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Course : BBM104
Experiment : Programming Assignment 4
Subject : Bejeweled
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2. Software Using Documentation

2.1. Software Usage

By this software, user is able to play an extended version of the cult game called “Bejeweled.”

2.2. Provided Possibilities

In addition to standard jewels, there are extra symbols in this version.

2.3 Error Messages

This program can handle some sort of errors:

Error1 : Error occurred while reading file!

 If program is faced with a undefined command in .txt files, this error occurs.

 Check input files and try again.

Error2 : Invalid input/coordinate!

 If user tries to enter something other than a coordinate (int, int) or letter E. this error occurs.

 Check the arguments and try again.

3. Software Design Notes

3.1. Description of the program

3.1.1. Problem

Matching jewels in certain orders and scoring.

3.1.2. Solution

Creating an abstract class of Jewels and deriving sub-Jewels from it and using them in designed algorithm.

Updating the actual score then comparing it to others.

3.2. System Chart

INPUT

Computer*
input.txt*
gameGrid.txt
leaderboard.txt*

PROGRAMS

Main.java

OUTPUT

Outputs are printed on console.
leaderboard.txt

* : *optional*.

3.3. Main Data Structures

Abstract Class Jewel which is extended by topping classes of pizza.

Classes of all the jewels as a subclass of “Jewel”.

3.4. Algorithm

1. Make initialization.
 - 1.1. Open input file(s).
 - 1.2 Start reading input file.
 - 1.3 Process game and grid.
2. For every line in input file, complete the tasks given(matchings).
3. Update game grid and scores.
4. Print results
5. Close files

3.5. Special Design Properties

In this design, facility property of java language is used for a main purposes.

By the abstract class structure, classes which have similar/same facilities are brought together under a parent class to make the code clean and understandable.

Class diagram which shows these classes is attached to report.

4. Software Testing Notes

4.1 Bugs and Software Reliability

Coordinate checking job is completed in a really detailed manner which will catch many possible errors. Also invalid input attempts are surrounded by try/catch blocks.

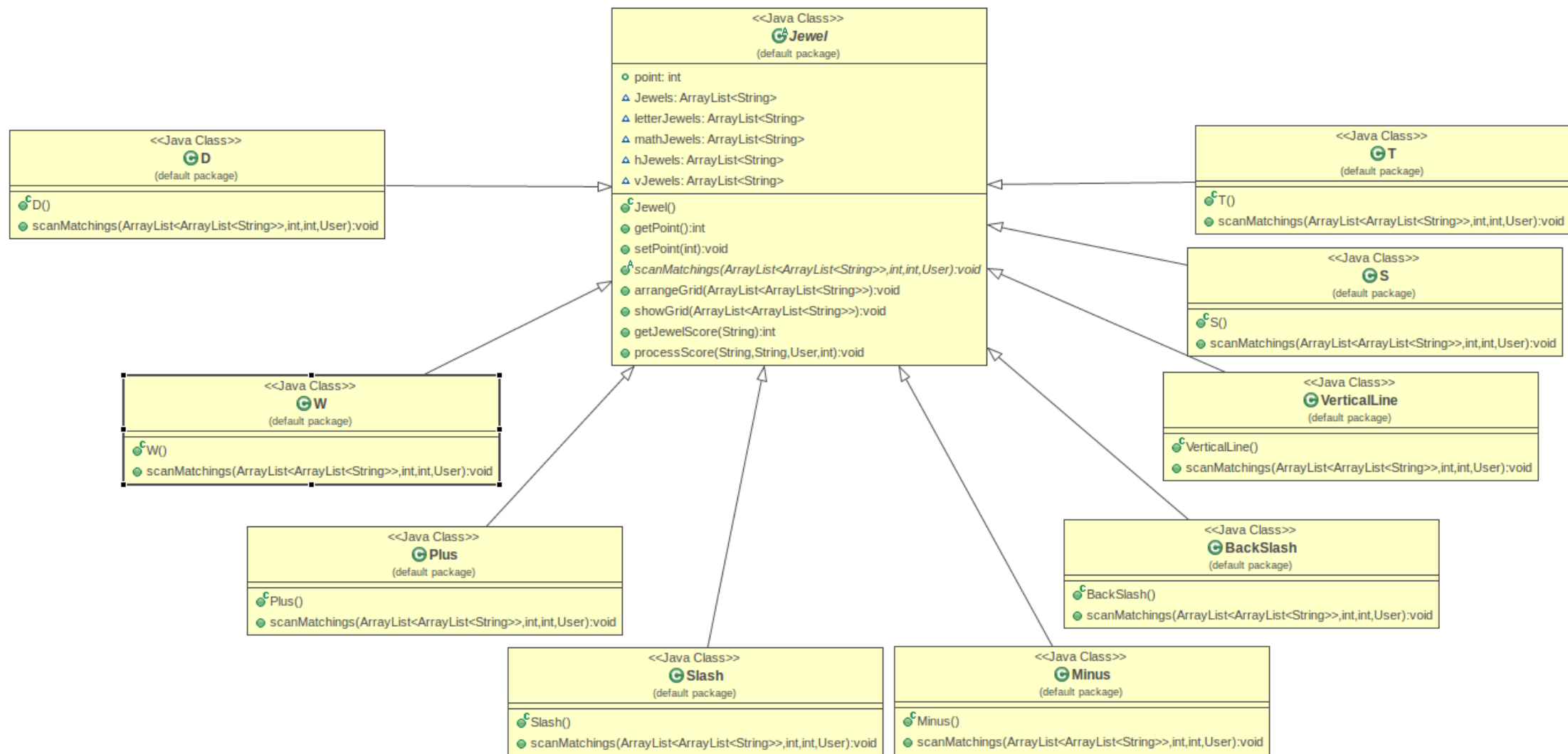
4.2 Software Extendibility and Upgradability

By modular construction (abstract class, class etc.) of java language and the means of this code is easily upgradable.

Also a random jewel generator can be added this code to fulfill the emptied places on grid.

REFERENCES

Pressman, 1987 (Supplied by ftp of Hacettepe University Dep. of Computer Science and Engineering)



ATTACHMENT(cont.)