

P10. Energy radiated by an earthquake can be estimated from:

$$\log_{10} E \approx 4.8 + 1.5M,$$

where E is an energy radiated by an earthquake (in J) and M is a magnitude (in magnitude scale). Write a function named `earthquake` taking a list of earthquake dates, locations, and their magnitudes, estimating the radiated energies, and return an argument list with estimated energies as an additional items.

Hint: recall that $\log_{10} x = y$, therefore $10^y = x$

Example

When invoke by

```
events = [['2019 02 22 Ecuador', 7.5],
          ['2018 08 19 Fiji', 8.2],
          ['2017 09 08 Mexico', 8.2]]
res = earthquake(events)
print(res)
```

it results

```
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[['2019 02 22 Ecuador', 7.5, 1.1220184543019652e+16],
 ['2018 08 19 Fiji', 8.2, 1.258925411794161e+17], ['2017 09
08 Mexico', 9.1, 2.818382931264449e+18]]
=====
```