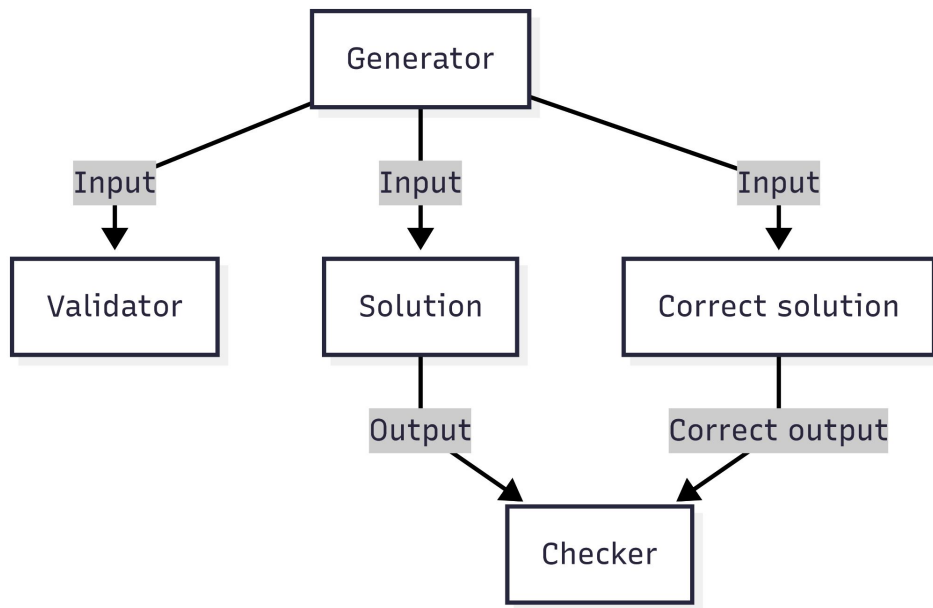# Pisek
# A caching task preparation system

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# Task preparation system

- Managing inputs
  - Generated by generator
  - Static
- Validating inputs
- Testing solutions
- Checking outputs
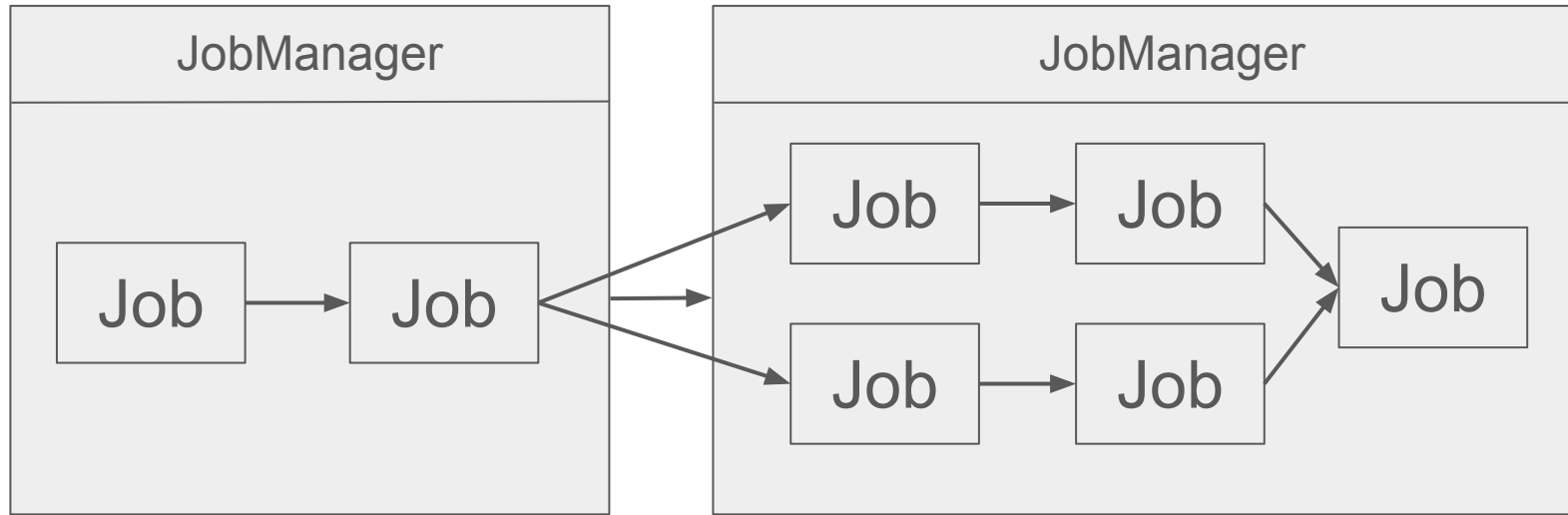  - Diff
  - Custom judge
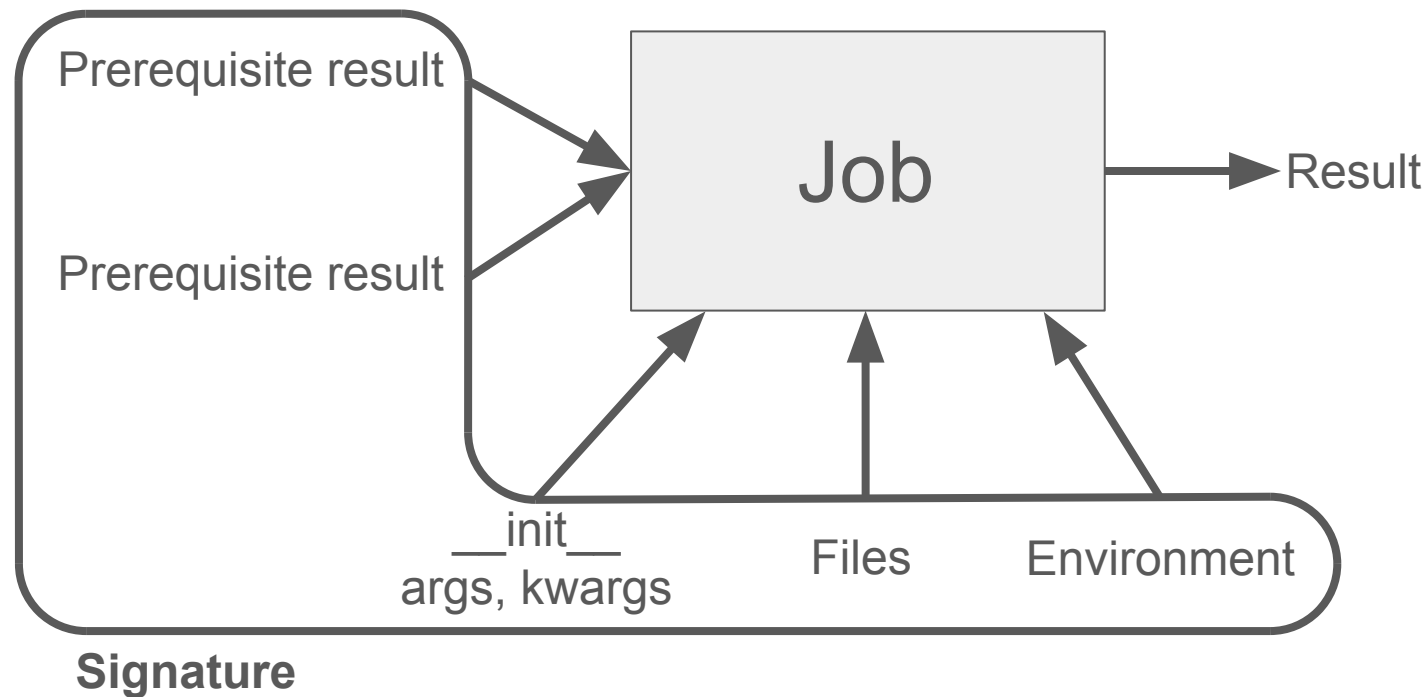
```
                          ┌───────────────┐
                          │   Generator   │
                          └───────────────┘
              Input          Input          Input
                │              │              │
                ▼              ▼              ▼
        ┌───────────┐  ┌───────────┐  ┌──────────────────┐
        │ Validator │  │ Solution  │  │ Correct solution │
        └───────────┘  └───────────┘  └──────────────────┘
                            │              │
                          Output      Correct output
                            │              │
                            ▼              ▼
                         ┌───────────┐
                         │  Checker  │
                         └───────────┘
```

# Goals

- Making common things simple
- and complex things possible
- Supporting many languages
- Caching

# Caching

- Systematic
- Fine-grained

# Caching

# Hierarchical configs

- **Problem:** Task from same competition share a lot of configuration options
- **Solution:** Specify another config to provide default values

# Automated checks

- Judge fuzzing
- Different outputs for tests
- Coverage of tests by solutions
- Unused inputs
- Last test uses all inputs
- Size of inputs and outputs
- Generator depends on seed

# Tech demo

# Future goals

- Better sandboxing
- Improve CMS integration
- Support for task statements
- Kattis problem package import/export

https://github.com/piskoviste/pisek