CSSEXP1P1.py

```python
1   # Yash Ashok Shirsath RN-74/201101006
2   print('CSS EXP-1 = SUBSTITUTION - ADDITIVE CIPHER')
3
4   def encrypt(plaintext, key):
5       """Encrypts plaintext using a Caesar cipher with the given key."""
6       ciphertext = ""
7       for char in plaintext:
8           if char.isalpha():
9               base = ord('A') if char.isupper() else ord('a') # SHIFTING CHAR BY KEY
10              new_char_code = (ord(char) - base + key) % 26 + base
11              new_char = chr(new_char_code)
12              ciphertext += new_char
13          else:
14
15              ciphertext += char
16      return ciphertext
17
18  plaintext = "ENEMY ATTACK TODAY"      # Plain Text & Key
19  key = 15
20  ciphertext = encrypt(plaintext, key) # Encryption
21  print("CIPHERTEXT:-", ciphertext)      # Ciphertext Printing
22
23  print('                                                    ')
24  print('                                                    ')
25
26  print('CSS EXP-1 = SUBSTITUTION - MULTIPLICATIVE CIPHER')
27
28  def encrypt(plaintext, key):
29      """Encrypts plaintext using a multiplicative cipher with the given key."""
30      ciphertext = ""
31      for char in plaintext:
32          if char.isalpha():
33              base = ord('A') if char.isupper() else ord('a')
34              new_char_code = (ord(char) - base) * key % 26 + base
35              new_char = chr(new_char_code)
36              ciphertext += new_char
37          else:
38              ciphertext += char
39      return ciphertext
40
41  plaintext = "ENEMY ATTACK TODAY"      # Plain Text & Key
42  key = 15
43  ciphertext = encrypt(plaintext, key) # Encryption
44  print("CIPHERTEXT:-", ciphertext)      # Ciphertext Printing
45
```