Generator Plan

Calculates repayment plans throughout the life time of a loan. To achieve such functionality a REST service was created.

Architecture:

- Java 8
- Springboot framework 2.3.1
- SL4J
- Lombok

How to start the service:

- Open a Windows CMD or Linux shell.
- In the **bin** folder execute the following command:
    - `java -jar plan-generator-0.0.1-SNAPSHOT.jar`

- Verifiy if the application is started.
    - `I.E 2020-07-08 14:16:17.002  INFO --- [        main] c.l.p.PlanGeneratorApplication      : Started PlanGeneratorApplication in 5.481 seconds (JVM running for 6.41)`

Important: Verify if the JRE 8 or greater is installed on your environment.

In case of a non-existent **plan-generator-0.0.1-SNAPSHOT.jar** in the **bin** folder. Please, build it with maven as follow:

`{root directory}:> mvn clean install`

A **target** folder with the jar file will be created.

Important: Verify if your environment has maven configured. For more details see https://maven.apache.org/install.html.

How to use

Once the service is started a POST to the server can be done:
Entry point: http://localhost:8080/generate-plan/{POST}
Method Type: Application JSon.
Content Type: Application JSon.

Request:

```
{
"loanAmount": "50000",
"nominalRate": "5.0",
"duration": 3,
"startDate": "2018-01-01T00:00:01Z"
}
```

Response:

```
{
  "borrowerPayments": [
    {
      "borrowerPaymentAmount": "1680.51",
      "date": "2018-01-01T00:00:01Z",
      "initialOutstandingPrincipal": "5000",
      "interest": "20.83",
      "principal": "1659.68",
      "remainingOutstandingPrincipal": "3340.32"
    },
    {
      "borrowerPaymentAmount": "1680.51",
      "date": "2018-02-01T00:00:01Z",
      "initialOutstandingPrincipal": "3340.32",
      "interest": "13.92",
      "principal": "1666.59",
      "remainingOutstandingPrincipal": "1673.73"
    },
    {
      "borrowerPaymentAmount": "1680.51",
      "date": "2018-03-01T00:00:01Z",
      "initialOutstandingPrincipal": "1673.73",
      "interest": "6.97",
      "principal": "1673.54",
      "remainingOutstandingPrincipal": "0.19"
    }
  ]
}
```