

Poller

Background

One of the most important questions in Moovit's world is: "when is the bus going to arrive"

In many of the places that Moovit serves, this question is answered by a transit authority (e.g. MOT) collecting samples from GPS's installed on buses, and exposing ETAs via a web service.

This Exercise

In order to simplify and make this exercise more time efficient, it is not expected to run, and what we're looking for is solely "dry code", meaning code that should compile at best. The aim is to see how you code in terms of infrastructure, object-oriented and modularity, not to see how you debug and troubleshoot.

Next Bus Provider

Bus ETA's are modeled in the below interface:

```
interface INextBusProvider {  
    List<StopEta> getLineEta(String lineNumber);  
}  
  
Class StopEta {  
    int stopId;  
    Date eta;  
}
```

This interface is for you to use in code.

You are not expected to add any mock implementations or anything similar.

The provider will return exactly one result per stop in the requested line's route with the nearest arrival to each stop.

Sample output:

```
provider.getLineEta("5")
```

ID	546	678678	4234	23	3453
ETA	10:00	9:58	10:05	10:01	10:06

```
provider.getLineEta("6")
```

ID	546	231	4234	2332	11
ETA	9:58	10:03	10:08	9:59	10:03

Poller Exercise Definition

The Poller is a real component in our production environment.

It is expected to continuously poll a next bus provider according to definitions passed to it in its initialization method, store data collected internally, and expose it in a query API method.

As long as the configuration is reasonable, it is expected that by using the maximum amount of threads specified, it will poll each of the line numbers specified at the specified poll interval.

```
class PollerConfig {  
    INextBusProvider provider;  
    List<String> lineNumbers;  
    int pollIntervalSeconds  
    int maxConcurrency  
}
```

```
Class LineEta {
```

```

        String lineNumber;

        Date eta;
    }

    interface IPoller {

        void init(PollerConfig);

        List<LineEta> getStopArrivals(int stopId);
    }

```

According to the sample illustrated under Next Bus Provider section above, it is expected that if a call is made to:

```
poller.getStopArrivals(4234);
```

The following will be returned:

```
List< {"5", 10:05}, {"6", 10:08} >
```

Good luck!