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CEN 3024C

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## Module 5 Assignment Documentation

### 1. Requirement Documentation

The software must implement the Fibonacci Function in both a recursive and iterative fashion. The goal is to display the runtime efficiency of each. A chart must be included.

### 2. Software Design Documentation

The software will be written in Java. No input is required, the program will simply display the runtime efficiency of the Fibonacci Function in a recursive and iterative fashion.

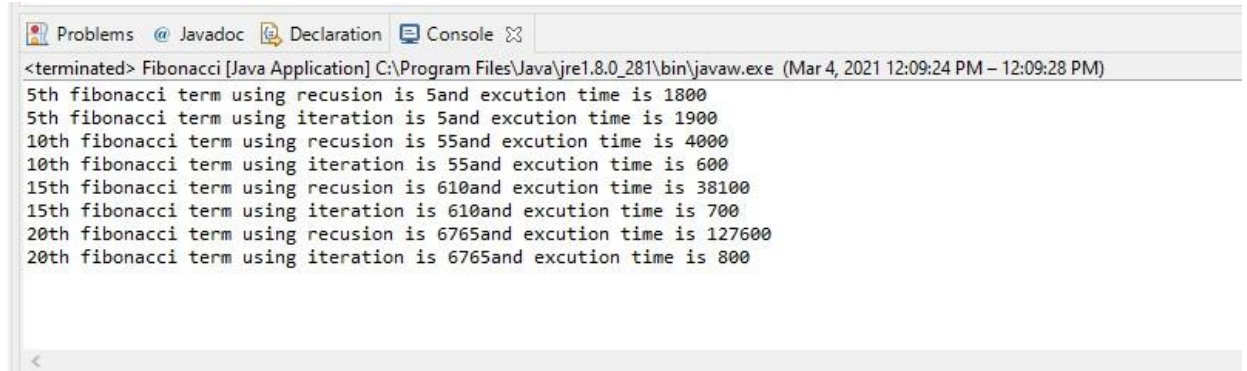
### 3. Technical Documentation

The code was written by Michael Gonzalez. The objective is to display the runtime efficiency.

### 4. User documentation

All the user must do is run the program. Once run, the console will display the nth Fibonacci term, whether recursion or iteration is used, and finally the execution time in nanoseconds. Then the user can exit the application.

## Application Output:



The screenshot shows a Java IDE window with the 'Console' tab selected. The console output displays the results of a Fibonacci application, comparing recursion and iteration for terms 5, 10, 15, and 20. The output is as follows:

```
<terminated> Fibonacci [Java Application] C:\Program Files\Java\jre1.8.0_281\bin\javaw.exe (Mar 4, 2021 12:09:24 PM - 12:09:28 PM)
5th fibonacci term using recursion is 5and excution time is 1800
5th fibonacci term using iteration is 5and excution time is 1900
10th fibonacci term using recursion is 55and excution time is 4000
10th fibonacci term using iteration is 55and excution time is 600
15th fibonacci term using recursion is 610and excution time is 38100
15th fibonacci term using iteration is 610and excution time is 700
20th fibonacci term using recursion is 6765and excution time is 127600
20th fibonacci term using iteration is 6765and excution time is 800
```