

## Encrypt.py

```
1  import json
2
3  with open('Codes.txt', 'r', encoding='utf-8') as file: #open list of dictionaries
4      temp = file.read()
5
6  codes = json.loads(temp)
7  multipli = 0
8  multiplist = []
9  num_indexes = []
10 num_equivs = []
11 char_group = []
12 char_indexes = []
13 checker = []
14
15 def encrypt(pword):
16     encrypted_pword = ""
17     i = 0 # Initialize an index to keep track of the current character position
18     while i < len(pword):
19         char = pword[i]
20         if char.isdigit() and int(char) != 0:
21             num_equiv = int(char)
22             num_indexes.append(i)
23             # Check if the next characters are also digits and form a group
24             tempnum_group = char
25             while i + 1 < len(pword) and pword[i + 1].isdigit():
26                 tempnum_group += pword[i + 1]
27                 i += 1
28             num_equiv = int(tempnum_group) % len(codes) # Apply modulo
29             num_equivs.append(num_equiv)
30             multipli = int(tempnum_group)/len(codes)
31             multiplist.append(int(multipli))
32             if int(tempnum_group) > 51:
33                 checker.append(1)
34             else:
35                 checker.append(0)
36
37         for equiv in codes:
38             if equiv["Num Equi"] == num_equiv:
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39         encrypted_pword += equiv["Alpha Equi"]
40         break
41     else:
42         encrypted_pword += char
43         char_group.append(char)
44         char_indexes.append(i)
45     i += 1
46
47     return encrypted_pword
48
49 def decrypt(encrypted_pword):
50     decrypted_pword = ""
51     while True:
52         if len(decrypted_pword) == len(userinput):
53             break
54         else:
55             for x in range(len(num_indexes)):
56                 if checker[x] == 1:
57                     temp1 = (multiplist[x]*len(codes))+num_equivs[x]
58                     decrypted_pword = decrypted_pword[:num_indexes[x]]+str(temp1)+decrypted_pword[num_indexes[x]:]
59                 else:
60                     for equiv in codes:
61                         if equiv["Num Equi"] == num_equivs[x]:
62                             decrypted_pword = decrypted_pword[:num_indexes[x]]+str(num_equivs[x])
63                             +decrypted_pword[num_indexes[x]:]
64                             break
65             for y in range(len(char_group)):
66                 decrypted_pword = decrypted_pword[:char_indexes[y]] + char_group[y] + decrypted_pword[char_indexes[y]:]
67
68     return decrypted_pword
69
70
71 userinput = input("Enter a password: ")
72 encrypted_result = encrypt(userinput)
73 print("Encrypted Password:", encrypted_result)
74
75 decrypted_result = decrypt(encrypted_result)
76 print("Decrypted Password:", decrypted_result)
77
```