### Note:

In both case studies, make sure to detail the null and alternate hypothesis and significance level you choose. Also describe which test you intend to use, if the test required is one tailed or two tailed, and your reasons for choosing them.

### Case Study 1:

A company started to invest in digital marketing as a new way of their product promotions.For that they collected data and decided to carry out a study on it.

* The company wishes to clarify whether there is any increase in sales after stepping into digital marketing.
* The company needs to check whether there is any dependency between the features Region and Manager.

Help the company to carry out their study with the help of the sales\_add data provided.

### Case Study 2:

XYZ Company has offices in four different zones. The company wishes to investigate the following :

* The mean sales generated by each zone.
* Total sales generated by all the zones for each month.
* Check whether all the zones generate the same amount of sales.

Carry out the analysis using the sales\_data\_zone dataset.

### Question:

Explain type 1 and type 2 errors using an example context. Also explain the impact of lowering or raising significance level in that context.