

Assignment 1

Assignment1 Project

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CSC615

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Assignment 2

Overview:

IDE: vim, eclipse
Date: May 4th 2009
Compiler: SUN JDK 6.0 Linux 64bit (1.6)
Ant Makefile: build.xml

Version Control Information:

```
tanxin@laptop ~/.workspace-java/csc615 $ git log --stat
commit 5246470270c0a62d2fb16807fd37fdd2e21b2dd9
Author: Xin <tanxincn@gmail.com>
Date: Mon May 4 15:54:27 2009 -0700

    Refactor and comment

src/edu/nu/csc615/assignment1/Grade.java      | 69 ++++++-----
src/edu/nu/csc615/assignment1/GradeAccessor.java | 53 ++++++
src/edu/nu/csc615/assignment1/GradeAgent.java | 75 ++++++
src/edu/nu/csc615/assignment1/GradeReader.java | 49 -----
src/edu/nu/csc615/assignment1/MainRunner.java | 31 +++++
.../exception/InvalidInputException.java      | 2 +-
6 files changed, 171 insertions(+), 108 deletions(-)

commit 15e6e158930ae17368ef6ddb4dda2be384632b5a
Author: Xin <tanxincn@gmail.com>
Date: Mon May 4 14:25:08 2009 -0700

    Initial commit

build.xml                                     | 37 ++++++
src/edu/nu/csc615/assignment1/Grade.java      | 77 ++++++
src/edu/nu/csc615/assignment1/GradeReader.java | 49 ++++++
src/edu/nu/csc615/assignment1/MainRunner.java | 53 ++++++
.../assignment1/exception/ExitException.java | 27 +++++
.../exception/InvalidInputException.java      | 27 +++++
6 files changed, 270 insertions(+), 0 deletions(-)
```

Compile:

```
tanxin@laptop ~/.workspace-java/csc615 $ ant compile
Buildfile: build.xml

init:
[mkdir] Created dir: /home/tanxin/documents/school/nu/CSC615/project/build

compile:
[javac] Compiling 6 source files to /home/tanxin/documents/school/nu/CSC615/project/build

BUILD SUCCESSFUL
Total time: 1 second
```

Assignment 3

Run:

```
tanxin@laptop ~/.workspace-java/csc615 $ ant run
Buildfile: build.xml
```

```
init:
```

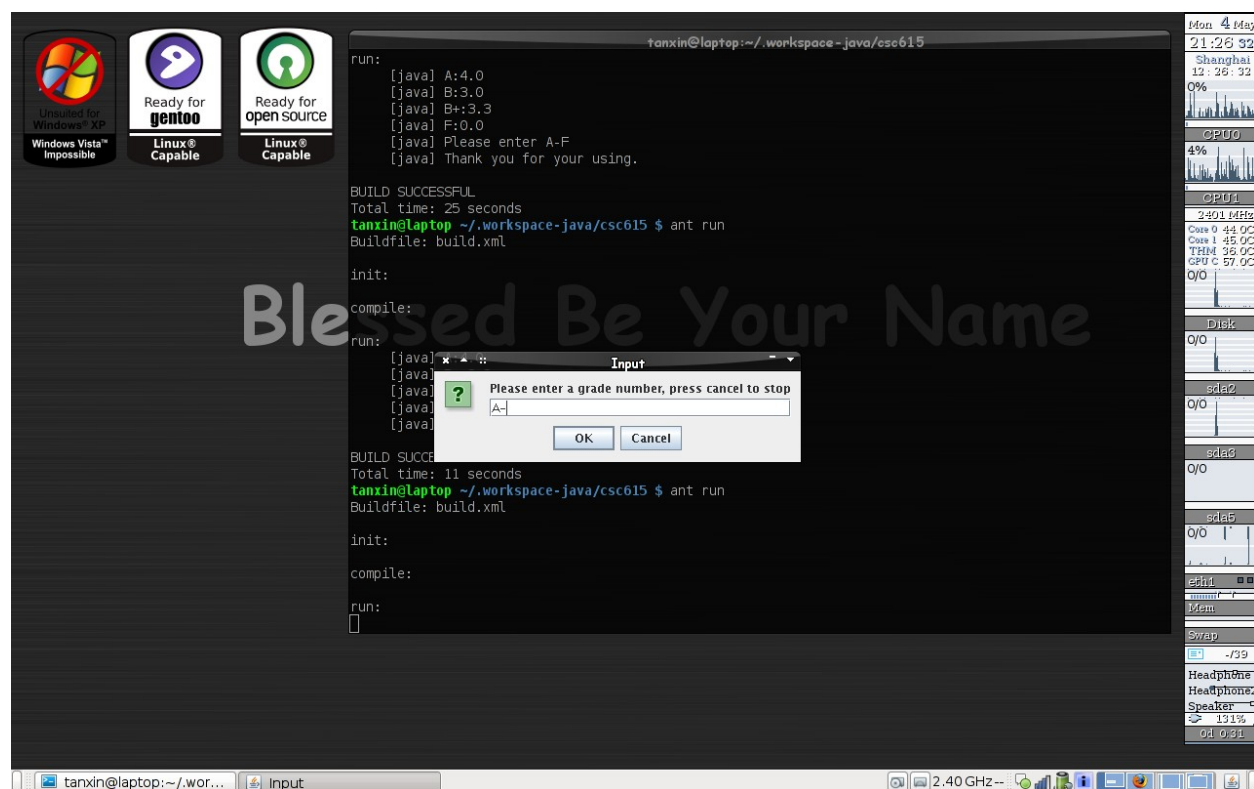
```
compile:
```

run:

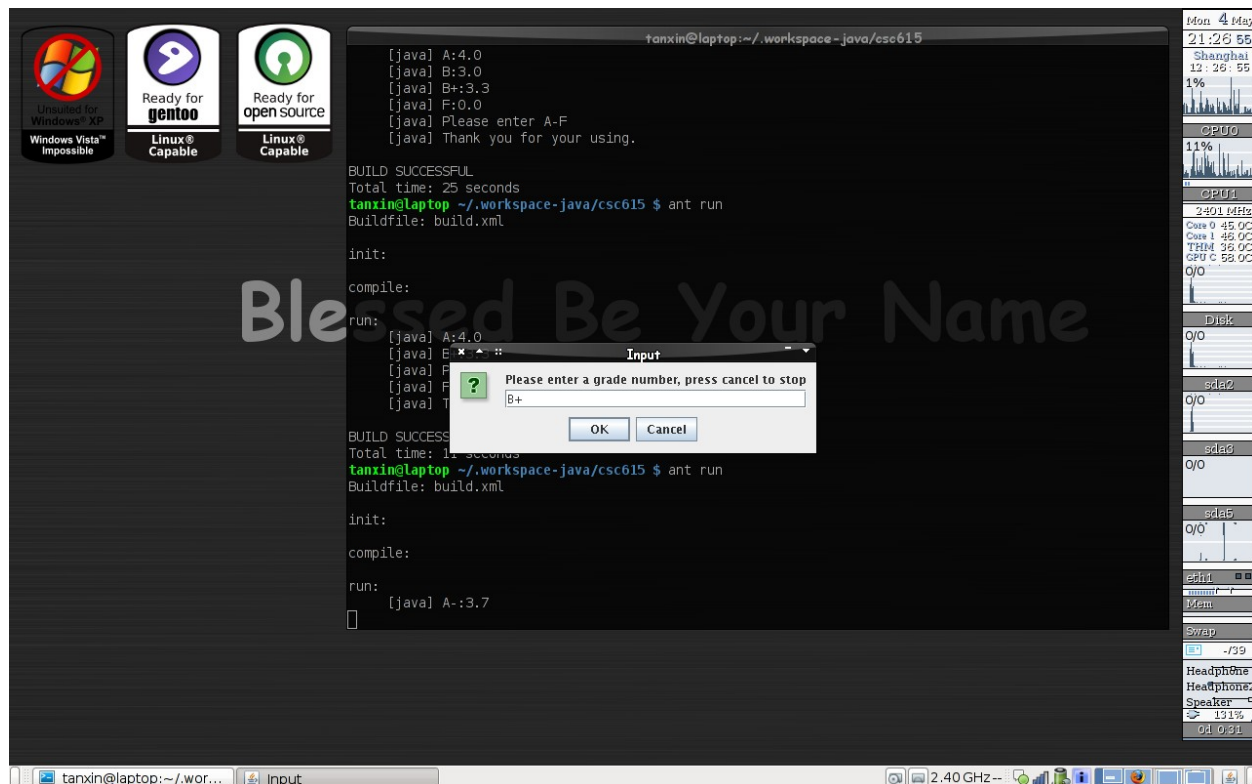
```
[java] A:4.0
[java] B+:3.3
[java] Please enter A-F
[java] F:0.0
[java] Thank you for your using.
```

```
BUILD SUCCESSFUL
Total time: 11 seconds
```

Screenshots:



Assignment 4



tanxin@laptop:~/workspace-java/csc615

```
[java] A:4.0
[java] B:3.0
[java] B+:3.3
[java] F:0.0
[java] Please enter A-F
[java] Thank you for your using.
```

BUILD SUCCESSFUL
Total time: 25 seconds
tanxin@laptop ~/workspace-java/csc615 \$ ant run
Buildfile: build.xml

init:

compile:

run:

[java] A:4.0
[java] B:3.0
[java] B+:3.3
[java] F:0.0
[java] Please enter A-F
[java] Thank you for your using.

BUILD SUCCESSFUL
Total time: 11 seconds
tanxin@laptop ~/workspace-java/csc615 \$ ant run
Buildfile: build.xml

init:

compile:

run:

[java] A:3.7

Input

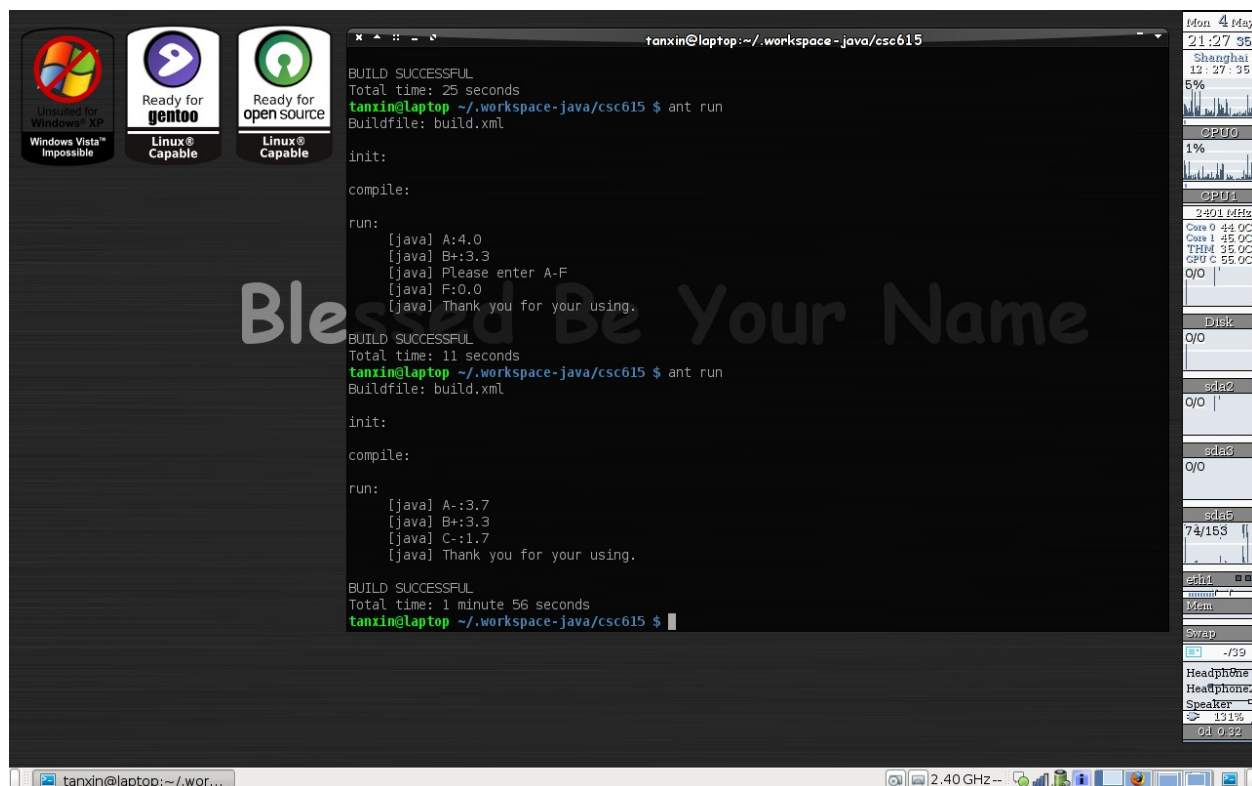
Please enter a grade number, press cancel to stop

B+

OK Cancel

tanxin@laptop:~/workspace-java/csc615

2.40 GHz



tanxin@laptop:~/workspace-java/csc615

```
BUILD SUCCESSFUL
Total time: 25 seconds
tanxin@laptop ~/workspace-java/csc615 $ ant run
Buildfile: build.xml

init:

compile:

run:
[java] A:4.0
[java] B+:3.3
[java] Please enter A-F
[java] F:0.0
[java] Thank you for your using.
```

BUILD SUCCESSFUL
Total time: 11 seconds
tanxin@laptop ~/workspace-java/csc615 \$ ant run
Buildfile: build.xml

init:

compile:

run:

[java] A:3.7
[java] B+:3.3
[java] C:1.7
[java] Thank you for your using.

BUILD SUCCESSFUL
Total time: 1 minute 56 seconds
tanxin@laptop ~/workspace-java/csc615 \$

tanxin@laptop:~/workspace-java/csc615

2.40 GHz

Assignment 5

Memo:

If the computer has not ant build toolkit, it can be also compiled and run as this way.

```
tanxin@laptop ~/.workspace-java/csc615 $ rm -rf build
tanxin@laptop ~/.workspace-java/csc615 $ mkdir build
tanxin@laptop ~/.workspace-java/csc615 $ javac -cp src -d build src/edu/nu/csc615/assignment1/*.java
tanxin@laptop ~/.workspace-java/csc615 $ java -cp build edu.nu.csc615.assignment1.MainRunner
```

Code List:

edu.nu.csc615.assignment1.MainRunner.java

```
package edu.nu.csc615.assignment1;

import edu.nu.csc615.assignment1.exception.ExitException;
import edu.nu.csc615.assignment1.exception.InvalidInputException;

/**
 * Assignment 1 CSC615
 * @author Xin Tan
 * IDE: vim & eclipse
 * Date: May 4th 2009
 * Compiler:JDK 6.0 64bit(1.6)
 * Makefile:build.xml
 */
public class MainRunner {

    /* exit code to the shell */
    public final static int EXIT_NORMAL = 0;
    public final static int EXIT_FATAL = 9;

    /**
     * Entrance point
     * @param args unless so far
     */
    public static void main(String[] args) {

        /* allocate the instance */
        GradeAccessor gradeAccessor = new GradeAccessor();

        while(true){
            try{
                /* read by opening the dialog according to the requirement */
                gradeAccessor.readFromDialog();
                /* output to stdout according to the requirement */
                gradeAccessor.writeToTerminal();
            }catch(InvalidInputException e /* invalid grade, print error message and keep going*/){
                System.err.println("Please enter A-F");
            }catch(ExitException e /* exit exception by clicking cancel button and exit with normal sig-
nal*/){
                System.out.println("Thank you for your using.");
                System.exit(EXIT_NORMAL);
            }catch(Exception e /* impossible exception catch, could not happen generally. if that happen,
need debug stack */){
                System.err.println("impossible exception occurred, debug information:");
                e.printStackTrace();
                System.exit(EXIT_FATAL);
            }
        }
    }
}
```

edu.nu.csc615.assignment1.Grade.java

Assignment 6

```
package edu.nu.csc615.assignment1;

/**
 * Object Grade
 */
public class Grade {

    public static final double NUM_A = 4.0;
    public static final double NUM_AM = 3.7;
    public static final double NUM_BP = 3.3;
    public static final double NUM_B = 3.0;
    public static final double NUM_BM = 2.7;
    public static final double NUM_CP = 2.3;
    public static final double NUM_C = 2.0;
    public static final double NUM_CM = 1.7;
    public static final double NUM_DP = 1.3;
    public static final double NUM_D = 1.0;
    public static final double NUM_DM = 0.7;
    public static final double NUM_F = 0.0;

    protected String gradeString;

    protected double gradeDouble;

    public String getGradeString() {
        return gradeString;
    }

    public void setGradeString(String gradeString) {
        this.gradeString = gradeString;
    }

    public double getGradeDouble() {
        return gradeDouble;
    }

    public void setGradeDouble(double gradeDouble) {
        this.gradeDouble = gradeDouble;
    }
}
```

edu.nu.csc615.assignment1.GradeAgent.java

```
package edu.nu.csc615.assignment1;

import java.util.HashMap;

import edu.nu.csc615.assignment1.exception.InvalidInputException;

/**
 * GradeAgent grade with the logic
 */
public class GradeAgent extends Grade {
    HashMap<String, Double> gradeList;

    /**
     * Constructor with initial gradeList
     */
    public GradeAgent(){
        gradeList = new HashMap<String, Double>();
        gradeList.put("A", NUM_A);
        gradeList.put("A-", NUM_AM);
        gradeList.put("B+", NUM_BP);
        gradeList.put("B", NUM_B);
        gradeList.put("B-", NUM_BM);
        gradeList.put("C+", NUM_CP);
        gradeList.put("C", NUM_C);
        gradeList.put("C-", NUM_CM);
        gradeList.put("D+", NUM_DP);
        gradeList.put("D", NUM_D);
        gradeList.put("D-", NUM_DM);
        gradeList.put("F", NUM_F);
    }
}
```

Assignment 7

```
    }

    /**
     * Generate grade point from input grade "A-F"
     * @param gradeString the grade from A to F
     * @throws InvalidInputException invalid grade string
     */
    public void setGrade(String gradeString) throws InvalidInputException {
        this.gradeString = gradeString;

        try{
            this.gradeDouble = gradeList.get(gradeString);
        }catch(NullPointerException e){
            throw new InvalidInputException();
        }
    }

    /**
     * TODO: unimplemented!!
     * Generate grade from input grade point
     * @param gradeDouble the grade from 0.0-4.0
     */
    public void setGrade(Double gradeDouble){
        this.gradeDouble = gradeDouble;
        this.gradeString = null;
        throw new RuntimeException("This method has not been implemented!!");
    }
}
```

edu.nu.csc615.assignment1.GradeAccessor.java

```
package edu.nu.csc615.assignment1;

import javax.swing.JOptionPane;

import edu.nu.csc615.assignment1.exception.ExitException;
import edu.nu.csc615.assignment1.exception.InvalidInputException;

/**
 * Accessor with Input Output
 *
 */
public class GradeAccessor {
    private GradeAgent grade;

    public GradeAccessor(){
        grade = new GradeAgent();
    }

    /**
     * Read grade from Dialog, JOptionPane is required to be used in assignment requirement
     * @throws ExitException ask for exit if press cancel button
     * @throws InvalidInputException invalid grade string from A to F
     */
    public void readFromDialog() throws ExitException, InvalidInputException {
        String input = JOptionPane.showInputDialog("Please enter a grade number, press cancel to stop");
        if(input == null)
            throw new ExitException();
        grade.setGrade(input);
    }

    /**
     * Write result to stdout followed by assignment requirement
     */
    public void writeToTerminal() {
        System.out.println(grade.getGradeString() + ":" + grade.getGradeDouble());
    }
}
```

edu.nu.csc615.assignment1.ExitException.java

Assignment 8

```
package edu.nu.csc615.assignment1.exception;

public class ExitException extends Exception {
    public ExitException(){
        super("Exit Exception");
    }
}
```

edu.nu.csc615.assignment1.InvalidInputException.java

```
package edu.nu.csc615.assignment1.exception;

public class InvalidInputException extends Exception {
    public InvalidInputException(){
        super("Invalid Input Exception");
    }
}
```