File: passwordEncryption.py

```
import numpy as np
from pyDes import des

class Encryption:
     def caesarCipher(self,input):
          shift = 3
          cipher_text = ''
          for i in input:
               ascii = ord(i)
               if(i == " "):
                    continue
               elif(ascii < 97):
                    encrypt = ((ascii-65+shift)%26)+65
                    cipher_text += chr(encrypt)
               else:
                    encrypt = ((ascii-97+shift)%26)+97
                    cipher_text += chr(encrypt)
          print "\nCaesar Cipher Text: ", cipher_text, "\n"

     def hillCipher(self,input):
          key=[[3,10,20],[20,9,17],[9,4,17]] #key = D K U U J R J E R
          text=[]
          splitList=[]
          encryptedMessage=[]
          result=[]

          for character in input:
               if(character==" "):
                    continue
               text.append( ord(character) - 65 )

          while(len(text)%3!=0):
               text.append(25)

          for i in range(0,len(text),3):
               splitList.append(text[i:i+3])

          # Multiply the key with message
          for listOf3 in splitList:
               temp = (np.dot(key, listOf3)%26).tolist()
               encryptedMessage.append( temp )
          print "\n",encryptedMessage

          for i in range(0,len(encryptedMessage)):
               for j in range(0,3):
                    result.append( chr(encryptedMessage[i][j]+65) )
          print "Hill Cipher Encrypted Text: ", result, "\n"

     def desEncrypt(self,input):
          k = des("MyITPUNE", pad='Z')
          d = k.encrypt(input)
          print "\nDES Cipher Text: %r" %d
          print "DES Decrypted Cipher Text: %r" %k.decrypt(d), "\n"
```

```
encrypt = Encryption()
while(1):
     choice = raw_input("1.Caesar Cipher \n2.Hill Cipher \n3.DES
\n4.Exit \nEnter Option= ")
     if(choice == '1'):
          message=raw_input("Enter text: ")
          encrypt.caesarCipher(message)
     elif(choice =='2'):
          message=raw_input("Enter text (all CAPS) : ")
          encrypt.hillCipher(message)
     elif(choice == '3'):
          message=raw_input("Enter text: ")
          encrypt.desEncrypt(message)
     else:
          exit(0)
```

#OUTPUT:

```
student@student:~$ python passwordEncryption.py
1.Caesar Cipher
2.Hill Cipher
3.DES
4.Exit
Enter Option= 1
Enter text: Welcome to India

Caesar Cipher Text:  ZhofrphwrLqgld

1.Caesar Cipher
2.Hill Cipher
3.DES
4.Exit
Enter Option= 2
Enter text (all CAPS) : MIT PUNE

[[2, 11, 21], [11, 25, 20], [8, 2, 15]]
Hill Cipher Encrypted Text:  ['C', 'L', 'V', 'L', 'Z', 'U', 'I', 'C',
'P']

1.Caesar Cipher
2.Hill Cipher
3.DES
4.Exit
Enter Option= 3
Enter text: Hello Mike

DES Cipher Text: '\x01\xf6\xea}R\xee\x90BVPE\x1aVu\x84\xff'
DES Decrypted Cipher Text: 'Hello Mike'

1.Caesar Cipher
2.Hill Cipher
3.DES
4.Exit
Enter Option= 4
student@student:~$
```