# Daily Active Users

You have designed a new service as part of a product that you are working on. The service has been launched to public access and is gaining traction as user hits keep on rising. Your product manager would like to gain some insights on the usage of the service and therefore asks you to count the number of Daily Active Users ([DAU](https://en.wikipedia.org/wiki/Daily_active_users)).

You are requested to design and write a program that counts the DAU from a file stream. At the end of your work, please specify the time and space complexity of your solution and how/if it can be improved.

**Example:**

Input file stream:

|  |  |
| --- | --- |
| User ID | Login Time |
| 123 | 01/01/2020 08:45 |
| 456 | 01/01/2020 09:00 |
| 123 | 01/01/2020 10:56 |
| 789 | 01/01/2020 11:57 |
| 123 | 01/01/2020 15:45 |
| 456 | 02/01/2020 16:32 |

With this example input file, the DAU for 01/01/2020 is 3 as we have 123, 456 and 789 different users that logged in on 01/01/2020.

**Some guidelines:**

1. You project should be a Maven, Java project.
2. Keep your interfaces and business logic separated.
3. In the future your code may be extended, therefore make sure that you componentize it correctly.
4. The code should be written according to all known coding standards (tests, encapsulation, efficiency etc.).
5. An example input file is attached.