**Practical 7: Find out the average age of given list of employees.**

package test;

import java.util.ArrayList;

import java.util.List;

/\*\*

\* Java Program to demonstrate how to do map reduce in Java. Map, reduce also

\* known as fold is common operation while dealing with Collection in Java.

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\*/

public class Test {

public static void main(String args[]) {

List<Employee> peoples = new ArrayList<>();

peoples.add(new Employee(101, "Victor", 23));

peoples.add(new Employee(102, "Rick", 21));

peoples.add(new Employee(103, "Sam", 25));

peoples.add(new Employee(104, "John", 27));

peoples.add(new Employee(105, "Grover", 23));

peoples.add(new Employee(106, "Adam", 22));

peoples.add(new Employee(107, "Samy", 224));

peoples.add(new Employee(108, "Duke", 29));

double average = calculateAverage(peoples);

System.out.println("Average age of employees are (classic way) : "

+ average);

average = average(peoples);

System.out.println("Average age of employees are (lambda way) : "

+ average);

}

/\*\*

\* Java Method to calculate average from a list of object without using

\* lambdas, doing it on classical java way.

\* @param employees

\* @return average age of given list of Employee

\*/

private static double calculateAverage(List<? extends Employee> employees){

int totalEmployee = employees.size();

double sum = 0;

for(Employee e : employees){

sum += e.getAge();

}

double average = sum/totalEmployee;

return average;

}

/\*\*

\* Java method which uses map reduce to calculate average of list of

\* employees in JDK 8.

\* @param peoples

\* @return average age of given list of Employees

\*/

private static double average(List<? extends Employee> peoples){

return peoples.stream().mapToInt(p-> p.getAge())

.average()

.getAsDouble();

}

}

class Employee{

private final int id;

private final String name;

private final int age;

public Employee(int id, String name, int age){

this.id = id;

this.name = name;

this.age = age;

}

public int getId(){

return id;

}

public String getName(){

return name;

}

public int getAge(){

return age;

}

}

Output:

Average age of employees are (classic way) : 49.25

Average age of employees are (lambda way) : 49.25