

Why 1.5 is multiplied with IQR when we try to find the outliers?

As per gaussian distribution or normal distribution, upto the decision boundary value is 3, from the mean, both sides of the data is useful.

Hence we are taking scale as 1 then Lower boundary is -2.025 and Upper boundary is 2.025. So any data lies between 2.025 to 3 will be outliers in both sides, as per gaussian law we have useful data upto boundary value is 3.

So we are going to take 2 as scale, but decision range boundary values will be -3.375 and 3.375, so it is exceeding the value 3. We can have outliers as data points. So we are not using this as scale.

Lets take 1.5 as scale, decision range boundary values will be -2.7 and 2.7, so this value is very close to the value 3. Hence we are taking the scale as 1.5 for calculating finding the outliers data.

But if we take 1.7 as scale, decision range boundary values will be -2.9 and 2.9, this value is too close to the value 3, but we are not using the value in scale, why because IQR is not standard method to detect the outliers, and therefore to keep the tolerance, we are using 1.5 on the safer side.