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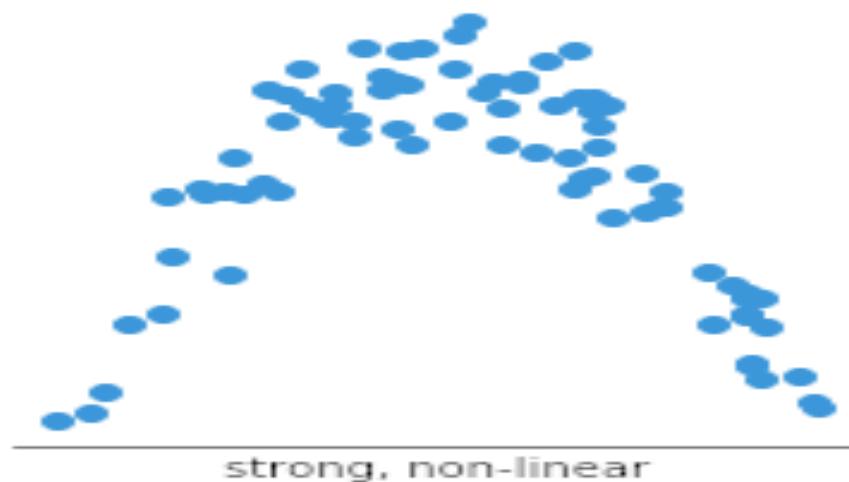
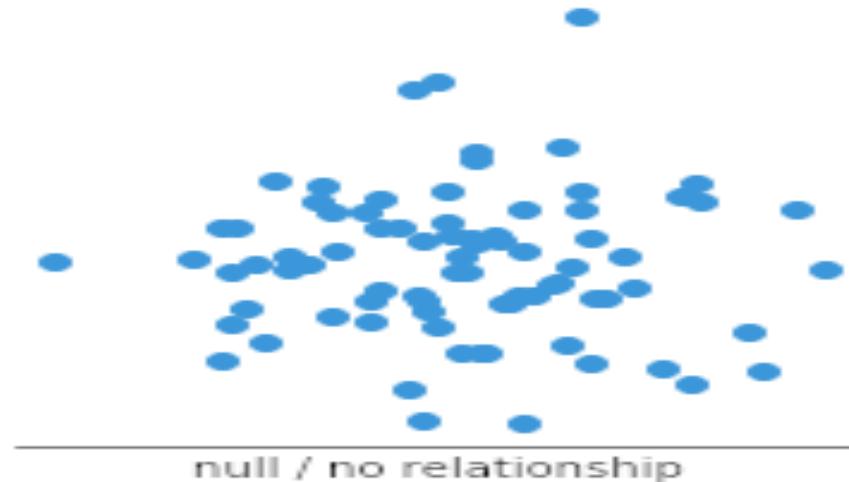
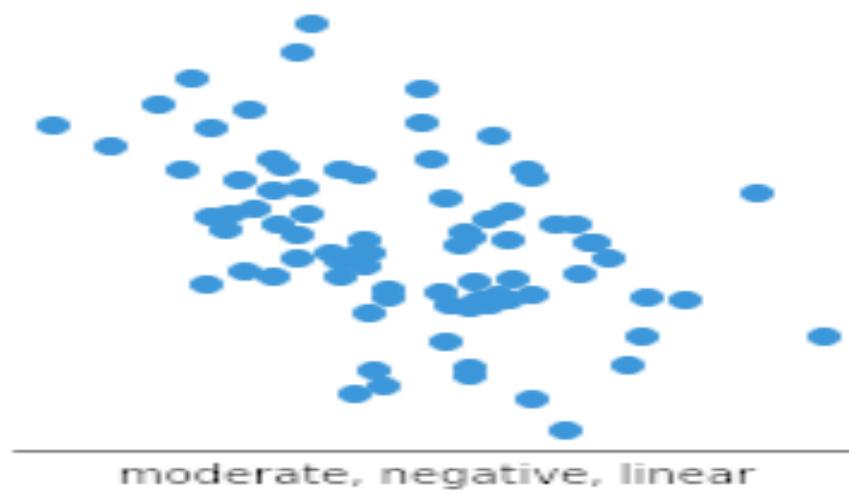
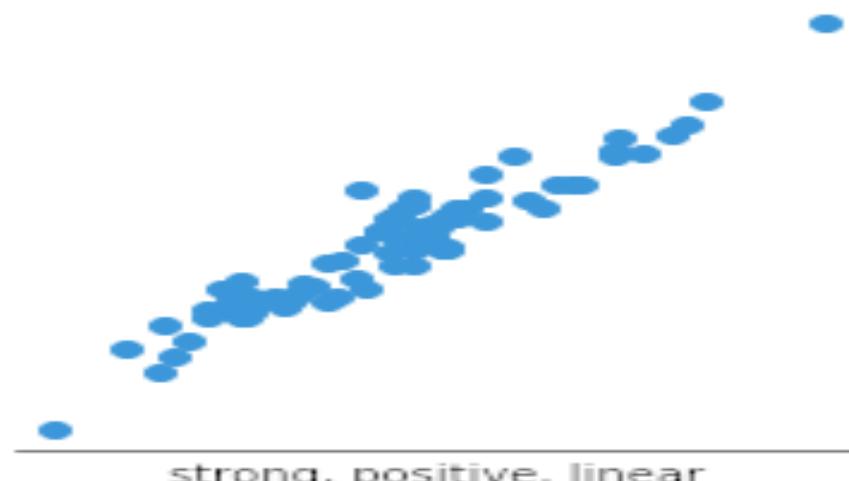
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Scatter plots

Scatter plots

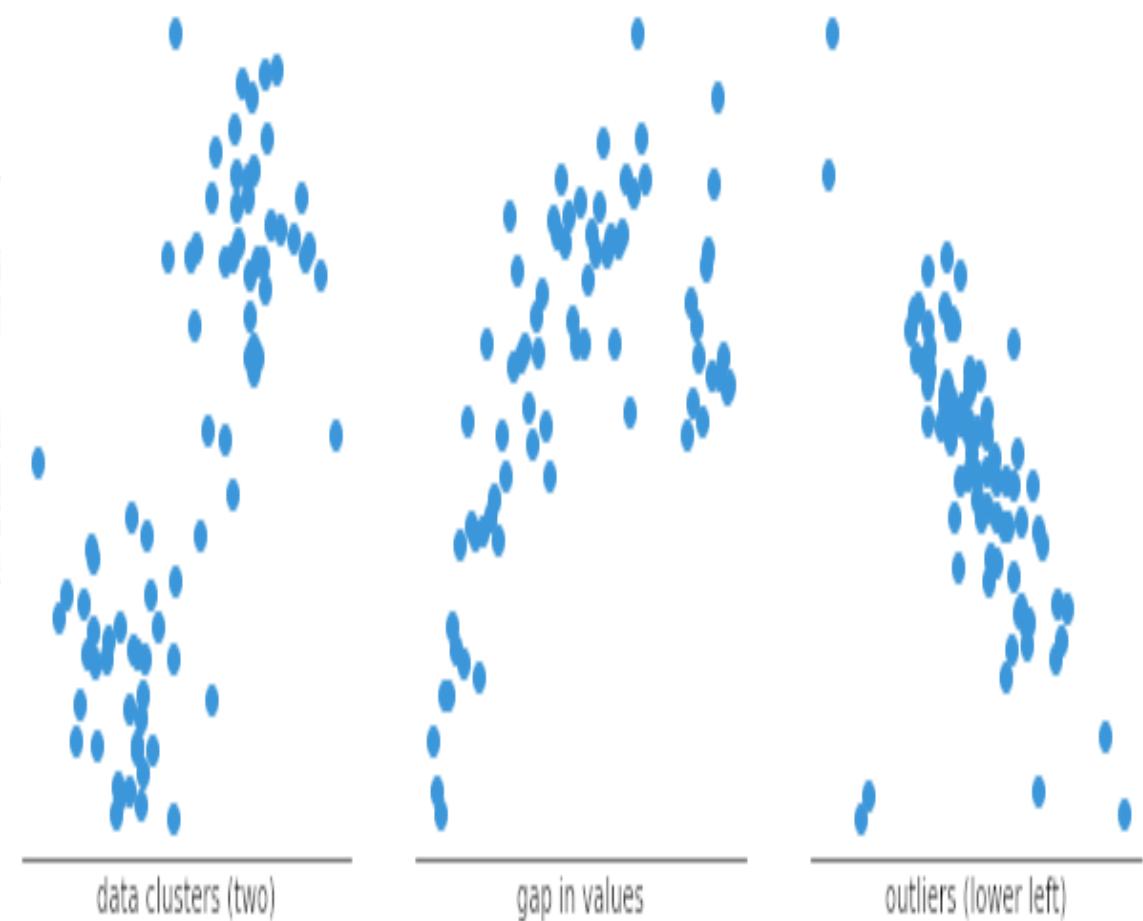
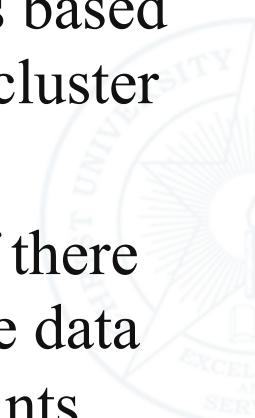
- A scatter plot called as scatter chart, scatter graph uses dots to represent values for two different numeric variables.
- The position of each dot on the horizontal and vertical axis indicates values for an individual data point.
- Scatter plots are used to observe relationships between variables.
- The dots in a scatter plot not only report the values of individual data points, but also patterns when the data are taken as a whole..
- Identification of correlational relationships are common with scatter plots
- Relationships between variables can be described in many ways: positive or negative, strong or weak, linear or nonlinear.

Relationship between variables



To identify patterns in the data

- A scatter plot can also be useful for identifying other patterns in data.
- Divide data points into groups based on how closely sets of points cluster together.
- Scatter plots can also show if there are any unexpected gaps in the data and if there are any outlier points.
- This can be useful if we want to segment the data into different parts.



Parameters

- x: This parameter sets the horizontal coordinates.
 - y: This parameter sets the vertical coordinates.
 - xlab: This parameter is the label for horizontal axis.
 - ylab: This parameter is the label for vertical axis.
 - main: This parameter main is the title of the chart.
 - xlim: This parameter is used for plotting values of x.
 - ylim: This parameter is used for plotting values of y.
 - axes: This parameter indicates whether both axes should be drawn on the plot.
- The simple scatterplot is created using the **plot()** function.
 - ```
plot(x, y, main, xlab, ylab, xlim, ylim, axes)
```

```
plot(x,y,xlab="weight",ylab="height",col.lab="yellow",xlim=c(51,54),ylim=c(152,155), main="Weight Vs Height",col.main="red",cex.lab="1.5",col="green",pch=25,col.axis="blue")
```

# Add a trend line

- When a scatter plot is used to look at a predictive or correlational relationship between variables,
- It is common to add a trend line to the plot showing the mathematically best fit to the data.
- This can provide an additional signal as to how strong the relationship between the two variables is, and if there are any unusual points that are affecting the computation of the trend line.