1. Download python:

Go to:

<https://www.python.org/downloads/release/python-343/>

Choose Windows x86 MSI installer and follow the instructions to install .

2. Setting the path:

Go to My Computer Properties Advanced Environment Variables

Then under System Variables, create a New variable with Name PythonPath and the following Value

*C:\Python34*

and click OK.

Then locate the PATH Variable under System Variables and Edit it. Add *%PythonPath%;*

at the end of the Variable Value without any spaces.

Note: Type in the exact value as given above.Be careful with capital letters.

3.Installing required libraries:

Open the Command Prompt window by clicking the Start button, clicking All Programs, clicking Accessories, and then clicking Command Prompt.

Type *pip install datetime* and wait for installation.

Then, *pip install matplotlib* and wait for installation.

Then, *pip install csv* and wait for installation.

Then, *pip install openpyxl* and wait for installation.

4. Running programs:

1. CLAMS food Intake.py : This script generates the food consumed the and duration of bouts and meals during light and dark cycles.

*i)*Open the Command Prompt window by clicking the Start button, clicking All Programs, clicking Accessories, and then clicking Command Prompt.

*ii)*Type *python* followed by space. Then drag and drop CLAMS food Intake.py onto the Command Prompt window and follow it with a space. Then drag and drop each file containing data about the bouts onto the Command Prompt window individually. Remember to add a space after dropping each file.

*iii)* You should now be prompted to enter the name of output file. This is the excel file where you want the output to be produced. If necessary,create an excel workbook with extension .xlsx wherever you want.Then, drag and drop this workbook onto the command prompt and press Enter. If you ran CLAMS Respiratory.py before this and want the output to be written in the same file, then you can drag and drop that file and press Enter; this writes the output in a new tab.

*iv)*You should be prompted to enter the start time for light cycle. Enter the time in hr:min:sec (12 hour) format. Give a space and type *am*/*pm* to denote night/day respectively and press Enter. (e.g. 9:30:00 pm)

*v)* You should be prompted to enter the start time for dark cycle. Enter the time in hr:min:sec (12 hour) format. Give a space and type *am*/*pm* to denote night/day respectively and press Enter. (e.g. 9:30:00 pm)

This should produce an output in the Excel workbook.

1. CLAMS food intake Graphs.py: This script generates the graphs for food consumed during light and dark cycles.

*i)*Open the Command Prompt window by clicking the Start button, clicking All Programs, clicking Accessories, and then clicking Command Prompt.

*ii)*Type *python* followed by space. Then drag and drop CLAMS food intake Graphs.py onto the Command Prompt window and follow it with a space. Then drag and drop each file containing data about the bouts onto the Command Prompt window individually. Remember to add a space after dropping each file.

*iv)*You should be prompted to enter the start time for light cycle. Enter the time in hr:min:sec (12 hour) format. Give a space and type *am*/*pm* to denote night/day respectively and press Enter. (e.g. 9:30:00 pm)

*v)* You should be prompted to enter the start time for dark cycle. Enter the time in hr:min:sec (12 hour) format. Give a space and type *am*/*pm* to denote night/day respectively and press Enter. (e.g. 9:30:00 pm)

This should produce required graphs. You can click on the bars to get information about that bout. Click again to hide the information. There is also option for zooming and saving the graph located at the bottom left corner. If a bar is too thin , you can click on zoom rect button ( 5th button from left) and select the area to be zoomed by clicking and dragging to form a rectangle around the area. Now that the bar is thick, get rid of the zoom tool by clicking on zoom rect button.Now, click on the bar and click on Reset original view (first button from left) to see the information about that bout. The same procedure can be repeated to hide the information.

Once you are done with a graph, close it to view the next graph.

1. CLAMS Respiratory.py: This script generates the average of respiratory data calculated every given time interval.

*i)*Open the Command Prompt window by clicking the Start button, clicking All Programs, clicking Accessories, and then clicking Command Prompt.

*ii)*Type *python* followed by space. Then drag and drop CLAMS Respiratory.py onto the Command Prompt window and follow it with a space. Then drag and drop each file containing data about the respiratory information onto the Command Prompt window individually. Remember to add a space after dropping each file.

*iii)* You should now be prompted to enter the name of output file. This is the excel file where you want the output to be produced. If necessary,create an excel workbook with extension .xlsx wherever you want.Then, drag and drop this workbook onto the command prompt and press Enter. If you ran CLAMS food Intake.py before this and want the output to be written in the same file, then you can drag and drop that file and press Enter;this writes the output in a new tab.

*iv)*You should be prompted to enter the start time for light cycle. Enter the time in hr:min:sec (12 hour) format. Give a space and type *am*/*pm* to denote night/day respectively and press Enter.

*v)* You should be prompted to enter the start time for dark cycle. Enter the time in hr:min:sec (12 hour) format. Give a space and type *am*/*pm* to denote night/day respectively and press Enter.

*vi)* You should be prompted to enter the time interval for computing average. It should be in minutes.

This should produce an output in the Excel workbook.