Summary for Program Assignment 3

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This program reads the 40 lines of code from the data file and organizes it based on what the instructions says. First, there is the build method, which reads the file, line by line and forms an arraylist out of the line of string. While, it creates the arraylist, it prints out the lines of string as shown in Figure 1. Second, I created a decompose method. This method takes each line and organizes it into an arraylist for the year, the sensory code, and temperature, respectively. After the method organizes the information into three categories, it prints it out as shown in Figure 2. Third, I created a map method. This method is responsible for taking every temperature and its year and grouping together in a class. After, the pairs are grouped in a class. The class is added to an arraylist for that type of class. While every pair is put in its class, it prints out the pairs, as shown in Figure 3. Fourth, I created a shuffle method. This method takes the pairs from the map method, and groups pairs with the same year into the same group. After all temperatures are grouped with their year, it prints out the results, as shown in Figure 4.Fifth, I created a reduce method; this method is responsible for printing out the highest temperature of every year, in the data. I compared all the temperatures to each other and made it print alongside the year the temperature occurred. Figure 5 displays the result of the reduce method. In conclusion, every method played its part in organizing the data and getting a correct final result.

1 00001950A01 +0011+999999

2 00001950A012 +0022+999999

3 00001950A02 +0065+999999

4 00001950A039 +0103+999999

5 00001950B001 +0099+999999

6 00001950B026 +0054+999999

7 00001950C006 +0109+999999

8 00001950D01 +0085+999999

9 00001950D30 +0072+999999

10 00001950E03 +0120+999999

11 00001951A01 +0026+999999

12 00001951A012 +0035+999999

13 00001951A02 +0059+999999

14 00001951A039 +0110+999999

15 000019510B001 +0103+999999

16 00001951B026 +0049+999999

17 00001951C006 +0099+999999

18 00001951D01 +0091+999999

19 00001951D30 +0085+999999

20 00001951E03 +0117+999999

21 00001953A01 +0026+999999

22 00001953A012 +0041+999999

23 00001953A02 +0069+999999

24 00001953A039 +0110+999999

25 000019530B001 +0100+999999

26 00001953B026 +0072+999999

27 00001953C006 +0087+999999

28 00001953D01 +0102+999999

29 00001953D30 +0095+999999

30 00001953E03 +0102+999999

31 00001954A01 +0033999999

32 00001954A012 +0046+999999

33 00001954A02 +0057+999999

34 00001954A039 +0106+999999

35 000019540B001 +0119+999999

36 00001954B026 +0093+999999

37 00001954C006 +0057+999999

38 00001954D01 +0089+999999

39 00001954D30 +0088+999999

40 00001954E03 +0092+999999

**Figure 1**

1 1950 A01 11.0

2 1950 A012 22.0

3 1950 A02 65.0

4 1950 A039 103.0

5 1950 B001 99.0

6 1950 B026 54.0

7 1950 C006 109.0

8 1950 D01 85.0

9 1950 D30 72.0

10 1950 E03 120.0

11 1951 A01 26.0

12 1951 A012 35.0

13 1951 A02 59.0

14 1951 A039 110.0

15 1951 0B00 103.0

16 1951 B026 49.0

17 1951 C006 99.0

18 1951 D01 91.0

19 1951 D30 85.0

20 1951 E03 117.0

21 1953 A01 26.0

22 1953 A012 41.0

23 1953 A02 69.0

24 1953 A039 110.0

25 1953 0B00 100.0

26 1953 B026 72.0

27 1953 C006 87.0

28 1953 D01 102.0

29 1953 D30 95.0

30 1953 E03 102.0

31 1954 A01 33.0

32 1954 A012 46.0

33 1954 A02 57.0

34 1954 A039 106.0

35 1954 0B00 119.0

36 1954 B026 93.0

37 1954 C006 57.0

38 1954 D01 89.0

39 1954 D30 88.0

40 1954 E03 92.0

**Figure 2**

(1950,11.0)

(1950,22.0)

(1950,65.0)

(1950,103.0)

(1950,99.0)

(1950,54.0)

(1950,109.0)

(1950,85.0)

(1950,72.0)

(1950,120.0)

(1951,26.0)

(1951,35.0)

(1951,59.0)

(1951,110.0)

(1951,103.0)

(1951,49.0)

(1951,99.0)

(1951,91.0)

(1951,85.0)

(1951,117.0)

(1953,26.0)

(1953,41.0)

(1953,69.0)

(1953,110.0)

(1953,100.0)

(1953,72.0)

(1953,87.0)

(1953,102.0)

(1953,95.0)

(1953,102.0)

(1954,33.0)

(1954,46.0)

(1954,57.0)

(1954,106.0)

(1954,119.0)

(1954,93.0)

(1954,57.0)

(1954,89.0)

(1954,88.0)

(1954,92.0)

**Figure 3**

.

**Figure 4**

( 1950, [11.0, 22.0, 65.0, 103.0, 99.0, 54.0, 109.0, 85.0, 72.0, 120.0])

( 1951, [26.0, 35.0, 59.0, 110.0, 103.0, 49.0, 99.0, 91.0, 85.0, 117.0])

( 1953, [26.0, 41.0, 69.0, 110.0, 100.0, 72.0, 87.0, 102.0, 95.0, 102.0])

( 1954, [33.0, 46.0, 57.0, 106.0, 119.0, 93.0, 57.0, 89.0, 88.0, 92.0])

**Figure 5**

(1950, 120.0)

(1951, 117.0)

(1953, 110.0)

(1954, 119.0)