

[CS 11 25.1] Lab 1d – Study Buddies

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✔ **Points:** 180 (partial)
⌚ **Time limit:** 8.0s
📄 **Memory limit:** 1G

➤ **Problem type**
▼ **Allowed languages**
NONE, py3

Problem Statement

As part of her supplementary lessons, Hanako has to take $n + 1$ quizzes, where each quiz is scored an integer between 0 and 100 inclusive.

Hanako was bored, so she decided to intentionally get a score of s_1, s_2, \dots, s_n in the first n quizzes.

Azusa is concerned that Hanako might get a failing average. What is the minimum score that Hanako needs to get in the $(n + 1)^{\text{th}}$ quiz to get an average of at least 60?

If it is impossible for Hanako to accomplish this, say so (see **Task Details**).

Task Details

Your task is to implement a function named `min_to_pass`, which should have the following *signature*:

```
def min_to_pass(s):
```

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The above says that it has one argument `s`. Here, `s` is a tuple of n integers denoting the scores Hanako gets in the first n quizzes.

The function must return an integer (`int`) denoting the minimum score in the $(n + 1)^{\text{th}}$ quiz Hanako needs to pass. If it is impossible for Hanako to pass, return `None` instead.

Restrictions

- The following symbols *cannot* be used: `min`, `max`, `sum`.
- assignment is allowed.
- recursion is allowed.
- comprehensions are *disallowed*.
- at most 8 functions can be defined.
- Your source code must have at most 800 bytes.

Examples

Example 1 Function Call

```
min_to_pass((60, 60, 60))
```

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Example 1 Return Value

```
60
```

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Constraints

- The function `min_to_pass` will be called at most 150 times.
- $0 \leq n \leq 80$
- $0 \leq s_i \leq 100$

Scoring

Note: New tests may be added and all submissions may be rejudged at a later time. (All future tests will satisfy the constraints.)

- You get 20 🧡 points if you solve all test cases where:
 - $n \geq 1$
 - Hanako gets the same score in the first n quizzes.
- You get 70 🧡 points if you solve all test cases where:
 - It is possible for Hanako to pass.
- You get 30 🧡 points if you solve all test cases where:
 - $n \geq 1$
- You get 60 🟠 points if you solve all test cases.

🔍 Clarifications

No clarifications have been made at this time.

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