Call for:
Shonan Challenge for Staged HPC

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Send your challenge to: asai@is.ocha.ac.jp

Goal

Enumerate all the HPC problems:

- ▶ that are easy to write the high-level spec,
- ▶ whose efficient implementation is known, but
- ▶ the implementation is tedious to write.

so that

- ▶ we come up with a way to derive the efficient implementation via staging for each problem.

Benefits:

- ▶ HPC people would obtain the efficient implementation without writing tedious code.
- ▶ Staging people would obtain good applications to enhance the staging technology.

The Challenge should include

Name of the challenge

High-level specification (human-writable program)

```
for (i=0; j<N; j++)
 for (j=0; j<N; j++) {
  v'[i] = A[i][j] * v[j]; }
```

$$v' = \sum A \cdot v$$

The efficient (hard-to-write) code you want to obtain

```
v'[0] = v[3] + v[5];
v'[1] = v[2];
```

. . .

where all the elements of A are inlined.

Maintainer of the problem

Send your challenge to:

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by 10 pm tonight.