Module 5 Assignment Results Document

Program1 Listing:

/\* *Edgar Rosales*

*\* 22 June 2024*

*\* CSD405-J318 Intermediate Java Programming*

*\* Module 5 Programming assignment Program 1*

*\*  Write a program that uses an ArrayList filled with a minimum of 10 Strings.*

*\* Use a ‘for-each’ loop to print the ArrayList collection.*

*\* Then ask a user which element they would like to see again.*

*\* Then, attempt printing the element in a try/catch format which will result in the element being display.*

*\* If the element value received is invalid, display a message that an Exception has been thrown displaying “Out of Bounds”.*

*\* In this program, include the use of Auto-boxing/Auto-Unboxing, working with a user String input.*

\*/

 package *module5*;

 import *java*.*util*.*ArrayList*;

 import *java*.*util*.*Scanner*;

*public* *class* Program1 {

*public* *static* void main(String[] args) {

         // *Create an ArrayList filled with a minimum of 10 Strings*

         ArrayList<String> battlemechs = new ArrayList<String>();

         battlemechs.add("Atlas");

         battlemechs.add("Timber Wolf");

         battlemechs.add("Hunchback");

         battlemechs.add("Mad Cat");

         battlemechs.add("Marauder");

         battlemechs.add("Warhammer");

         battlemechs.add("Locust");

         battlemechs.add("Shadow Hawk");

         battlemechs.add("Raven");

         battlemechs.add("Battlemaster");

         // *Use a ‘for-each’ loop to print the ArrayList collection with index*

         for (int i = 0; i < battlemechs.size(); i++) {

             System.*out*.println(i + ": " + battlemechs.get(i));

         }

         Scanner scanner = new Scanner(System.*in*);

         String input = "";

         while (true) {

             System.*out*.print("Enter the index of the element you would like to see again (or 'E' to exit): ");

             input = scanner.nextLine();

             if (input.equalsIgnoreCase("E")) {

                 System.*out*.println("Exiting...");

                 break;

             }

             try {

                 Integer index = Integer.parseInt(input); // *Auto-boxing: converts int to Integer*

                 System.*out*.println("You selected: " + index + ": " + battlemechs.get(index)); // *Auto-unboxing: converts Integer to int*

             } catch (IndexOutOfBoundsException e) {

                 System.*out*.println("Out of Bounds");

             } catch (NumberFormatException e) {

                 System.*out*.println("Invalid input. Please enter a valid integer.");

             }

         }

         scanner.close();

     }

 }

GitHub Link:  
<https://github.com/erosales48/csd-405/blob/main/module5/Program1.java>

Example 1:

A screenshot of a computer

Description automatically generated

Program 2 Listing:

/\* *Edgar Rosales*

*\* 22 June 2024*

*\* CSD405-J318 Intermediate Java Programming*

*\* Module 5 Programming assignment Program 2*

*\* Write a program to create a new file titled data.file, if the file does not exist.*

*\* Then write to the new file, adding 10 randomly generated numbers, or append 10 randomly generated numbers to a previous file.*

*\* Each integer is to be separated by a space.*

*\* Close the file, then reopen the file and read the data from the file and display it.*

\*/

package *module5*;

import *java*.*io*.*\**;

import *java*.*util*.*ArrayList*;

import *java*.*util*.*List*;

import *java*.*util*.*Random*;

import *java*.*util*.*Scanner*;

*public* *class* Program2 {

*public* *static* void main(String[] args) {

        File file = new File("data.file");

        Random random = new Random();

        try {

            // *Check if the file exists and create a new one if it does not*

            if (!file.exists()) {

                file.createNewFile();

            }

            // *Write to the file, either adding or appending 10 randomly generated numbers*

            FileWriter fw = new FileWriter(file, true);

            BufferedWriter bw = new BufferedWriter(fw);

            PrintWriter pw = new PrintWriter(bw);

            for (int i = 0; i < 10; i++) {

                int number = random.nextInt(100); // *Random number between 0 and 99*

                pw.print(number + " ");

            }

            pw.close();

            // *Reopen the file to read the data*

            Scanner fileScanner = new Scanner(file);

            List<Integer> numbers = new ArrayList<>();

            while (fileScanner.hasNextInt()) {

                numbers.add(fileScanner.nextInt());

            }

            fileScanner.close();

            // *Display the data read from the file*

            for (int number : numbers) {

                System.*out*.print(number + " ");

            }

        } catch (IOException e) {

            e.printStackTrace();

        }

    }

}

GitHub Link:

<https://github.com/erosales48/csd-405/blob/main/module5/Program2.java>

Example 1:

A screen shot of a computer

Description automatically generated