

Python Exercise Problems

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1. Write a python program to calculate the sum of all odd number between 1 and 100.
2. Create a loop that prints even numbers starting from 2 until it reaches your year of age, or if your age is an odd number, prints out odd numbers until it reaches your age. For example, it might print out something like this:

```
2
4
6
8
10
12
```

Note: Make it challenging, input your age in the keyboard (could be an even or odd number) and print corresponding above responses.

Hint: Your program should be able to check if your age is an odd or even integer. How do check it?

3. Write a program and have it print a row of stars besides each number, like this:

```
Countdown timer: How many seconds? 4
4 * * * *
3 * * *
2 * *
1 *
BLAST OFF!
```

There is one second delay between each print out. (Hint: use time module for 1 second delay, for example:

```
import time
time.sleep(1)
```

4. Create a list containing five different sandwich ingredients, such as the following

```
>>> ingredients = ['snails', 'leeches', 'gorilla belly-button lint', 'caterpillar eyebrows', 'centipede toes']
```

Now create a loop that prints out the list (including the number):

```
1 snails
2 leeches
3 gorilla belly-button lint
4 caterpillar eyebrows
5 centipede toes
```

5. Write a function to calculate the total value of some change — quarters, dimes, nickels, and pennies. The function should return the total value of the coins. Then write a program that calls the function. The output should look like this when it runs:

```
quarters: 3
dimes: 6
nickels: 7
pennies: 2
total is 1.72.
```

6. Solve one problem using Python from Project Euler, from: <https://projecteuler.net/archives>.
7. Pick one problem from this link (Very Simple Exercises), Python exercises for beginners, at http://www.ling.gu.se/~lager/python_exercises.html
8. Using Python to solve one problem from codingbat.com.
9. Connect a RGB LED to three different pins of Pi (pin 12, 16 and 21). When the program is running, the LED turns into RED, GREEN and BLUE in turns with each LEDs on and off for 0.5 seconds.
10. Connect a RGB LED to three different pins of Pi (pins 12, 16 and 21) and one push button to another pin (pin 25). When the program is running, RGB LED is RED. When the push button is pressed/released once, the LEDs turn into Green, when the switch is pressed/released again, LED turns into blue. It turns into RED again when the push button is pressed/released again, and the program runs forever.