Submission Worksheet

Submission Data

Course: IT114-450-M2025
Assignment: IT114 Java Problems
Student: Mukaddis I. (mi348)
Status: Submitted | **Worksheet Progress:** 100+%
Potential Grade: 11.00/10.00 (110.00%)
Received Grade: 0.00/10.00 (0.00%)
Started: 6/8/2025 1:28:28 PM
Updated: 6/8/2025 2:21:58 PM
Grading Link: https://learn.ethereallab.app/assignment/v3/IT114-450-M2025/it114-java-problems/grading/mi348
View Link: https://learn.ethereallab.app/assignment/v3/IT114-450-M2025/it114-java-problems/view/mi348

Instructions

- Overview Link: https://youtu.be/Mrahk6SFYao

1. Ensure you read all instructions and objectives before starting.
2. Create a new branch from `main` called `M2-Homework`
   1. `git checkout main` (ensure proper starting branch)
   2. `git pull origin main` (ensure history is up to date)
   3. `git checkout -b M2-Homework` (create and switch to branch)
3. Copy the template code from here: GitHub Repository - M2 Homework
   - It includes Problems 1-4 and a BaseClass. Put all into an `M2` folder or similar (adjust `package` reference at the top if you chose a different folder name).
   - Immediately record to history
     - `git add .`
     - `git commit -m "adding M2 HW baseline files"`
     - `git push origin M2-Homework`
     - Create a Pull Request from `M2-Homework` to `main` and keep it open
4. Fill out the below worksheet
   - Each Problem requires the following as you work
     - Ensure there's a comment with your UCID, date, and brief summary of how the problem was solved
     - Initial outline/plan of how you'll solve it via comments (add/commit after this stage)
     - Code solution (add/commit periodically as needed)
5. Once finished, click "Submit and Export"
6. Locally add the generated PDF to a folder of your choosing inside your repository folder and move it to Github
   1. `git add .`
   2. `git commit -m "adding PDF"`
   3. `git push origin M2-Homework`
   4. On Github merge the pull request from `M2-Homework` to `main`
7. Upload the same PDF to Canvas
8. Sync Local
   1. `git checkout main`

```
2. git pull origin main
```

Section #1: (2 pts.) Problem 1 - Odds

Progress: 100%

Task #1 (2 pts.) - Edit the `printOdds` method to output odd values of the array

Progress: 100%

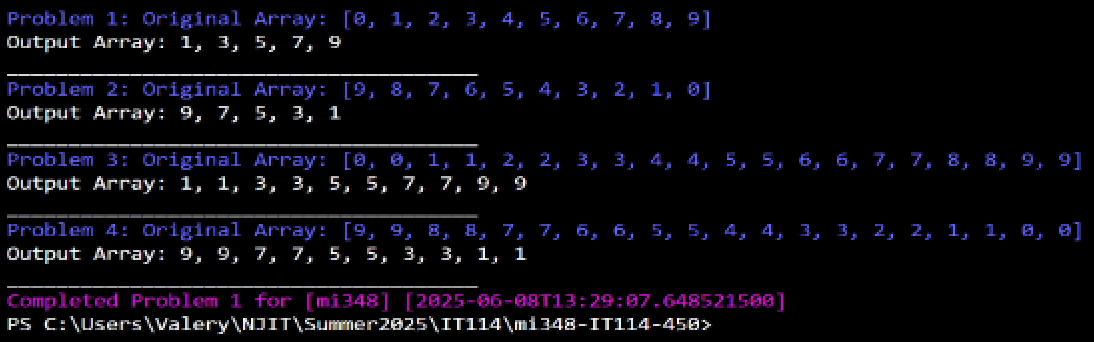
Part 1:

Progress: 100%

Details:

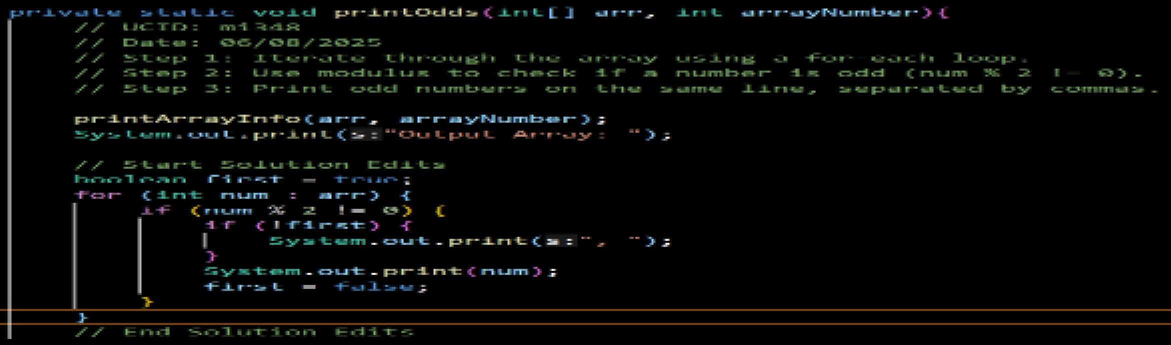
Two screenshots are expected

1. Snippet of relevant code showing solution (with ucid/date comment)
2. Full output of executing the program



```
Problem 1: Original Array: [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
Output Array: 1, 3, 5, 7, 9
______________________________________
Problem 2: Original Array: [9, 8, 7, 6, 5, 4, 3, 2, 1, 0]
Output Array: 9, 7, 5, 3, 1
______________________________________
Problem 3: Original Array: [0, 0, 1, 1, 2, 2, 3, 3, 4, 4, 5, 5, 6, 6, 7, 7, 8, 8, 9, 9]
Output Array: 1, 1, 3, 3, 5, 5, 7, 7, 9, 9
______________________________________
Problem 4: Original Array: [9, 9, 8, 8, 7, 7, 6, 6, 5, 5, 4, 4, 3, 3, 2, 2, 1, 1, 0, 0]
Output Array: 9, 9, 7, 7, 5, 5, 3, 3, 1, 1
______________________________________
Completed Problem 1 for [mi348] [2025-06-08T13:29:07.648521500]
PS C:\Users\Valery\NJIT\Summer2025\IT114\mi348-IT114-450>
```

This shows the output of only odd numbers



```java
private static void printOdds(int[] arr, int arrayNumber){
        // UCID: mi348
        // Date: 06/08/2025
        // Step 1: Iterate through the array using a for-each loop.
        // Step 2: Use modulus to check if a number is odd (num % 2 != 0).
        // Step 3: Print odd numbers on the same line, separated by commas.

        printArrayInfo(arr, arrayNumber);
        System.out.print(s:"Output Array: ");

        // Start Solution Edits
        boolean first = true;
        for (int num : arr) {
            if (num % 2 != 0) {
                if (!first) {
                    System.out.print(s:", ");
                }
                System.out.print(num);
                first = false;
            }
        }
        // End Solution Edits
```

This shows the code with UCID and steps

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Part 2:

Progress: 100%

Details:

Direct link to the file in the homework related branch from Github (should end in `.java`)

URL #1

https://github.com/MIsmail215/mi348-IT114-450/blob/main/M2-Homework/Problem1.java

URL

https://github.com/MIsmail215/m

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Part 3:

Progress: 100%

Details:
Briefly explain `how` the code solves the challenge (note: this isn't the same as `what` the code does)

Your Response:

The code looks at each number in the array one by one. If the number is odd it prints that number.

It also makes sure to put commas between the numbers, but not before the first one. This way, the odd numbers are printed in one line, with commas in between, like this: 1, 3, 5, 7, 9.

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Section #2: (2 pts.) Problem 2 - Sum

Progress: 100%

Task #1 (2 pts.) - Edit the `sumValues` method to sum the array values and present them in a format with exactly two decimal places

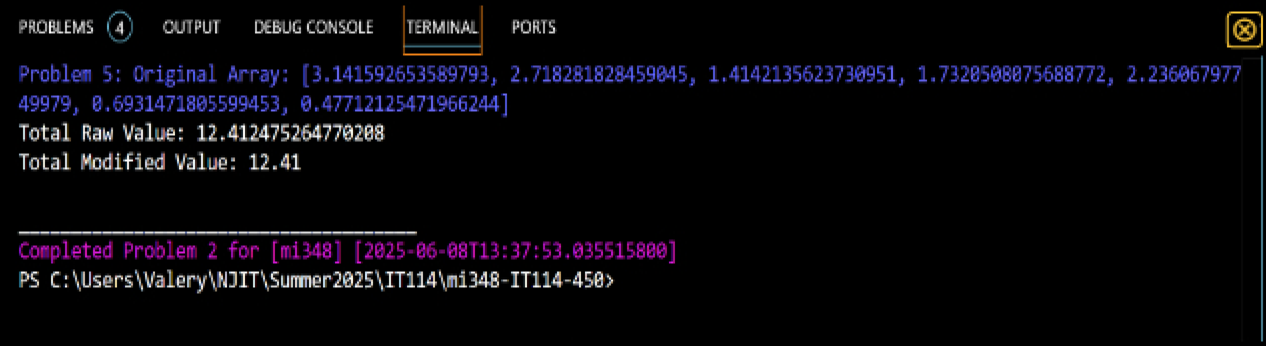
Progress: 100%

Part 1:

Progress: 100%

Details:
Two screenshots are expected

1. Snippet of relevant code showing solution (with ucid/date comment)
2. Full output of executing the program

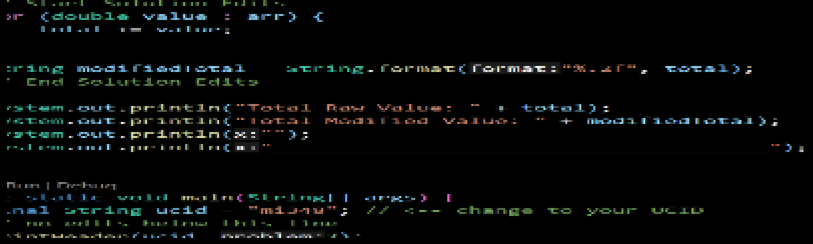


```
Problem 5: Original Array: [3.141592653589793, 2.718281828459045, 1.4142135623730951, 1.7320508075688772, 2.23606797749979, 0.6931471805599453, 0.47712125471966244]
Total Raw Value: 12.412475264770208
Total Modified Value: 12.41


____________________________________
Completed Problem 2 for [mi348] [2025-06-08T13:37:53.035515800]
PS C:\Users\Valery\NJIT\Summer2025\IT114\mi348-IT114-450>
```

Shows Output

```
* UCID: mi348, Date: 06/08/2025
* Plan:
* - Loop through the array to calculate the sum and store it in `total`
* - Format the sum to 2 decimal places using String.format
uble total = 0;
```



```
 Start Solution Edits
or (double value : arr) {
    total += value;

tring modifiedTotal = String.format(format:"%.2f", total);
 End Solution Edits

ystem.out.println("Total Raw Value: " + total);
ystem.out.println("Total Modified Value: " + modifiedTotal);
ystem.out.println(x:"");
ystem.out.println(x:"                                        ");

Run | Debug
 static void main(String[] args) {
nal String ucid = "mi348"; // <-- change to your ucid
 no edits below this line
rintHeader(ucid, problem:2);
```

Shows code and Ucid

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Part 2:

Progress: 100%

Details:
Direct link to the file in the homework related branch from Github (should end in `.java`)

URL #1
https://github.com/MIsmail215/mi348-IT114-450/blob/main/M2-Homework/Problem2.java

URL
https://github.com/MIsmail215/m

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Part 3:

Progress: 100%

Details:
Briefly explain `how` the code solves the challenges (note: this isn't the same as `what` the code does)

Your Response:

The code adds up all the numbers in the array using a loop and stores the result in total. Then it formats that total to always show two decimal places (like 1.00 or 0.10) using String.format, and prints both versions.

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Section #3: (2 pts.) Problem 3 - Conversion

Progress: 100%

Task #1 (2 pts.) - Edit the `bePositive` method to make each value positive, convert it back to the orginal data type, and set it to the proper slot in the `output` array

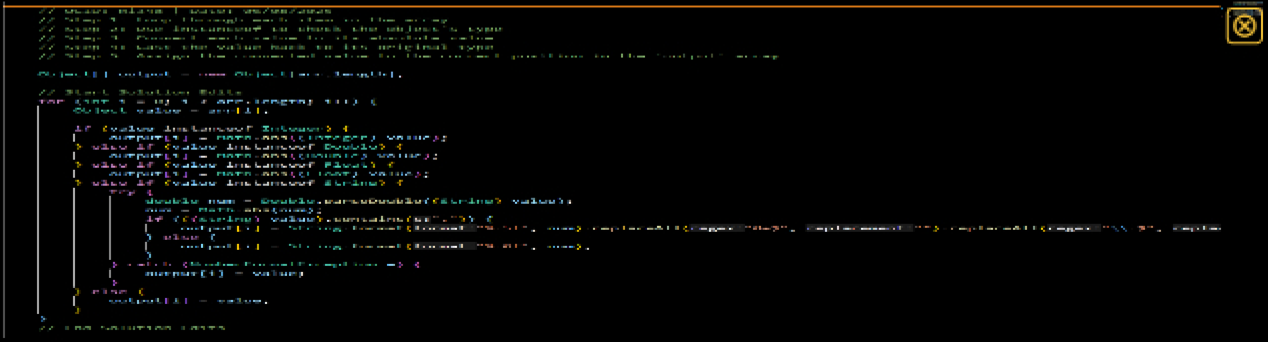
Progress: 100%

Part 1:

Progress: 100%

Details:
Two screenshots are expected

1. Snippet of relevant code showing solution (with ucid/date comment)
2. Full output of executing the program



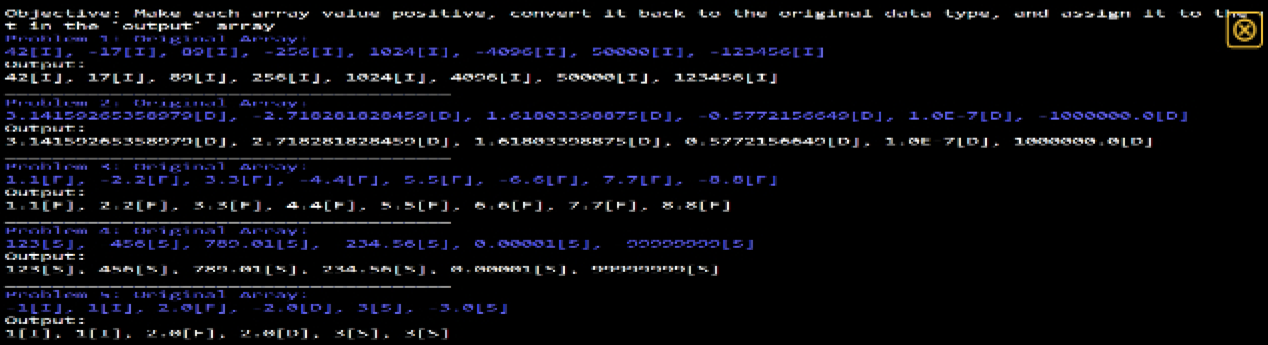
```
// UCID: mi348 | Date: 06/08/2025
// Step 1: Loop through each item in the array
// Step 2: Use instanceof to check the object's type
// Step 3: Convert each value to its absolute value
// Step 4: Cast the value back to its original type
// Step 5: Assign the converted value to the correct position in the `output[]` array

Object[] output = new Object[arr.length];

// Start Solution Edits
for (int i = 0; i < arr.length; i++) {
    Object value = arr[i];

    if (value instanceof Integer) {
        output[i] = Math.abs((Integer) value);
    } else if (value instanceof Double) {
        output[i] = Math.abs((Double) value);
    } else if (value instanceof Float) {
        output[i] = Math.abs((Float) value);
    } else if (value instanceof String) {
        try {
            double num = Double.parseDouble((String) value);
            num = Math.abs(num);
            if (((String) value).contains(s: ".")) {
                output[i] = String.format(format: "%.10f", num).replaceAll(regex: "0+$", replacement: "").replaceAll(regex: "\\.$", replac
            } else {
                output[i] = String.format(format: "%.0f", num);
            }
        } catch (NumberFormatException e) {
            output[i] = value;
        }
    } else {
        output[i] = value;
    }
}
// End Solution Edits
```

Shows code and UCID



```
Objective: Make each array value positive, convert it back to the original data type, and assign it to the
t in the `output` array
Problem 1: Original Array:
42[I], -17[I], 89[I], -256[I], 1024[I], -4096[I], 50000[I], -123456[I]
Output:
42[I], 17[I], 89[I], 256[I], 1024[I], 4096[I], 50000[I], 123456[I]
______________________________________
Problem 2: Original Array:
3.14159265358979[D], -2.718281828459[D], 1.61803398875[D], -0.5772156649[D], 1.0E-7[D], -1000000.0[D]
Output:
3.14159265358979[D], 2.718281828459[D], 1.61803398875[D], 0.5772156649[D], 1.0E-7[D], 1000000.0[D]
______________________________________
Problem 3: Original Array:
1.1[F], -2.2[F], 3.3[F], -4.4[F], 5.5[F], -6.6[F], 7.7[F], -8.8[F]
Output:
1.1[F], 2.2[F], 3.3[F], 4.4[F], 5.5[F], 6.6[F], 7.7[F], 8.8[F]
______________________________________
Problem 4: Original Array:
123[S], -456[S], 789.01[S], -234.56[S], 0.00001[S], -99999999[S]
Output:
123[S], 456[S], 789.01[S], 234.56[S], 0.00001[S], 99999999[S]
______________________________________
Problem 5: Original Array:
-1[I], 1[I], 2.0[F], -2.0[D], 3[S], -3.0[S]
Output:
1[I], 1[I], 2.0[F], 2.0[D], 3[S], 3[S]
```

Shows output

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Part 2:

Progress: 100%

Details:
Direct link to the file in the homework related branch from Github (should end in `.java`)

URL #1
https://github.com/MIsmail215/mi348-IT114-450/blob/main/M2-Homework/Problem3.java

URL
https://github.com/MIsmail215/m

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Part 3:

Progress: 100%

Details:
Briefly explain `how` the code solves the challenges (note: this isn't the same as `what` the code does)

Your Response:

The code loops through each item in the array, checks its type (like Integer, Double, Float, or String), and converts any negative value to positive using Math.abs(). Then it puts the positive value back into the output array in its original type so the result stays consistent with the input format.

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Section #4: (2 pts.) Problem 4 - Strings

Progress: 100%

Task #1 (2 pts.) - Edit the `transformText` method to solve the challenges

Progress: 100%

Part 1:

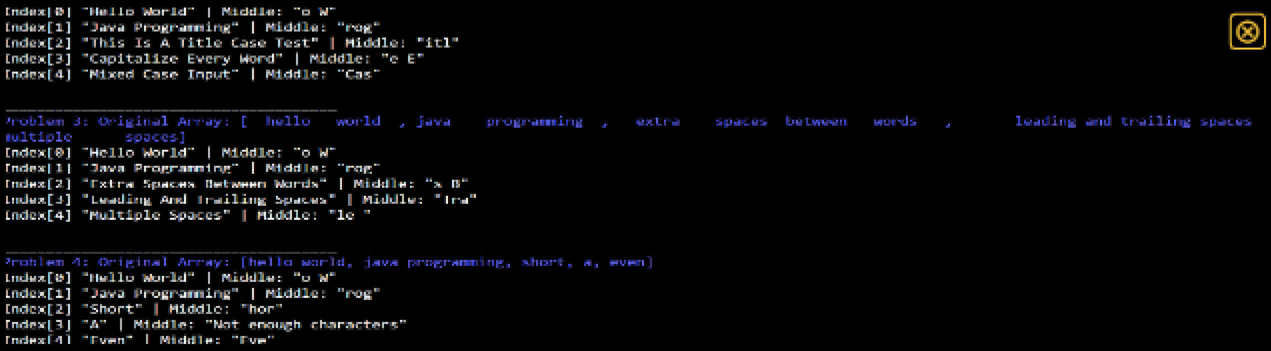
Progress: 100%

Details:

Two screenshots are expected

1. Snippet of relevant code showing solution (with ucid/date comment)
2. Full output of executing the program

Shows code and UCID



```
Index[0] "Hello World" | Middle: "o W"
Index[1] "Java Programming" | Middle: "rog"
Index[2] "This Is A Title Case Test" | Middle: "itl"
Index[3] "Capitalize Every Word" | Middle: "e E"
Index[4] "Mixed Case Input" | Middle: "Cas"

________________________________________
Problem 3: Original Array: [  hello   world  , java    programming  ,   extra    spaces  between   words   ,       leading and trailing spaces
multiple       spaces]
Index[0] "Hello World" | Middle: "o W"
Index[1] "Java Programming" | Middle: "rog"
Index[2] "Extra Spaces Between Words" | Middle: "s B"
Index[3] "Leading And Trailing Spaces" | Middle: "Tra"
Index[4] "Multiple Spaces" | Middle: "le "

________________________________________
Problem 4: Original Array: [hello world, java programming, short, a, even]
Index[0] "Hello World" | Middle: "o W"
Index[1] "Java Programming" | Middle: "rog"
Index[2] "Short" | Middle: "hor"
Index[3] "A" | Middle: "Not enough characters"
Index[4] "Even" | Middle: "Eve"
```

Shows Output

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Part 2:

Progress: 100%

Details:

Direct link to the file in the homework related branch from Github (should end in `.java`)

URL #1
https://github.com/MIsmail215/mi348-IT114-450/blob/main/M2-Homework/Problem4.java

URL
https://github.com/MIsmail215/m

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Part 3:

Progress: 100%

Details:
Briefly explain `how` the code solves the challenges (note: this isn't the same as `what` the code does)

Your Response:

I first removed all non-alphanumeric characters except spaces using a regular expression. Then I trimmed the extra spaces and used string methods to convert the phrase into title case. Finally, I stored the cleaned-up result into the placeholder variable so it could be printed correctly.

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Task #2 (+ 1.11 pts.) - Edit the `transformText` method to solve the extra credit challenge (challenge 4)

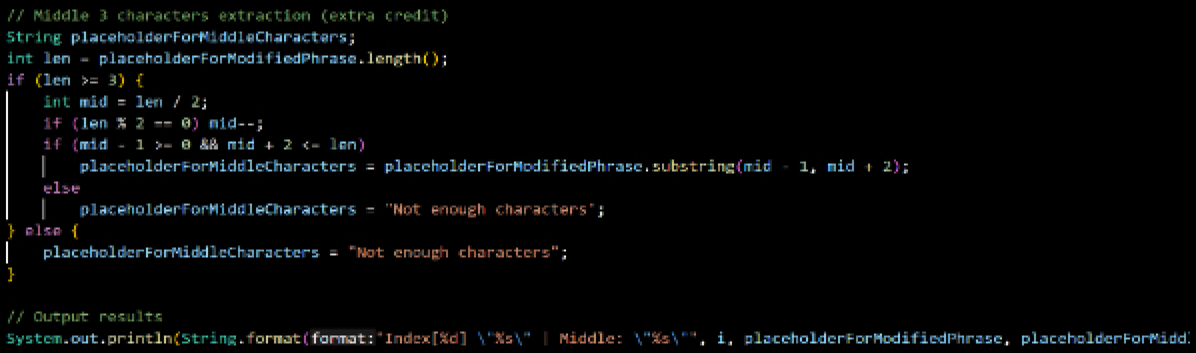
Progress: 100%

Part 1:

Progress: 100%

Details:
Two screenshots are expected

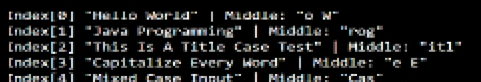
1. Snippet of relevant code showing solution (with ucid/date comment)
2. Full output of executing the program



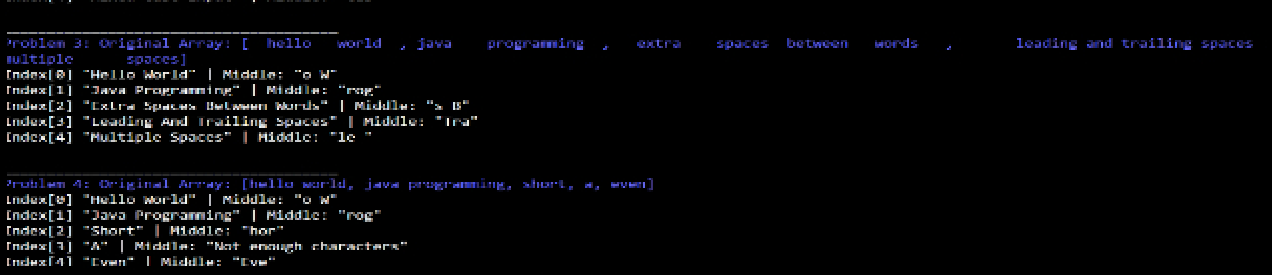
```java
// Middle 3 characters extraction (extra credit)
String placeholderForMiddleCharacters;
int len = placeholderForModifiedPhrase.length();
if (len >= 3) {
    int mid = len / 2;
    if (len % 2 == 0) mid--;
    if (mid - 1 >= 0 && mid + 2 <= len)
        placeholderForMiddleCharacters = placeholderForModifiedPhrase.substring(mid - 1, mid + 2);
    else
        placeholderForMiddleCharacters = "Not enough characters";
} else {
    placeholderForMiddleCharacters = "Not enough characters";
}

// Output results
System.out.println(String.format(format:"Index[%d] \"%s\" | Middle: \"%s\"", i, placeholderForModifiedPhrase, placeholderForMidd
```

Extra credit Code



```
Index[0] "Hello World" | Middle: "o W"
Index[1] "Java Programming" | Middle: "rog"
Index[2] "This Is A Title Case Test" | Middle: "itl"
Index[3] "Capitalize Every Word" | Middle: "e E"
Index[4] "Mixed Case Input" | Middle: "Cas"
```



```
-----------------------------------
Problem 3: Original Array: [  hello   world  , java    programming  ,   extra    spaces  between   words   ,       leading and trailing spaces
multiple       spaces]
Index[0] "Hello World" | Middle: "o W"
Index[1] "Java Programming" | Middle: "rog"
Index[2] "Extra Spaces Between Words" | Middle: "s B"
Index[3] "Leading And Trailing Spaces" | Middle: "Tra"
Index[4] "Multiple Spaces" | Middle: "le "

-----------------------------------
Problem 4: Original Array: [hello world, java programming, short, a, even]
Index[0] "Hello World" | Middle: "o W"
Index[1] "Java Programming" | Middle: "rog"
Index[2] "Short" | Middle: "hor"
Index[3] "A" | Middle: "Not enough characters"
Index[4] "Even" | Middle: "Eve"
```

Extra Credit Output

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Part 2:

Progress: 100%

Details:

Briefly explain `how` the code solves the extra credit challenge (note: this isn't the same as `what` the code does)

Your Response:

the code checks if the cleaned-up phrase is at least 3 characters long. If it is, it calculates the middle index and extracts 3 characters starting from one position before the middle. If the phrase is too short, it sets the result to "Not enough characters".

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Section #5: (2 pts.) Misc

Progress: 100%

Task #1 (0.67 pts.) - Github Details

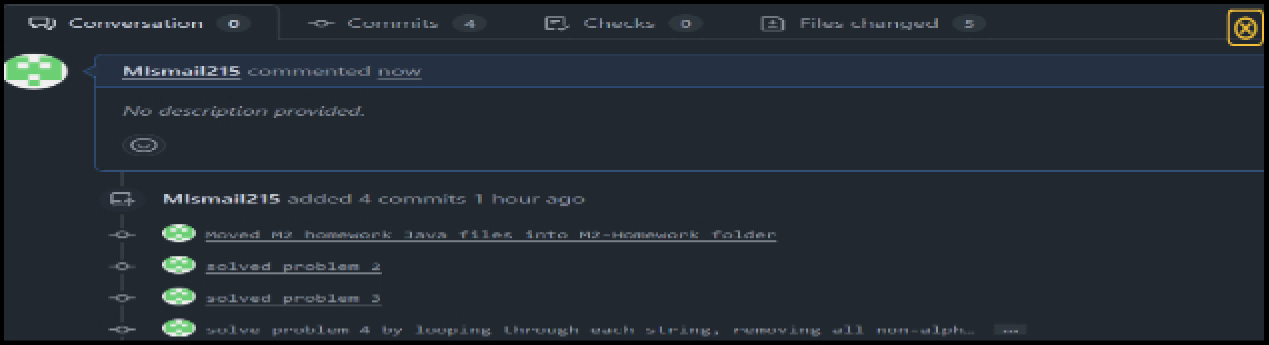
Progress: 100%

Part 1:

Progress: 100%

Details:

From the Commits tab of the Pull Request screenshot the commit history Following minimum should be present



MIsmail215 commented now

No description provided.

MIsmail215 added 4 commits 1 hour ago

- Moved M2 homework java files into M2-Homework folder
- solved problem 2
- solved problem 3
- solve problem 4 by looping through each string, removing all non-alph… …

Commit History

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Part 2:

Progress: 100%

Details:
Include the link to the Pull Request (should end in `/pull/#`)

URL #1
https://github.com/MIsmail215/mi348-IT114-450/pull/3/

URL
https://github.com/MIsmail215/m

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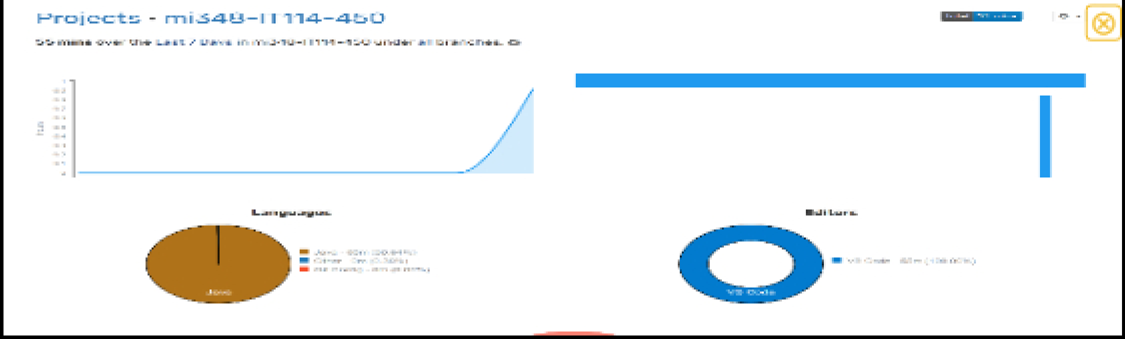
Task #2 (0.67 pts.) - WakaTime - Activity

Progress: 100%

Details:

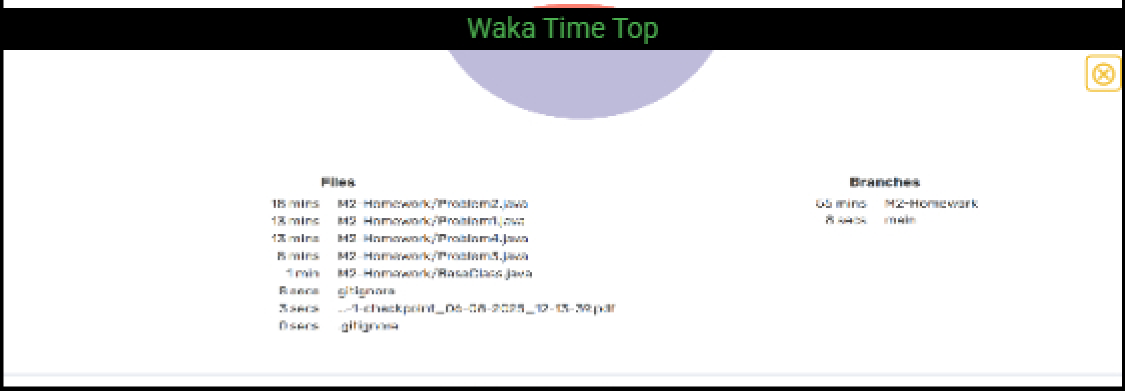
- Visit the WakaTime.com Dashboard
- Click `Projects` and find your repository
- Capture the overall time at the top that includes the repository name
- Capture the individual time at the bottom that includes the file time
- Note: The duration isn't relevant for the grade and the visual graphs aren't necessary



Projects - mi348-IT114-450

55 mins over the Last 7 Days in mi348-IT114-450 under all branches.

Waka Time Top



Files	
18 mins	M2-Homework/Problem2.java
13 mins	M2-Homework/Problem1.java
13 mins	M2-Homework/Problem4.java
8 mins	M2-Homework/Problem3.java
1 min	M2-Homework/BaseClass.java
8 secs	gitignore
3 secs	...-1-checkpoint_06-08-2025_12-15-39.pdf
0 secs	.gitignore

Branches	
55 mins	M2-Homework
8 secs	main

Waka Time Bottom

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Task #3 (0.67 pts.) - Reflection

Progress: 100%

Task #1 (0.33 pts.) - What did you learn?

Progress: 100%

Details:
Briefly answer the question (at least a few decent sentences)

Your Response:

In this assignment, I learned how to work with arrays and different data types in Java, such as integers, doubles, floats, and strings. I practiced solving problems by writing code to transform data, format output, and handle special conditions like removing characters or formatting strings. I also gained experience using Git to track my changes and organize my work properly.

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Task #2 (0.33 pts.) - What was the easiest part of the assignment?

Progress: 100%

Details:
Briefly answer the question (at least a few decent sentences)

Your Response:

The easiest part of this assignment was Problem 1 because I just had to find and print the odd numbers. I used a simple loop and checked if each number was odd. It was quick and not confusing at all.

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Task #3 (0.33 pts.) - What was the hardest part of the assignment?

Progress: 100%

Details:
Briefly answer the question (at least a few decent sentences)

Your Response:

Problem 4 because it involved multiple steps like removing special characters, fixing spaces, changing to title case, and doing extra credit. It took more time to figure out how to clean and format the strings properly.

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