

INST 326 Final Project

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File Explanation

zoo.py

- This file contains 4 classes (Human, User, Animals, Zookeeper) and 8 methods total. The Animal and Zookeeper classes have two methods each. The User class has four methods.

usernames.txt

- A list of usernames that represent returning users and new users. Will write to the file each time a username is inputted.

zoo.txt

- This file contains the raw data for all the animals in the zoo. For each animal, it includes information about the name, type, what they eat, how long they sleep, what sound they make, how they play, and a fun fact about the animal.

sample.txt

- This file is generated by the action() method in the Animals class, and it is a file containing randomly generated animal interactions from the raw data provided from zoo.txt. This file is used for the user to access information about animals at the zoo (and how they interact with each other).

summary.txt

- This file is generated by the navigate_zoo() method and every animal the user saw during their zoo visit will be appended into a list and written onto the file using a with statement. The file will then be an argument for the summary() method and printed onto the console.

quiz_questions.txt

- This file contains 95 different true or false questions about the animals in the zoo. Each line is a different question. The line has the question number, question, and correct answer separated by “:” with no spaces. For example the first line looks like this: “1:True or False armadillo's tongues can be 12 inches long?:True”.

How to Run and Interpret

1. To run the program, type the following into the command line:
 - **python3 zoo.py.**
2. The program will run through all 8 methods in the following order:
 - **Animal instantiation:** This init method instantiates the class, opens the raw animal input file and organizes each animal as a dictionary into a list that can be used by the other classes- Hanna
 - **account():** Allows the user to input their username if they are a returning user, or create a username if they are a new user, and will write new usernames to a text file. - Leilani
 - **best_time_display():** Displays a data visualization box plot that shows how long the animals of the zoo are sleeping, allowing the user to make better choices when choosing what animals to visit. - Leilani
 - **action():** this method creates random animal interactions using the raw animal data and writes it to a text file that can be used by the other classes- Hanna
 - **navigate_zoo():** this method prompts the user to visit different animals at the zoo and prints the animals' actions to the console, as well as appends every animal the user saw to a list that will be written onto a text file (summary.txt) - Mandy
 - **feed():** This method simulates a Zookeeper feeding an animal of the user's choice and prints information to the console about the animal's favorite food and what sound it makes. The method feeds every animal visited in navigate_zoo() by iterating through a list. To add an element of realism, a random number generator

was added to check if the animal was sleeping (unavailable to be fed) which often happens in real zoos. - G

- **quiz()**: The quiz method opens and reads a file of 95 different true or false quiz questions. Based on the age of the user (if they are an adult/over 18) the method randomly generates 3 or 5 questions and prints them to the console. The method creates two dictionaries. One has the questions and correct answers. The other contains the questions asked to the user as the keys and a tuple of answers as the value. The quiz method uses sets to avoid repeat questions and calculates a score based on the number of correctly answered questions. - G
- **summary()**: this method reads in a file containing the user's experiences at the zoo and uses a regex to print a summary of the user's visit to the console - Mandy

Works Cited

Used to gather information about Lizards for the Animal text file and quiz questions file:

“11 Rare, Fun and Strange Facts about Lizards - Pet Sitters.” The National Association of Professional Pet Sitters. Accessed December 13, 2021.

<https://petsitters.org/page/11RareFunAndStrangeFactsAboutLizards>.

Used to collect information about a variety of animals for the Animal text file and quiz questions file:

“Animals.” National Geographic Kids. National Geographic. Accessed December 13, 2021.

<https://kids.nationalgeographic.com/animals>.

Used to generate information about Diamondback terrapins for the Animal text file and quiz questions file:

“Diamondback Terrapin (Malaclemys Terrapin).” National Aquarium Animals. National Aquarium. Accessed December 13, 2021.

<https://aqua.org/explore/animals/diamondback-terrapin>.

Used for information about swordfish to include in the Animal text file and quiz questions file:

“Swordfish.” Encyclopædia Britannica. Encyclopædia Britannica, inc. Accessed December 13, 2021. <https://kids.britannica.com/kids/article/swordfish/390158>.

Used to include information about hummingbirds in the Animal text file and quiz questions file:

Vázquez, Erica Sánchez. "Ten Fascinating Facts About Hummingbirds." BIRDCALLS News and Perspectives on Bird Conservation. American Bird Conservancy, July 19, 2021.

<https://abcbirds.org/blog20/ten-fascinating-facts-about-hummingbirds/>.