The Pair Class in Java

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How and Why

- Format: Pair<Class1, Class2> name = new Pair<>(Ins1, Ins2)

- Use name.getKey for Ins1; use name.getValue for Ins2.

- Creates an instance of a Pair class, which is a collection of two instances (Ins1 and Ins2) of two classes (Class1 and Class2) respectively.

- Class1 and Class2 may be of a few different types.

- Integer, Double, String, Character

- Custom classes

PairDemoBasics

```java
package pairdemo;

import javafx.util.Pair;

public class PairDemoBasic {

    /* /////////////////////// MAIN /////////////////////////// */

    public static void main(String[] args) {
        // Pair pair1 = new Pair("John", 43.5);
        Pair<String, Double> pair1 = new Pair<>("John", 43.5);

        Pair<Integer, Integer> pair2 = new Pair<>(45, 345);

        String name = pair1.getKey();
        double score = pair1.getValue();

        int num1 = pair2.getKey();
        int num2 = pair2.getValue();

        System.out.println(name + " + " + score);
        System.out.println(num1 + " + " + num2);
    }

    /* /////////////////////// METHODS /////////////////////// */

}
```
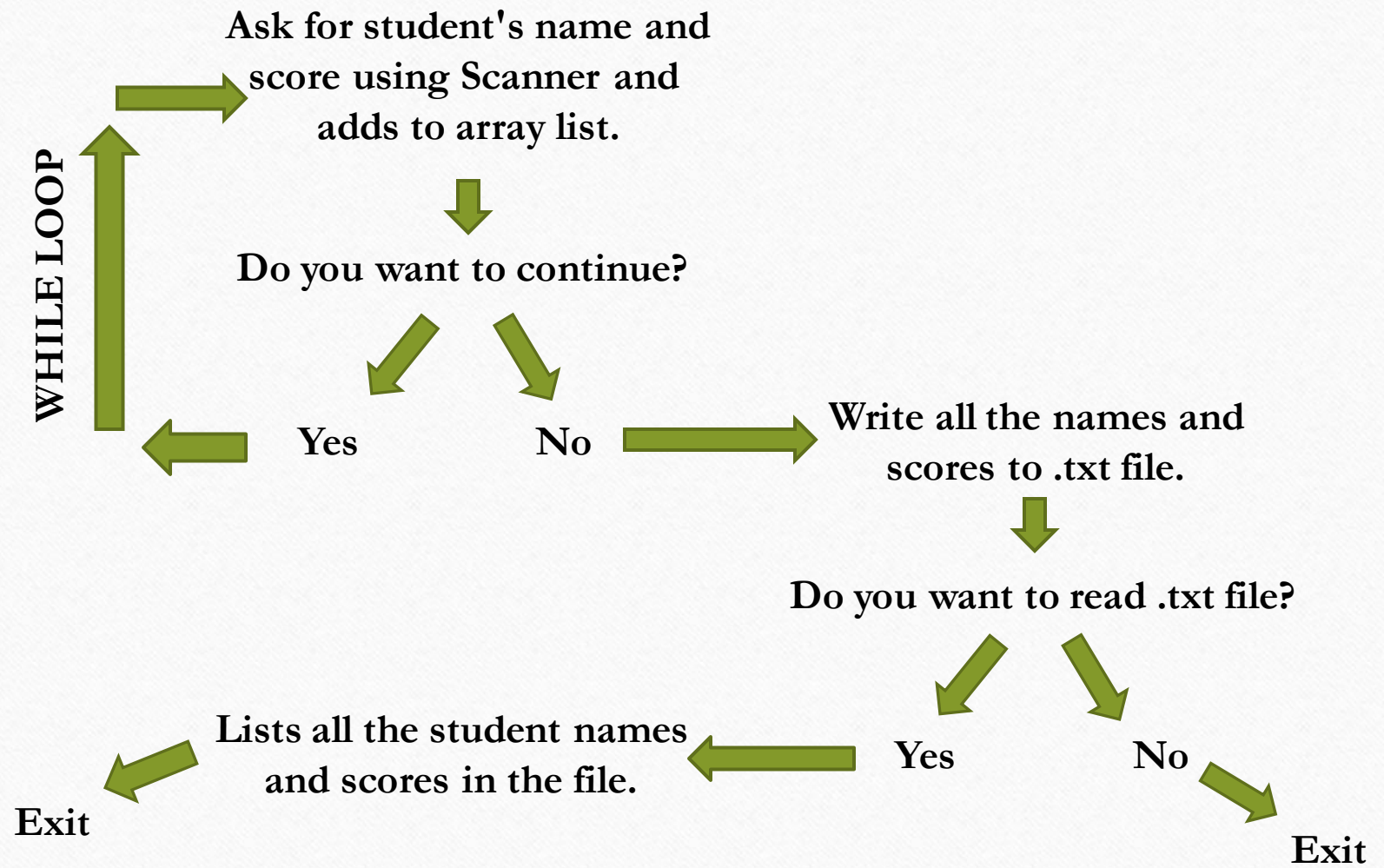
PairDemo

Ask for student's name and score using Scanner and adds to array list.

WHILE LOOP

Do you want to continue?

Yes   No   →   Write all the names and scores to .txt file.

Do you want to read .txt file?

Lists all the student names and scores in the file.   ←   Yes   No

Exit

Exit

PairDemo

```java
public static Pair<String, Double> getVal() {
    Scanner sc = new Scanner(System.in);

    System.out.println("Please enter the name of a student.");
    String name = sc.nextLine();
    System.out.println("Please enter the score of the student.");
    double score = sc.nextDouble();

    Pair<String, Double> input = new Pair<>(name, score);
    return input;
}
```

PairDemo2

Pair 1

Employee 1 (Employee)
Name: Jack
ID: 12345
Department: Accounting
Position: President

Employee 1 Status (String)
"Full time"

Pair 2

Employee 2 (Employee)
Name: Jill
ID: 67890
Department: IT
Position: Chairman

Employee 2 Status (String)
"Part time"

PairDemo2

```java
/* //////////////////// MAIN //////////////////////// */

public static void main(String[] args) {
    Employee emp1 = new Employee();
    emp1.setName("Jack");
    emp1.setID(12345);
    emp1.setDepartment("Accounting");
    emp1.setPosition("President");

    Employee emp2 = new Employee("Jill", 67890, "IT", "Chairman");

    String emp1Status = "Full time";
    String emp2Status = "Part time";

    Pair<Employee, String> pair1 = new Pair<>(emp1, emp1Status);
    Pair<Employee, String> pair2 = new Pair<>(emp2, emp2Status);

    displayEmployee(pair1);
    System.out.println();
    displayEmployee(pair2);
}

/* //////////////////// METHODS //////////////////// */

public static void displayEmployee(Pair<Employee, String> pair) {
    Employee empl = pair.getKey();
    String status = pair.getValue();

    System.out.println("The name of the employee is " + empl.getName()
                + ". \nEmployee ID: " + empl.getID()
                + "\nEmployee department: " + empl.getDepartment()
                + "\nEmployee position: " + empl.getPosition());
}
}
```

Thank You!

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Shoot me an email if you want the files used today!