```python
main.py

1   keyMatrix = [[0] * 3 for i in range(3)]
2   messageVector = [[0] for i in range(3)]
3   cipherMatrix = [[0] for i in range(3)]
4   def getKeyMatrix(key):
5       k = 0
6       for i in range(3):
7           for j in range(3):
8               keyMatrix[i][j] = ord(key[k]) % 65
9               k += 1
10  def encrypt(messageVector):
11      for i in range(3):
12          for j in range(1):
13              cipherMatrix[i][j] = 0
14              for x in range(3):
15                  cipherMatrix[i][j] += (keyMatrix[i][x] *
16                                        messageVector[x][j])
17              cipherMatrix[i][j] = cipherMatrix[i][j] % 26
18  def HillCipher(message, key):
19      getKeyMatrix(key)
20      for i in range(3):
21          messageVector[i][0] = ord(message[i]) % 65
22      encrypt(messageVector)
23      CipherText = []
24      for i in range(3):
25          CipherText.append(chr(cipherMatrix[i][0] + 65))
26      print("Ciphertext: ", "".join(CipherText))
27  def main():
28      message = "ACT"
29      key = "GYBNQKURP"
30      HillCipher(message, key)
31  if __name__ == "__main__":
32      main()
```

Shell

Ciphertext: POH
>