Assignment-5

---Problem 1---
Task: (use numpy, matplotlib, scikit)
(a)We have to train a classifier to distinguish between different types of fruits using K - Nearest Neighbour and Logistic Regression (use link https://scikit-learn.org/stable/).
(b)Present in both of them which algorithm works better.
(c)Visualize the training data and classified data using matplotlib.
Dataset: Using a simple dataset (Problem1.txt). This dataset contains fruit_label, fruit_name, fruit_subtype, mass, width, height, color_score

---Problem 2---
Task: (use numpy, matplotlib, scikit)
(a)We have to predict whether the patient has diabetes or not based on various features given in the dataset .
(b)Visualize the training data and classified data using matplotlib.
Dataset: Using a simple dataset (Problem2.txt).This dataset contains Pregnancies, Glucose, BloodPressure, SkinThickness, Insulin, BMI, DiabetesPedigreeFunction, Age, Outcome

---Problem 3---
Task: Menu Calculator (Use Basic Python- no need to use GUI interface)
Case: Imagine you have started up a small restaurant and are trying to make it easier to take and calculate orders. Since your restaurant only sells 5 different items, you assign each one to a number, as shown below.

1. Chicken Strips - $3.50
2. French Fries - $2.50
3. Hamburger - $4.00
4. Hotdog - $3.50
5. Large Drink - $1.75
6. Medium Drink - $1.50
7. Milk Shake - $2.25
8. Salad - $3.75
9. Small Drink - $1.25

To quickly take orders, your program should allow the user to type in a string of numbers and then it should calculate the cost of the order.

For example, if one large drink, two small drinks, two hamburgers, one hotdog, and a salad are ordered, the user should type in 5993348, and the program should say that it costs $19.50.

Also, make sure that the program loops so the user can take multiple orders without having to restart the program each time.

- Subgoals:
    - If you decide to, print out the items and prices every time before the user types in an order.
    - Once the user has entered an order, print out how many of each item have been ordered, as well as the total price.
    - If an item was not ordered at all, then it should not show up.

---Problem 4---

Task: Create an small address book (Use Basic Python- no need to use GUI interface))

Case: Write an address book program in python which have the following option:

1. Add_contact
2. Display_contact
3. Delete_contact
4. Modify_contact
5. Seach_contact

And each option contain:

Add_contact:
    Take input Contact_name, Contact_email, Contact_phone.
    Stored in pickle file.
Display_contact:
    If the file is not empty then Display all contact .
    else print "No contact in address book".
Search_contact:
    Take the input name of the contact to be deleted.
    If contact exists then search the contact content,
        if contact found display it,
        else print error message.
Modify_contact:
    Take the input name of the contact to be modified.
    If contact exists then it modifies the contact content.
        After modification print the "Contact modified",
    if contact is not found in file then print message "No contact with this name found",
    If the contact book is empty then print message "Address book empty. No contact to delete"
Delete_contact:

Take input name of the contact to be deleted
If contact exist then it deletes all details of particular contact
Else print "No contact with this name"

Helpful tutorials

Scikit-tutorial: https://scikit-learn.org/stable/
Matplotlib-tutorial: https://matplotlib.org/tutorials/index.html
Basic Programming tutorial :
https://machinelearningmastery.com/machine-learning-in-python-step-by-step/
Pickle
:https://www.jessicayung.com/how-to-use-pickle-to-save-and-load-variables-in-python/