

## Coding Test - InvoiceStats

Invoices are agreements to transfer money between companies. We need a python class to aggregate and gather basic stats on the invoices we process. Your task is to write this class.

Write a python class, "InvoiceStats", along with suitable tests, which supports the following methods:

- add\_invoices - add a list of invoices, in dollars and cents
- add\_invoice - add a single invoice, in dollars and cents.
- clear - remove all stored invoice data.
- get\_median - find the median value (<https://en.wikipedia.org/wiki/Median>) of the added invoices, to the nearest cent. Half a cent should round down
- get\_mean - find the mean value of the invoices, to the nearest cent. Half a cent should round down.

### Constraints:

- Valid invoice values  $v$  are  $0 < v < \$200,000,000.00$  and must be a whole number of dollars and cents.
- Adding non valid invoice value(s) should raise an exception.
- You may decide what data type(s) to use to best represent the invoice amounts.
- Maximum number of invoices is 20,000,000
- Assume the machine the code is running on will not crash, so no need to persist data.
- You may use (non standard) third party libraries. If so, please include details of them, including why you used them.
- Your code will be judged on scalability, clarity, readability, accuracy, test coverage, performance and robustness.