

CSE 102 Spring 2024 – Computer Programming Assignment 13

Due on June 2, 2024 at 23:59

We want to create a menu to collect species information. It should include “class, order, family, genus and species” information. This information should be added by creating a linked list structure.

Your program should have a menu structure and it should be printed to the screen until you exit the program. Species information must be entered into the system as in the examples below.

```
Enter Species information:
Class: Mammalia
Order: Carnivora
Family: Felidae
Genus: Panthera
Species: Panthera leo
```

```
Enter Species information:
Class: Mammalia
Order: Carnivora
Family: Canidae
Genus: Canis
Species: Canis lupus
```

```
Enter Species information:
Class: Magnoliopsida
Order: Rosales
Family: Rosaceae
Genus: Rosa
Species: Rosa canina
```

After the features of the species are added, the level by which they will be sorted is selected. If sorted by species, it is as follows.

```
Enter list criteria (class, order, family, genus, species): : species
```

```
Listed Species:
```

```
Class: Mammalia
```

```
Order: Carnivora
```

```
Family: Canidae
```

```
Genus: Canis
```

```
Species: Canis lupus
```

```
Class: Mammalia
```

```
Order: Primates
```

```
Family: Hominidae
```

```
Genus: Homo
```

```
Species: Homo sapiens
```

```
Class: Mammalia
```

```
Order: Carnivora
```

```
Family: Felidae
```

```
Genus: Panthera
```

```
Species: Panthera leo
```

```
Class: Magnoliopsida
```

```
Order: Rosales
```

```
Family: Rosaceae
```

```
Genus: Rosa
```

```
Species: Rosa canina
```

```
Class: Insecta
```

```
Order: Lepidoptera
```

```
Family: Nymphalidae
```

```
Genus: Vanessa
```

```
Species: Vanessa cardui
```

If sorted by family, it is as follows;

```
Enter list criteria (class, order, family, genus, species): : family
```

```
Listed Species:
```

```
Class: Mammalia
```

```
Order: Carnivora
```

```
Family: Canidae
```

```
Genus: Canis
```

```
Species: Canis lupus
```

```
Class: Mammalia
```

```
Order: Carnivora
```

```
Family: Felidae
```

```
Genus: Panthera
```

```
Species: Panthera leo
```

```
Class: Mammalia
```

```
Order: Primates
```

```
Family: Hominidae
```

```
Genus: Homo
```

```
Species: Homo sapiens
```

```
Class: Insecta
```

```
Order: Lepidoptera
```

```
Family: Nymphalidae
```

```
Genus: Vanessa
```

```
Species: Vanessa cardui
```

```
Class: Magnoliopsida
```

```
Order: Rosales
```

```
Family: Rosaceae
```

```
Genus: Rosa
```

```
Species: Rosa canina
```

Write a function that allows us to modify old information by taking the species name when we enter incorrect information and to see that the incorrect information in the list is replaced with the correct one. The process will be as follows.

```
Enter Species information:
```

```
Class: Mammalia
```

```
Order: Carnivora
```

```
Family: Felidae
```

```
Genus: Panthera
```

```
Species: Catus
```

```
Enter Species information to modify:
```

```
Old Species: Catus
```

```
Enter new information:
```

```
New Class: Mammalia
```

```
New Order: Carnivora
```

```
New Family: Felidae
```

```
New Genus: Felis
```

```
New Species: Catus
```

```
Species modified successfully.
```

```
List of Species:
```

```
Class: Mammalia
```

```
Order: Carnivora
```

```
Family: Felidae
```

```
Genus: Felis
```

```
Species: Catus
```

And add a method to delete all information of the selected species.

IMPORTANT NOTES:

- Submit your homework as a zip file named as your name_surname (name_surname.zip) and this file should include:
 - Name_surname.c file
 - A pdf file named " Name_surname.pdf" including a YouTube link and screenshots of your program outputs. In the video, you are expected to provide a demo of your assignment.

For each requested functionality, you must explicitly explain your solution approach and also execute and display the outputs. The video should not exceed 4 minutes. Please ensure that your camera is turned on during the recording.

- Do not use any library other than `stdio.h`, `string.h`
- The output format must be as given, do not change it.
- Compile your work with given command “`gcc --ansi your_program.c -o your_program`”.
- Your work will be evaluated using gcc version 11.4.0.
- For any questions and problems, you can always contact me **via email** (ferdaabbasoglu@gtu.edu.tr), or you can find me in Room 119 during scheduled office hours on May 21 and May 28, 2024, between 13:30 and 14:30.