### Cracking Codes with Python

**An Introduction to Building and Breaking Ciphers**

by Al Sweigart

errata updated to print 7

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| xvi  | If you're running Ubuntu, install Python from the Ubuntu Software Center by following these steps:  
1. Open the Ubuntu Software Center.  
2. Type Python in the search box in the top-right corner of the window.  
3. Select IDLE (using Python 3.6), or whatever is the latest version.  
4. Click Install. | If you're running Ubuntu, Python is already installed, but you may have to install IDLE by following these steps:  
1. Open a Terminal window by pressing Ctrl-Shift-T.  
2. Run `sudo apt-get install idle3` (you will need the administrator password). | Print 7 |
| xvi  | It doesn't come with Python, so you'll need to install it by running the following in the interactive shell:  
```python
import Error: No module named pyperclip
``` | It doesn't come with Python, so you'll need to download it from https://www.nostarch.com/crackingcodes/. This file must be in the same folder (also called directory) as the Python program files you write. Otherwise you'll see the following error message when you try to run your programs:  
```python
>>> import subprocess, sys; subprocess.run([sys.executable, '-m', 'pip', 'install', 'pyperclip'])
``` | Print 7 |
| xvii | On Windows 7 or newer, click the Start icon in the lower-left corner of your screen, enter IDLE in the search box, and select IDLE (Python 3.10 64-bit).  
On macOS, open Finder, click Applications, click Python 3.6, and then click the IDLE icon.  
On Ubuntu, select Applications ➤ Accessories ➤ Terminal and then enter `idle3`. (You may also be able to click Applications at the top of the screen, select Programming, and then click IDLE 3.) | On Windows 7 or newer, click the Start icon in the lower-left corner of your screen, enter IDLE in the search box, and select IDLE (Python 3.10 64-bit).  
On macOS, open Spotlight by pressing COMMAND-spacebar and entering IDLE.  
On Ubuntu, press the Win key and search for idle. Click the IDLE (using Python 3.10) item. | Print 7 |
<p>| 175  | In this example, the 8-square rod is the longest rod that can fit evenly into 24 and 32. | In this example, the 8-square rod is the longest rod that can fit evenly into 24 and 16. | Print 5 |</p>
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| 209  | ```python
if keyIsValid(myKey):
if not keyIsValid(myKey):
``` | ```python
if not keyIsValid(myKey):
``` | Print 2 |
| 212  | ```python
if keyIsValid(myKey):
if not keyIsValid(myKey):
``` | ```python
if not keyIsValid(myKey):
``` | Print 2 |
| 250  | There are 95,428,956,661,682,176 possible twelve-letter keys, but there are only about 1,800 twelve-letter words in our dictionary file. | There are 95,428,956,661,682,176 possible twelve-letter keys, but there are only about 1,800 twelve-letter words in our dictionary file. | Print 7 |
| 283  | ```python
for word in lines:
``` | ```python
for word in words:
``` | Print 2 |
| 325  | 83. # See if any of the low prime numbers can divide num:
84. for prime in LOW_PRIMES:
85. if (num % prime == 0):
86. return False
87. return False | 83. # See if any of the low prime numbers can divide num:
84. for prime in LOW_PRIMES:
85. if (num == prime):
86. return True
87. if (num % prime == 0):
88. return False | Print 2 |
| 333  | Line 85 loops through each of the prime numbers in the LOW_PRIMES list: | Line 84 loops through each of the prime numbers in the LOW_PRIMES list: | Print 2 |
| 341  | 64. print('The private key is a %s and a %s digit number.' %
65. (len(str(publicKey[0])), len(str(publicKey[1])))) | 64. print('The private key is a %s and a %s digit number.' %
65. (len(str(privateKey[0])), len(str(privateKey[1])))) | Print 2 |