ENSF 692 Spring 2024 – Assignment 4 Grading

Assignment 4 Rubric (33 marks, 12% of overall grade)

Your code must successfully compile/run for the execution to be graded. Partial marks may be given for each criterion listed below.

Commenting and Syntax (5 marks):

- (1) Your name must be included in the file header
- (1) Comments must be included throughout the code to explain the functionality
- (1) All classes, methods, and functions are fully documented using docstrings (including summary, parameters, and return values)
- (1) All variables and functions have clear and useful names, all classes have CamelCase names
- (1) Code is clearly indented and spaces are included between variables and operators
- One mark will be deducted for each error or missing component, up to a maximum of 5 marks

Code Structure and Semantics (7 marks):

- (3) Solution contains at least one multi-index Pandas DataFrame
- (1) Solution contains at least IndexSlice
- (1) Solution contains at least one masking operation
- (1) Solution contains at least one grouping operation
- (1) Solution contains at least one built-in Pandas or NumPy computational method (e.g. max, mean, etc.)
- One mark will be deducted for each error or missing component, up to a maximum of 7 marks

User Interface and Functionality (7 marks):

- (1) User interface follows the given format for input
- (1) User interface follows the given format for output
- (1) Program accepts all cases for breed input (e.g. Akita, akita, AKiTA, AKITA)
- (1) If an invalid name is provided, a KeyError exception is used to prompt for re-entry without terminating the program
- (1) The data is imported within main and not copy/pasted
- (1) No values are hard-coded except for Excel column names and expected years (2021, 2022, 2023)
- (1) Excel file has not been sorted or altered in any way, before or after the program is executed
- One mark will be deducted for each error or missing component, up to a maximum of 7 marks

Execution (14 marks):

- (3) Provide a screenshot of successful execution. Your screenshot should include all specified functionality:
    - o Handling incorrect input

o Returning the correct results when a valid name is input

o Returning the correct results when a valid name is input in mixed caps

• Your program will be executed to test the following cases:

o (1) Entering a breed that is included in the provided dataset

o (1) Entering a breed that is included in the provided dataset, but not in all caps

o (1) Entering an invalid input that is not included in the provided dataset

o All students will have their code tested with the same input values

• Your program will be executed to test the following stats and calculations (will vary depending on the user input):

o (1) All years where selected breed appears

o (1) The total registrations of the selected breed across the entire dataset

o (3) The percentage of the selected breed for each year it is found

o (1) The percentage of the selected breed across the entire dataset

o (2) Month most likely to have registrations for the selected breed

• 1 mark will be deducted for each error or missing component, up to a maximum of 8 marks