שאלה 5 – הסבר

1. אתחול של מכונת האנגימה עם הערכים ההתחלתיים שהוגדרו לתאריך 29 לאוקטובר.

```
# enigma machine creation
enigma = Enigma(4, 24, 14, # right rotor, setting, offset
                5, 9, 15,  # middle rotor, setting, offset
                2, 19, 3,  # left rotor, setting, offset
                [('Z','U'),('H','L'),('C','Q'),('W','M'),('O','A'),('P','Y'),('E','B'),('T','R'),('D','N'),('V','I')])
```

2. הצפנה של המילה MLD וקבלה של המילה DOR

```
To Go Back Enter-1
Enter Message: MLD
Encrypted Message: DOR
```

3. השמה של המילה DOR כ-offset (4 ,15 ,18)

```
# enigma machine creation
enigma = Enigma(4, 24, 18, # right rotor, setting, offset
                5, 9, 15,  # middle rotor, setting, offset
                2, 19, 4,  # left rotor, setting, offset
                [('Z','U'),('H','L'),('C','Q'),('W','M'),('O','A'),('P','Y'),('E','B'),('T','R'),('D','N'),('V','I')])
```

4. הזנה של הטקסט המוצפן וקבלה של התוצאה הרצויה

```
 Go Back Enter-1
ter Message: UMDPQ CUAQN LVVSP IARKC TTRJQ KCFPT OKRGO ZXALD RLPUH AUZSO SZFSU GWFNF DZCUG VEXUU LQYXO TCYRP SYGGZ HQMAG PZDKC KGOJM MYYDD H
crypted Message: GROUP SOUTH COMMA NDFRO MGENP AULUS XSIXT HARMY ISENC IRCLE DXOPE RATIO NBLAU FAILE DXCOM MENCE RELIE FOPER ATION IMMED IATEL Y
```

Profiling Summary

This picture was taken when I encrypted the word ENIGMA with the following configurations:

	Rotor number	Setting	Offset
Right rotor	3	1	1
Middle rotor	2	1	1
Left rotor	1	1	1

```
ncalls  tottime  percall  cumtime  percall filename:lineno(function)
     3   11.399    3.800   11.399    3.800 {raw_input}
   267    0.000    0.000    0.000    0.000 Translator.py:14(letterToIndex)
    36    0.000    0.000    0.000    0.000 Rotor.py:32(translation)
     6    0.000    0.000    0.000    0.000 Enigma.py:57(encryptLetter)
    72    0.000    0.000    0.000    0.000 Translator.py:23(circularShifts)
     5    0.000    0.000    0.000    0.000 Rotor.py:24(reverseTranslation)
    72    0.000    0.000    0.000    0.000 Translator.py:19(indexToLetter)
   606    0.000    0.000    0.000    0.000 {ord}
     1    0.000    0.000    0.000    0.000 Enigma.py:23(createRotors)
    12    0.000    0.000    0.000    0.000 Enigma.py:52(changeDir)
     5    0.000    0.000    0.000    0.000 Rotor.py:8(__init__)
    36    0.000    0.000    0.000    0.000 Rotor.py:54(changeDirection)
    72    0.000    0.000    0.000    0.000 {chr}
     1    0.000    0.000    0.000    0.000 Enigma.py:7(__init__)
    12    0.000    0.000    0.000    0.000 Plugboard.py:24(translation)
    12    0.000    0.000    0.000    0.000 Rotor.py:48(isTurnover)
     1    0.000    0.000    0.000    0.000 Plugboard.py:11(setConfiguration)
     1    0.000    0.000    0.000    0.000 Enigma.py:38(setRotorsSettings)
     6    0.000    0.000    0.000    0.000 Rotor.py:43(step)
     6    0.000    0.000    0.000    0.000 Reflector.py:8(translation)
     1    0.000    0.000    0.000    0.000 Plugboard.py:7(__init__)
     1    0.000    0.000    0.000    0.000 Enigma.py:48(createReflector)
     1    0.000    0.000    0.000    0.000 Enigma.py:43(setRotorsOffsets)
     1    0.000    0.000    0.000    0.000 Enigma.py:30(selectRotors)
     8    0.000    0.000    0.000    0.000 {method 'append' of 'list' objects}
     1    0.000    0.000    0.000    0.000 Reflector.py:5(__init__)
     1    0.000    0.000    0.000    0.000 {len}
     1    0.000    0.000    0.000    0.000 {method 'disable' of '_lsprof.Profiler' objects}
     3    0.000    0.000    0.000    0.000 Rotor.py:20(setOffset)
     3    0.000    0.000    0.000    0.000 Rotor.py:17(setSetting)
```