**Testing for Structures and Algorithms Coursework**

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**Stage 1**

This stage is the basic code for the whole program in which a menu allows the user to select whether to check if a pet type is already stored, if the pet isn’t stored a message will display letting the user know. The user is also able to remove pet types and display them in alphabetical order. If an input is put in that isn’t expected the program will instead tell the used that it is invalid.

The code does exactly what it is supposed to and works as expected. The pet type is displayed in alphabetical order when needed regardless of what order they were inputted in. Finding pet types and deleting pets however is case sensitive, so if “Dog” is inputted and the user searches for “dog” it will say it is not stored.

**Stage 2**

This stage is the same as the last but instead of appending and displaying pet types it does it for products. The code is meant to add and remove products for pets and display a list of all of them with their details. It is also meant to display a message if products are not found.

This stage also does exactly what is needed and works without problems. It adds and deletes products. It finds and displays the product, the product ID and the quantity available. Similar to the last stage, the product names are case sensitive so if “Ball” is added and the user tries to delete “ball” it will not find it and therefore not delete it.

**Stage 3**

This stage combines both previous stages to make one program that links products to different pet types. It also goes more in depth and displays products for all pets and specific pets that the user is looking for. It is also meant to Remove a particular pet from the list and pet specific products from the list.

Once again, this stage does exactly what is needed. It is once again case sensitive, however. Everything from the previous stages works the same. The program allows the user to remove a specific pet type or a product belonging to a pet. In other words, if there were two balls, one for a cat and one for a dog, the user could delete one without affecting the other one on the list. The program also displays all product details including what pet it is for and the quantity in stock.

**Issues / Problems**

The only problem we came across whilst creating each stage was simple syntax errors what were fixed quickly.

**Github Links**

[**https://github.com/LamKD98/LamKD98-Structures-Alg-Coursework**](https://github.com/LamKD98/LamKD98-Structures-Alg-Coursework)

[**https://github.com/marciinS/Structures-Alg-Coursework.git**](https://github.com/marciinS/Structures-Alg-Coursework.git)