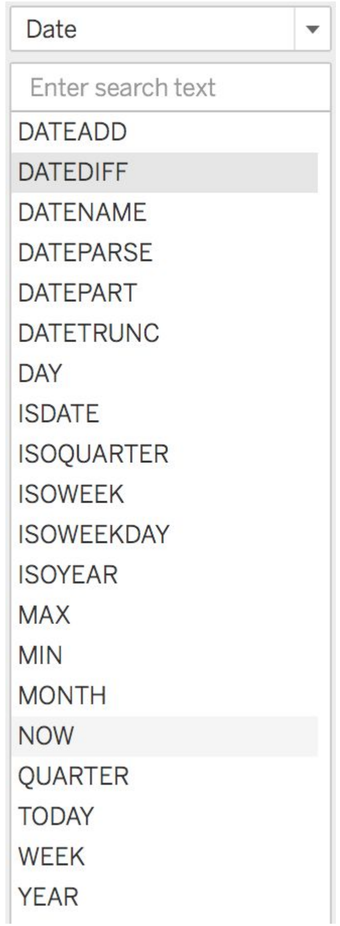


Module completion checklist

Objective	Complete
Implement string calculations on a given dataset	✓
Implement date calculations on a given dataset	
Implement type calculations on a given dataset	
Implement logic calculations on given dataset	

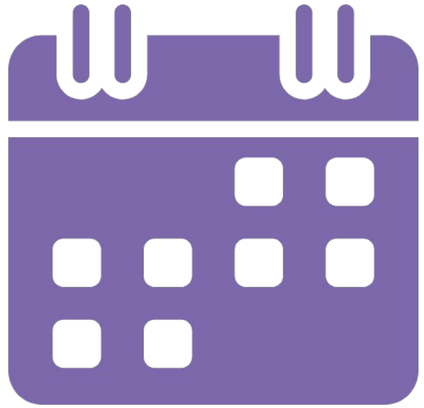
Date functions

- **Date functions** allow you to manipulate dates and extract certain features, like month, day, week, etc.



Date function: DATENAME

- **DATENAME** takes two arguments, returning a requested **date_part** for a given **date.**
  - DATENAME('year', #2004-04-15#) = **"2004."**
  - DATENAME('month', #2004-04-15#) = **"April."**



DATEPARSE and DATEPART

- **DATEPARSE**
  - Allows you to control date formatting.

```
Example: DATEPARSE
("dd.MMMM.yyyy", "15.April.
2004") = 2004-04-15 12:00:00
AM
```

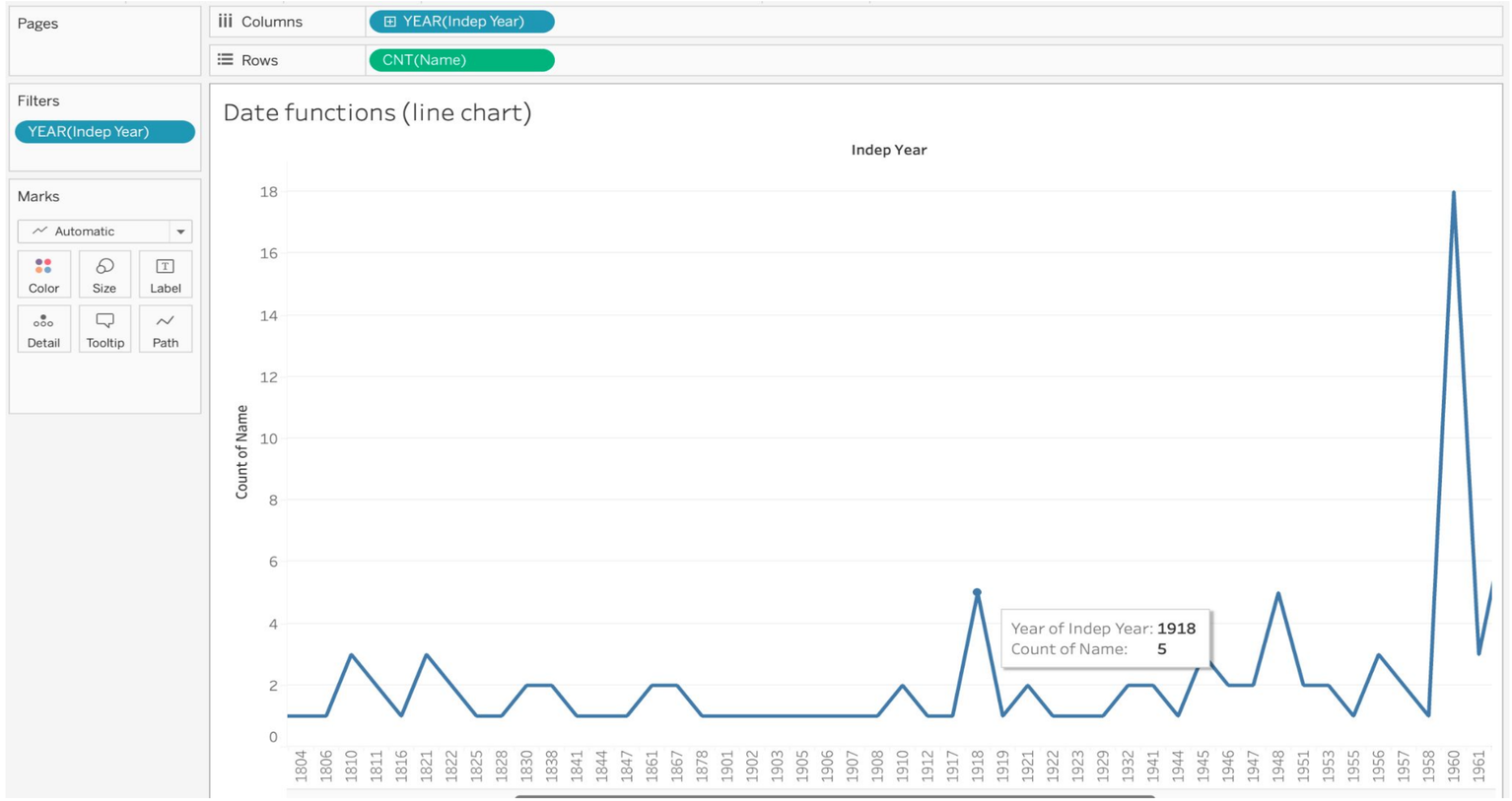
- **DATEPART**
  - Allows you to get a piece of a date.

```
Example: DATEPART('month',
#2004-04-15#) = 4
```

- Both DATENAME and DATEPART can be used to return the month of a given date – so what's the difference?

Setting up a date-related chart

- To practice using these functions, let's use the world data to plot a **line chart** showing the number of countries that became independent in a given year.

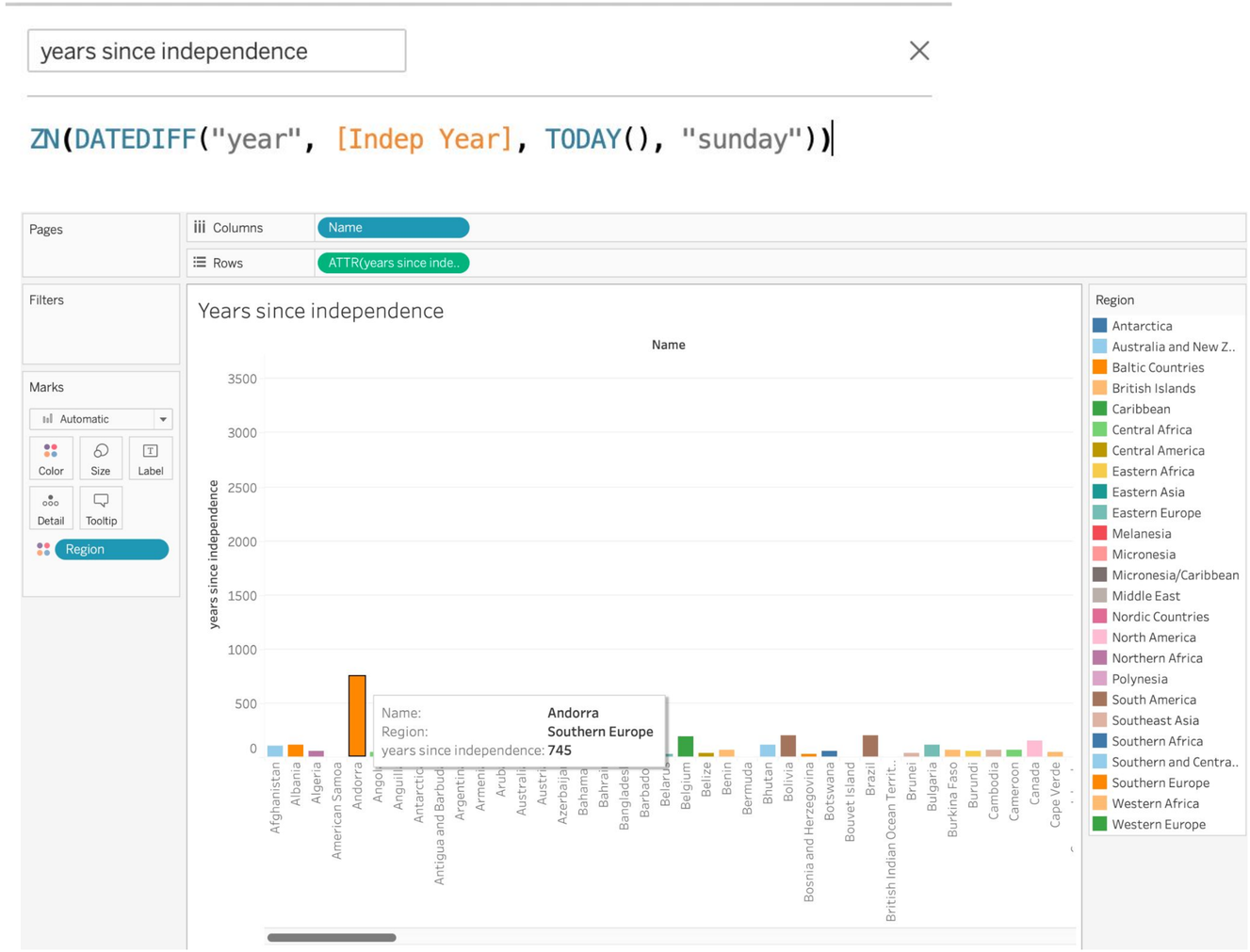


Date functions in the world dataset

- Get the years since independence for a country using these functions:
  - TODAY
  - YEAR

- Next, replot the independence.
  - Graph as a bar chart.

- What does this chart tell us?



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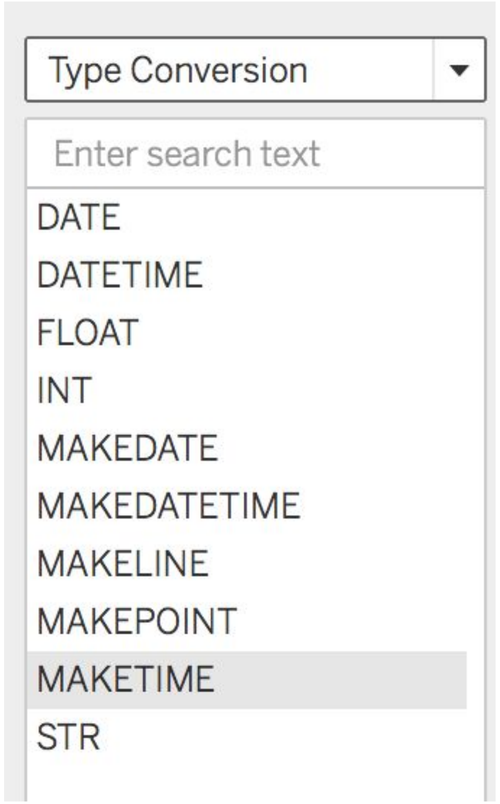
Type functions

- **Type functions** allow you to convert fields from one data type to another.

- For example, you can convert **numbers to strings** so that Tableau does not try to aggregate them.



Typecasting functions

- Typecasting functions are type functions that convert one data type to another.

- **STR**

```
STR([Age])
```

- **INT**

```
INT(8.0/3.0) = 2
INT(4.0/1.5) = 2
INT(0.50/1.0) = 0
INT(-9.7) = -9
```

- **FLOAT**

```
FLOAT(3) = 3.000
```

MAKE functions

- **MAKE functions** return date and time values given certain arguments.
- **MAKEDATE** returns a time value constructed from the specified **year**, **month**, and **date.**
- **MAKEDATETIME** returns a datetime that combines a date and a time.
  - The **date** can be a date, datetime, or a string type.
  - The **time** must be a datetime.

```
MAKEDATE(2004, 4, 15) = #April
15, 2004#
```

```
MAKEDATETIME("1899-12-30",
#07:59:00#) = #12/30/1899 7:59:00
AM#
MAKEDATETIME([Date], [Time]) =
#1/1/2001 6:00:00 AM#
```

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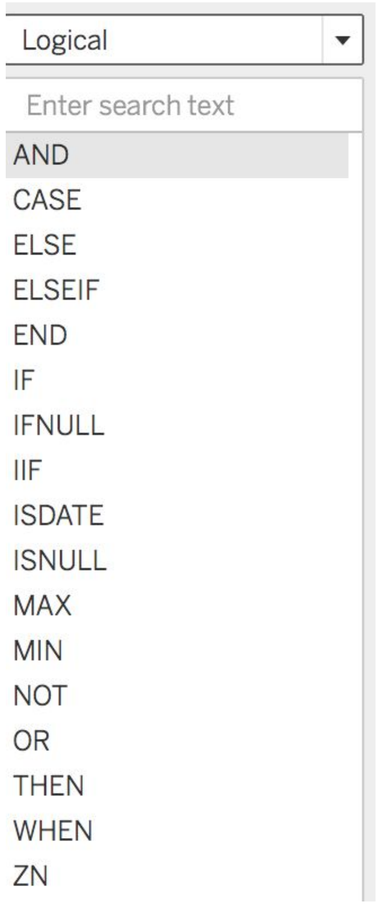
Logical functions

- **Logical functions** allow you to determine if a certain condition is **true or false** (boolean logic).

- Tableau offers all the basic logical functions for managing **control flow** and performing **Boolean tests.**



Case switching and conditionals

- **Case switch functions :**
  - CASE , WHEN, THEN, ELSE , END

```
Example: CASE [RomanNumeral]
WHEN ‘I’ THEN 1 WHEN ‘II’
THEN 2 ELSE 3 END
```

- **IF, ELSE conditionals:**
  - IF , THEN, ELSEIF, THEN, END

```
Example: IF [Profit] > 0
THEN 'Profitable' ELSEIF
[Profit] = 0 THEN
'Breakeven' ELSE 'Loss' END
```

IIF test

- **IIF** checks whether a condition is met, and then returns:
  - One value if TRUE.
  - Another value if FALSE.
  - An optional third value or NULL if unknown.

```
IIF(test, then, else,
[unknown])

Checks whether a condition
is met, and returns one
value if TRUE, another value
if FALSE, and an optional
third value or NULL if
unknown.

Example: IIF([Profit] > 0,
'Profit', 'Loss')
```

Logical functions in the world dataset

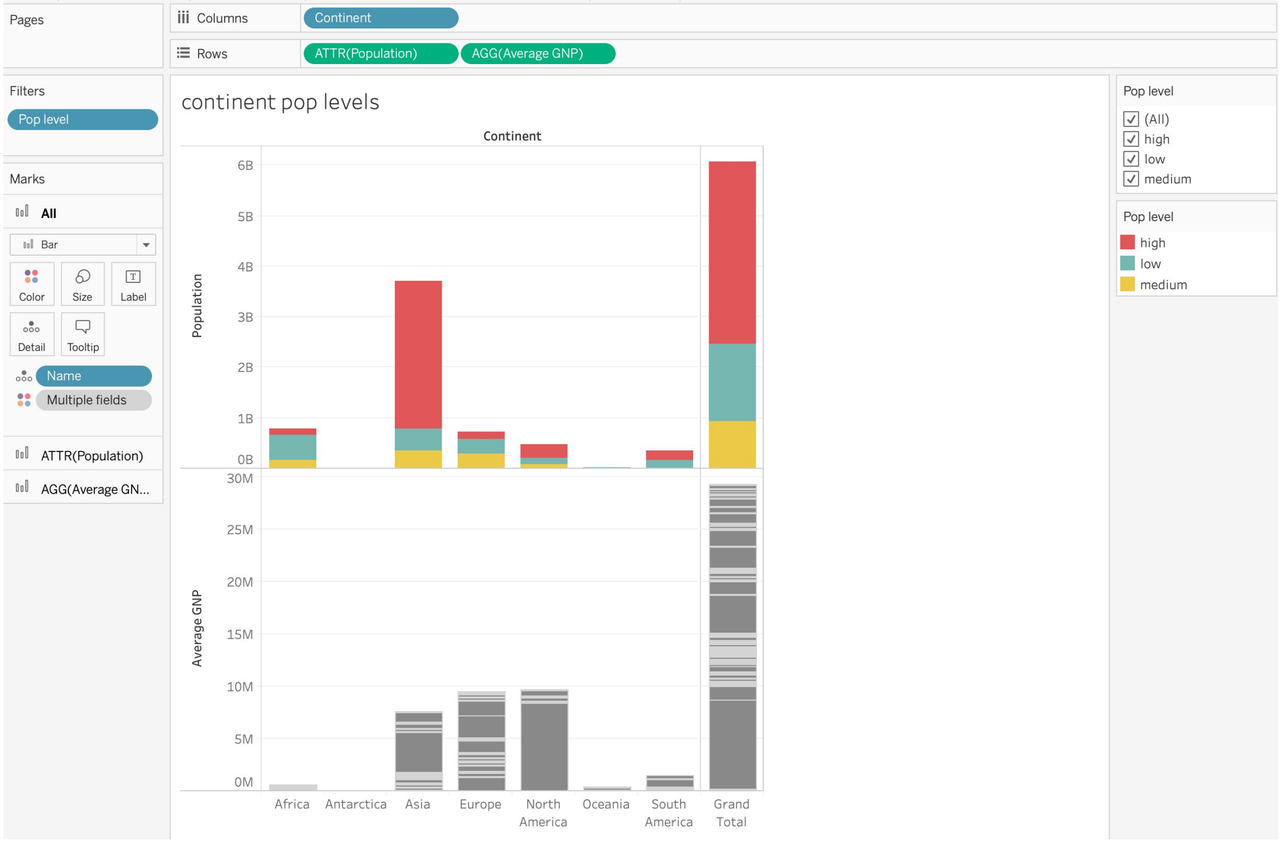
- Use an **IF ELSE** conditional to make a **“high”**, **“medium”** and **“low”** population column.

Pop Level

```
IF [Population (country.csv)] > 100000000
THEN "high"
ELSEIF [Population (country.csv)] > 50000000
THEN "medium"
ELSE "low"
END
```

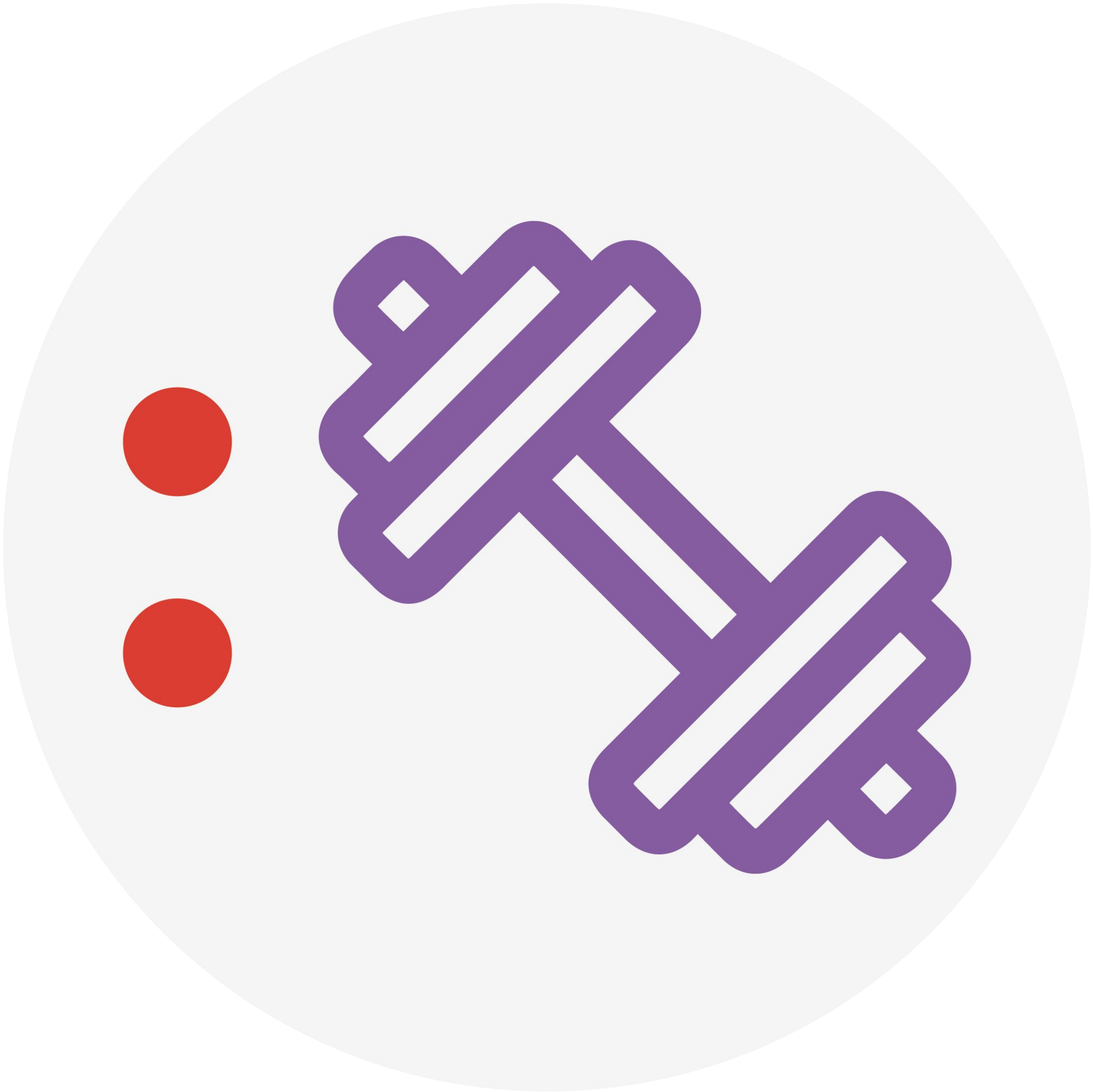
The calculation is valid. 1 Dependency Apply OK

- Apply it to the population analysis.



Knowledge check 10

Exercise 10



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Congratulations!

In the past few modules, we covered:

- String Functions
  - MID
  - REPLACE
  - TRIM
- Date Functions
  - DATENAME
  - DATEPARSE
  - DATEPART
- Type Functions
  - STR
  - INT
  - FLOAT
  - MAKEDATE and MAKEDATETIME
- Logical Functions
  - CASE
  - IF, ELSE, and IIF conditionals

Next steps

Next few modules, we will begin mapping in Tableau!

- Defining geospatial visualization
- Generating coordinates
- Cleaning and fixing geospatial data
- Creating a final dashboard

Until then, stay excited!

End of Part 10