Assignment 1: Sentiment Analysis and Question Answering

CS772: Deep Learning for Natural Language Processing

1.a) The first task is to perform sentiment analysis on the provided dataset by designing a neural network with just an input and an output layer having **softmax** as the activation function (no hidden layers), the code has to be filled into the pre-written functions of the provided starter code. The desired output shall be a sentiment score (rating) indicated using an integer value in the range of 1 to 5.

Example:

Input: *"The battery died within one weak, pathetic device!"*
Output: 1

Platform to be used: Tensorflow/Pytorch

1.b) The Question and Answer problem in NLP can be categorized from the perspective of questions, and answers. Some of them are Factoid Questions, Non Factoid Questions , List type questions, confirmation questions etc. This is a small task involving List type questions.

List Type questions: questions that need a list of facts or entities as answers, are said to be list type of questions.

Below are the examples:

1. *What are six companies that made some of the first peripherals for the iPod ?*
2. *Name some refrigerators models.*
3. *Which washing machine models are fully automatic?*
4. *List some features of this AC model.*

You have to form at least 5 list type questions per team member, preferably from electronics domain related to some product like the ones mentioned above. Create **1b.txt** containing these examples.

Submission Instructions:

1. Don't add or change the names of any of the files provided in the folder as this assignment will be evaluated using an autograder.
2. Specific instructions for 1a part are mentioned in the starter code file **code.py** itself.

3. In order to test your code (written in code.py), just run the auto.py file, as it will automatically run the code.py file. This is how the code will be evaluated by the autograder.
4. Submission format and deadline
    a. Only one person from the group with the lowest rollno is supposed to make the submission.
    b. You should submit a folder named <rollno1>_<rollno2>_<rollno3>.assignment1.zip containing the **code.py**, and a **readme.txt** file containing details of tools, versions, and prerequisites if any. There is **no deadline** for this submission, the progress will be monitored throughout the semester.
    c. Please submit **1b.txt (rename it to 1b.<rollno1>_<rollno2>_<rollno3>)** by **3 February 2020**. (The moodle link will be provided separately for this).