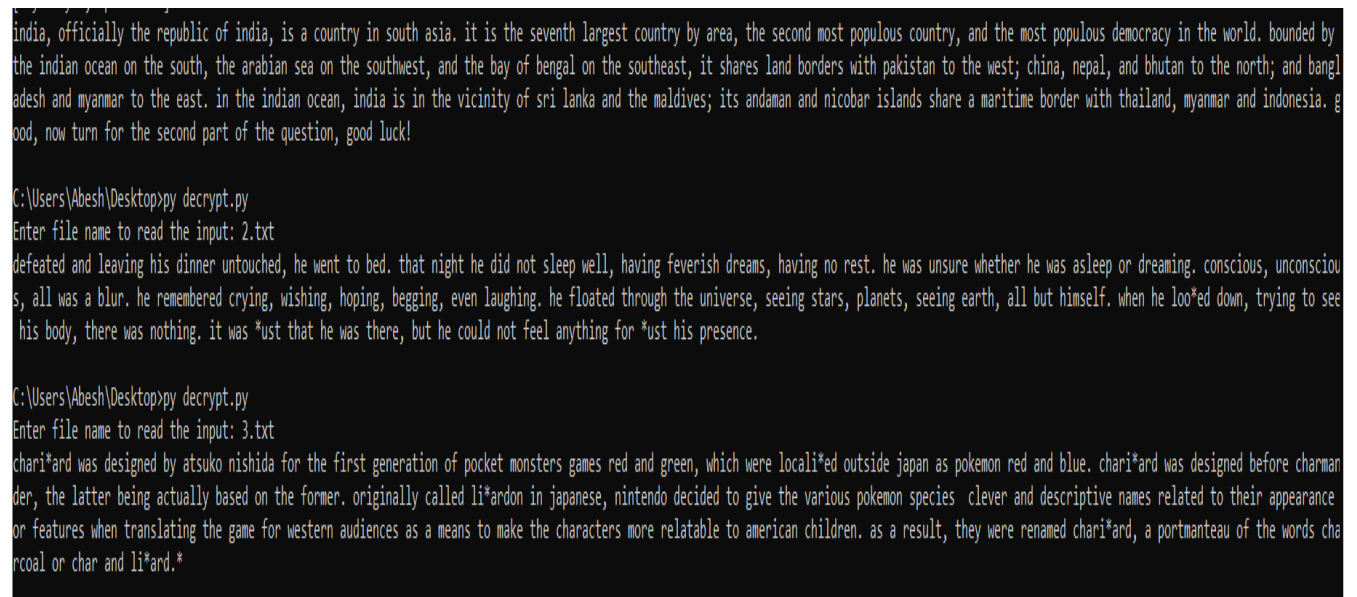


Assignment-1

My Algorithm:

- 1) The code first distinguishes single letter character as either 'a' or 'l'. If it is not capital then it is assigned a at the beginning to start with.
- 2) Then it looks for the highest repeating similar three letter word. This has a high chance of being "the". I take this as the guess and begin with the solution.
- 3) After few simple words like at,on,in etc are guessed, I move to the main code of program taking along these initial guesses.
- 4) I have a dictionary locally available which I read in the program. Now , from the cipher text I pick up the most longest word and convert it into its equivalent number. For example: officially would be turn into something of a coded number like 1223435667 where the same characters are repeated with the same digit and different with different digit.
- 5) Now with the help with this number, I search the entire dictionary for the same length word and whose equivalent number would be as obtained above. If a perfect match is found, it replaces the cipher text with the found plain text from the dictionary. Also all the other corresponding cipher characters to the found one are replaced. Now this further increases the chances of finding next words in the next iteration when other largest word is picked from the cipher text.
- 6) In case a match is not found or more than one matches are found, we keep on iterating to the words in the cipher text until proper plain text is found. And with the help of found ones, we keep iterating over and over again until the whole text is decrypted and every word is found in dictionary.

Sample Output Screenshot for 3 cipher text:



```
C:\Users\Abesh\Desktop>py decrypt.py
Enter file name to read the input: 2.txt
defeated and leaving his dinner untouched, he went to bed. that night he did not sleep well, having feverish dreams, having no rest. he was unsure whether he was asleep or dreaming. conscious, unconsciou
s, all was a blur. he remembered crying, wishing, hoping, begging, even laughing. he floated through the universe, seeing stars, planets, seeing earth, all but himself. when he loo*ed down, trying to see
his body, there was nothing. it was *ust that he was there, but he could not feel anything for *ust his presence.

C:\Users\Abesh\Desktop>py decrypt.py
Enter file name to read the input: 3.txt
chari*ard was designed by atsuko nishida for the first generation of pocket monsters games red and green, which were locali*ed outside japan as pokemon red and blue. chari*ard was designed before charman
der, the latter being actually based on the former. originally called li*ardon in japanese, nintendo decided to give the various pokemon species clever and descriptive names related to their appearance
or features when translating the game for western audiences as a means to make the characters more relatable to american children. as a result, they were renamed chari*ard, a portmanteau of the words cha
rcoal or char and li*ard.*
```

1) Cipher-Text1

Mapping of plain text characters to cipher for ciphertext-1

{'a': 'y', 'b': '5', 'c': 'n', 'd': '8', 'e': '@', 'f': 'p', 'g': '7', 'h': 'q', 'i': '1', 'j': '*', 'k': 'w', 'l': 'u', 'm': '0', 'n': '9', 'o': '\$', 'p': '3', 'q': '4', 'r': '2', 's': 'v', 't': 'o', 'u': 's', 'v': '6', 'w': '#', 'x': '*', 'y': 'x', 'z': '*'}

Plain Text

india, officially the republic of india, is a country in south asia. it is the seventh largest country by area, the second most populous country, and the most populous democracy in the world. bounded by the indian ocean on the south, the arabian sea on the southwest, and the bay of bengal on the southeast, it shares land borders with pakistan to the west; china, nepal, and bhutan to the north; and bangladesh and myanmar to the east. in the indian ocean, india is in the vicinity of sri lanka and the maldives; its andaman and nicobar islands share a maritime border with thailand, myanmar and indonesia. good, now turn for the second part of the question, good luck!

2) Cipher-Text 2

Mapping of plain text characters to cipher for ciphertext-2

{'a': '8', 'b': 'o', 'c': 't', 'd': '6', 'e': '4', 'f': 's', 'g': 'p', 'h': 'n', 'i': 'r', 'j': '*', 'k': '*', 'l': 'q', 'm': 'w', 'n': 'y', 'o': '\$', 'p': '1', 'q': '*', 'r': '3', 's': 'v', 't': 'u', 'u': '2', 'v': '0', 'w': '5', 'x': '*', 'y': '#', 'z': '*'}

Plain Text

defeated and leaving his dinner untouched, he went to bed. that night he did not sleep well, having feverish dreams, having no rest. he was unsure whether he was asleep or dreaming. conscious, unconscious, all was a blur. he remembered crying, wishing, hoping, begging, even laughing. he floated through the universe, seeing stars, planets, seeing earth, all but himself. when he loo*ed down, trying to see his body, there was nothing. it was *ust that he was there, but he could not feel anything for *ust his presence.