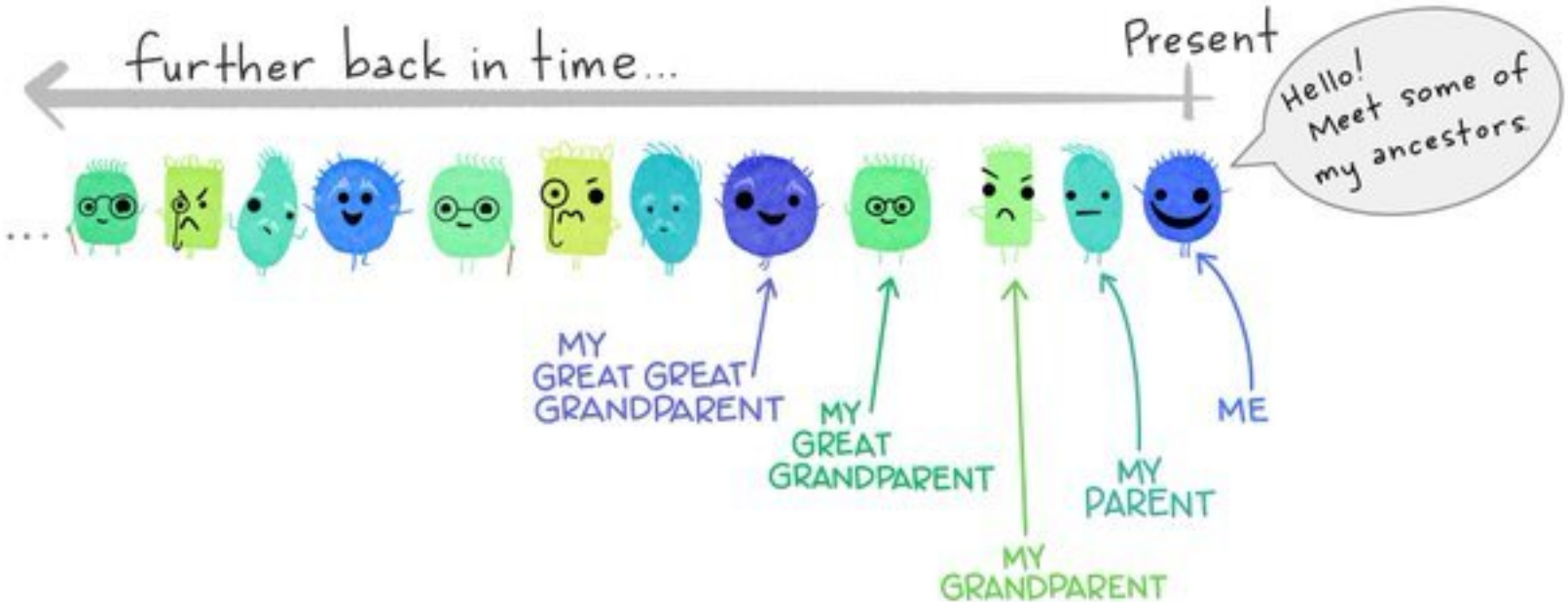
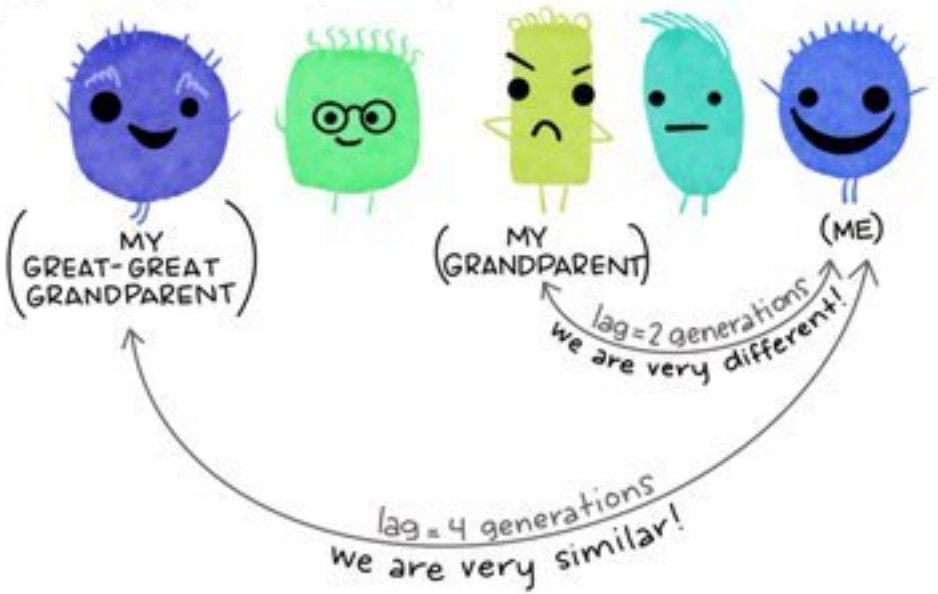
intro to the autocorrelation function (ACF)



in our family MONSTERS tend to be...

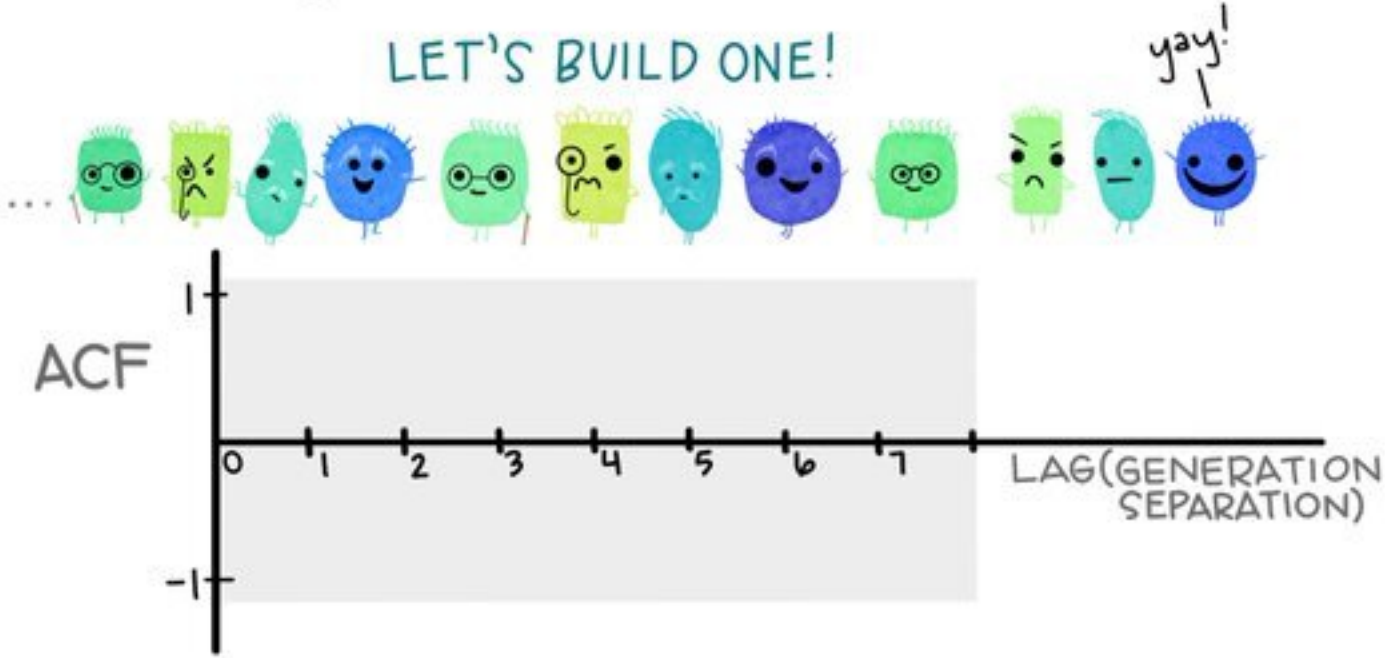
- A little similar to their parent and great-grandparent
- Very different from their grandparent
- Very similar to their great-great grandparent

FOR EXAMPLE:



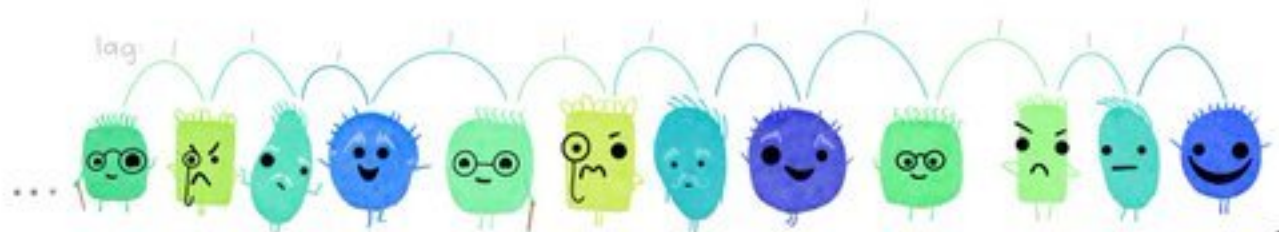
THE autocorrelation function (ACF)

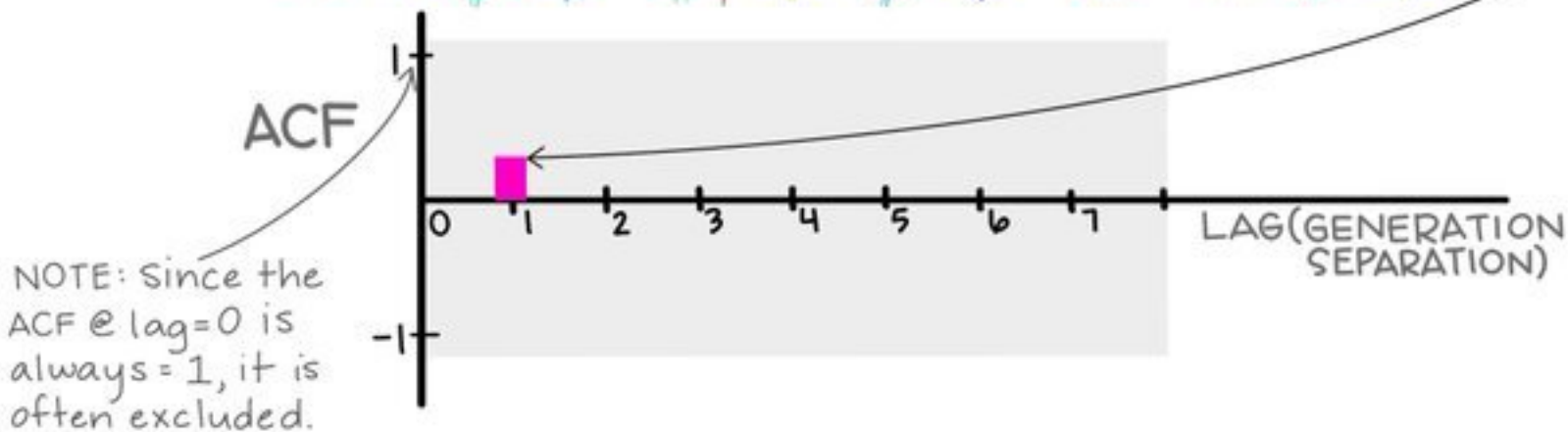
The ACF is a plot of autocorrelation between a variable and itself separated by specified lags (in our case, generations)



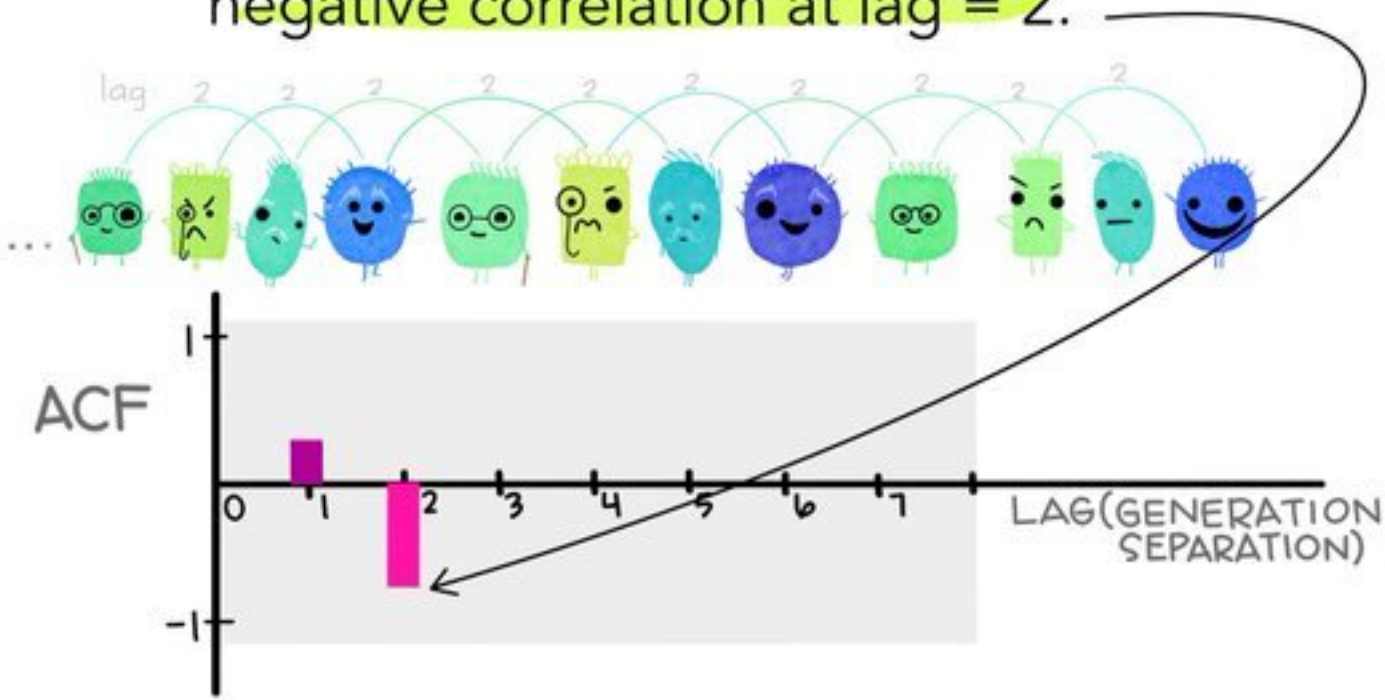
At lag =1, we find the correlation between **monsters** and their **parent.**

They are somewhat positively correlated.

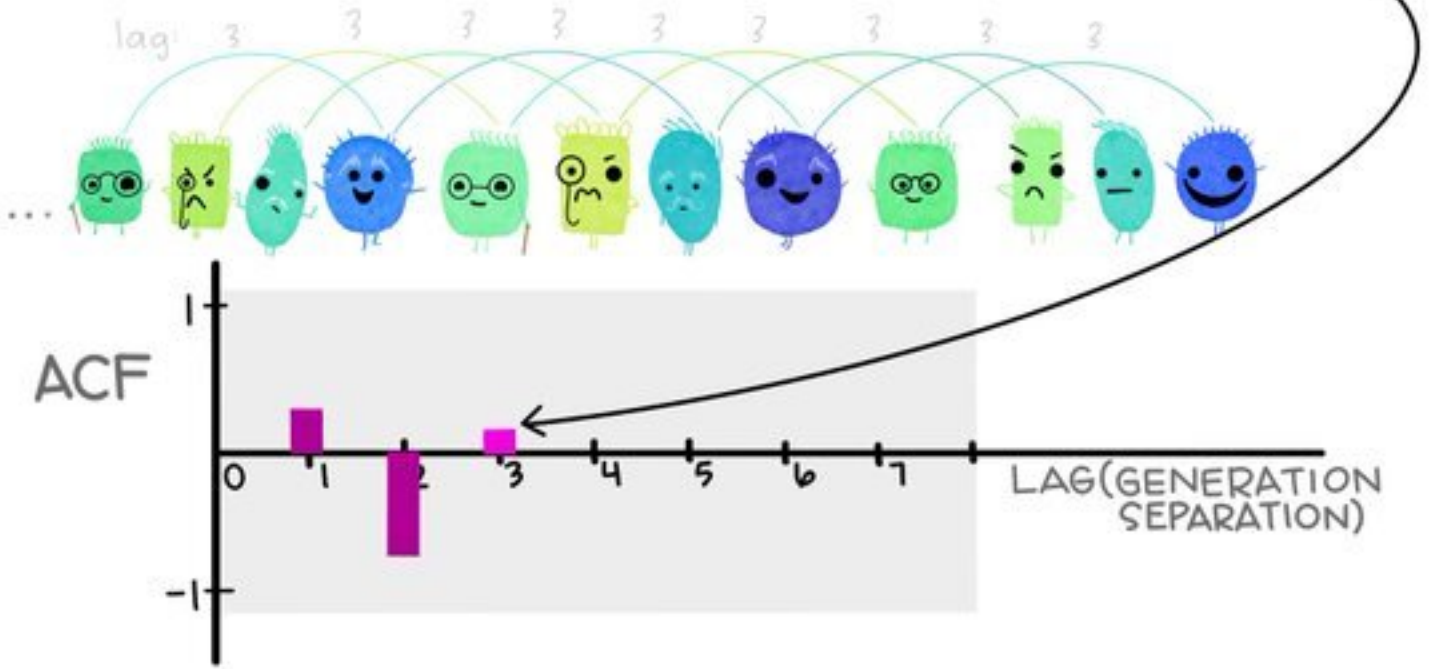




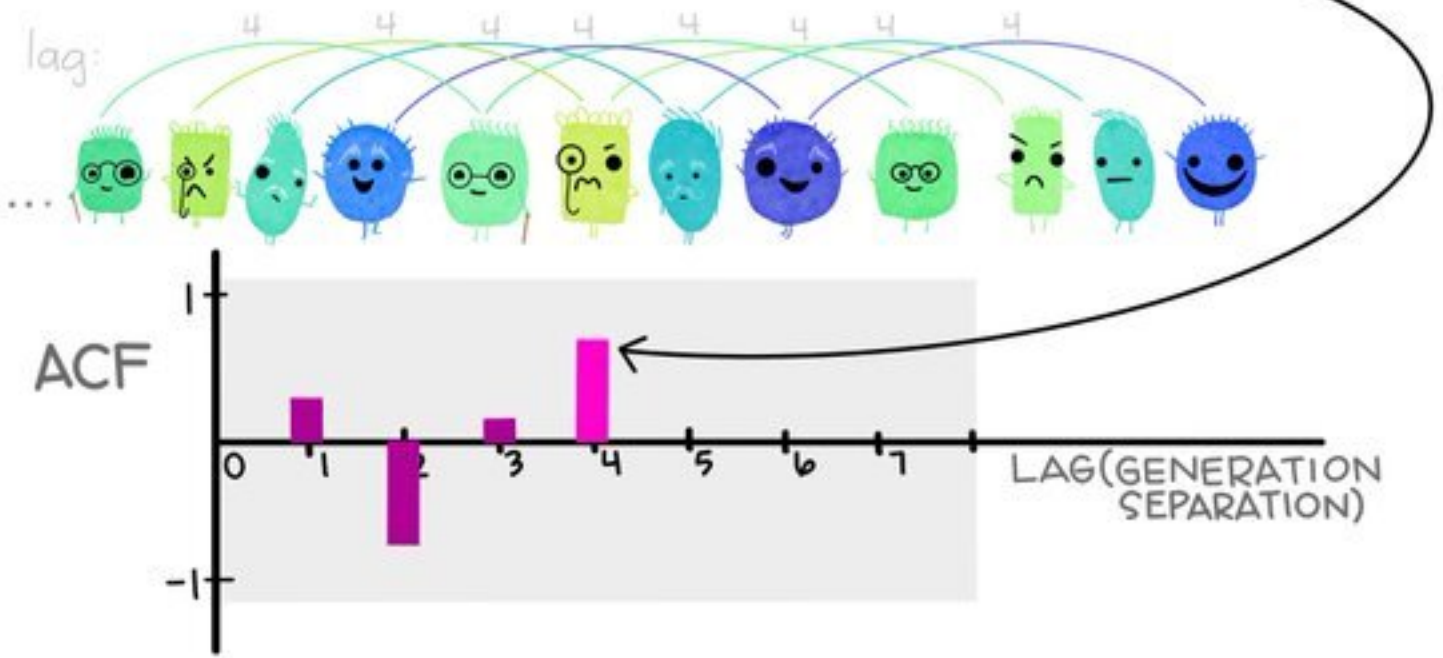
At lag = 2, we find the correlation between **monsters** and their **grandparent**.
Since they tend to be very different, we find a negative correlation at lag = 2.



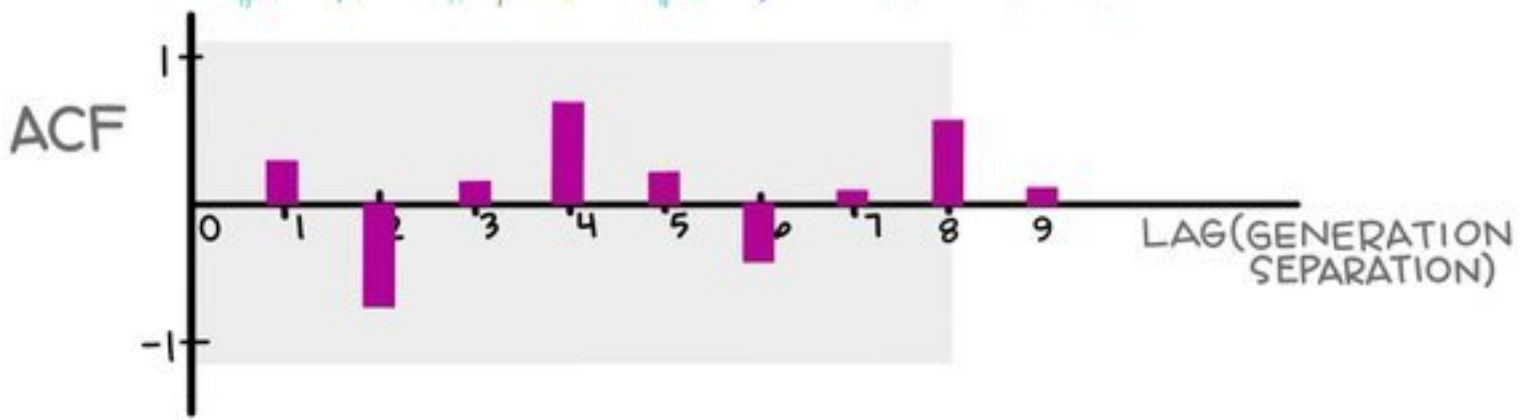
At lag = 3, we find the correlation between **monsters** and their **great-grandparent.** They are slightly positively correlated.

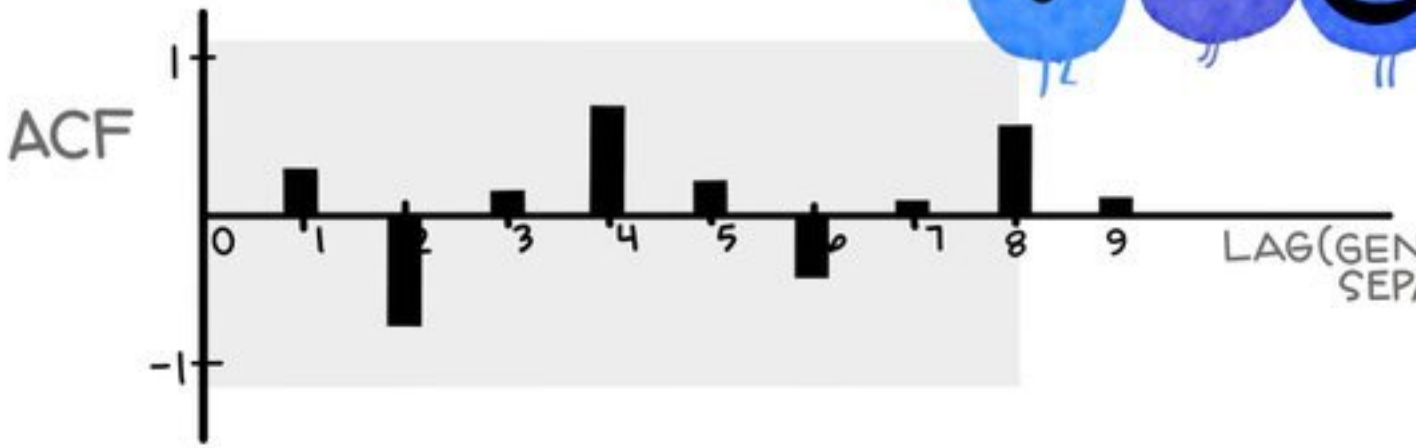


At lag = 4, we find the correlation between **monsters** and their **great-great grandparent**. They tend to be very similar (there is a positive correlation).



...and we continue finding the correlations as we increase the lag (generations) between the monsters...



in Summary:

The autocorrelation function (ACF) tells us the correlation between observations and those that came before them, separated by different lags (here, monster generations)!