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Enhancement Two Narrative

CS 499

This enhancement is a stand-alone script that can be incorporated into the program created in the first enhancement. I plan to incorporate the first two projects into the final enhancement. In this project, the focus was on data structure and algorithms which is aptly displayed here. This program uses the same MongoDB database used in the previous one. This script uses an algorithm to find all the dogs who were adopted and calculates their age in days based on each dogs’ date of birth and the date they were adopted. This produces a list of each dogs’ age that is then averaged out to produce the average age of a dog who is adopted. The same algorithm is conducted for adopted cats as well.

This script, in about 50 lines of code, is capable of sifting through hundreds of thousands of documents, picking out only the relevant parts and producing two brief statements about that data. The formatting of the original data was also not ideal for this project and as you can see on lines 17 and 18, the dates are converted to datetime data types for calculation. I decided to use these dates however instead of the provided “Age upon outcome” value since this value was ambiguous. It sometimes says “1 year” or “2 years” or even “6 days”. Since the unit of measurement is not consistent, it would be very difficult to use this data. However, I can easily calculate the number of days between their date of birth and the date they were adopted.

Taking the date they were adopted and subtracting the date of birth gives me the animals’ age in days. This number is then appended to a list as it moves to the next document to repeat the process. This list rapidly fills up with thousands of separate values and when complete, the program divides the sum of these values by the number of values in the list. This gives us an average age in days. From there, this number is divided by 365 days to convert it to years, and rounded to the nearest tenth for readability. Finally, the script prints two statements. They state the average age in years and days for an adopted cat and dog respectively.

The process of producing this script was difficult. I initially had trouble trying to work with the “age upon outcome” value. I was going to split the string to extract only the number. However, since units like years, months, and days were used, this became to complex to work with. I went back to the drawing board and came up with the plan to use the date range to calculate the age myself. I had to figure out how to use the python datetime method since the dates were not usable in their original form. A screenshot of the completed code can be found below.

Text

Description automatically generated