

**COMPIRATION OF ALL  
ACTIVITIES AND  
EXERCISES OF CCE**

**103**

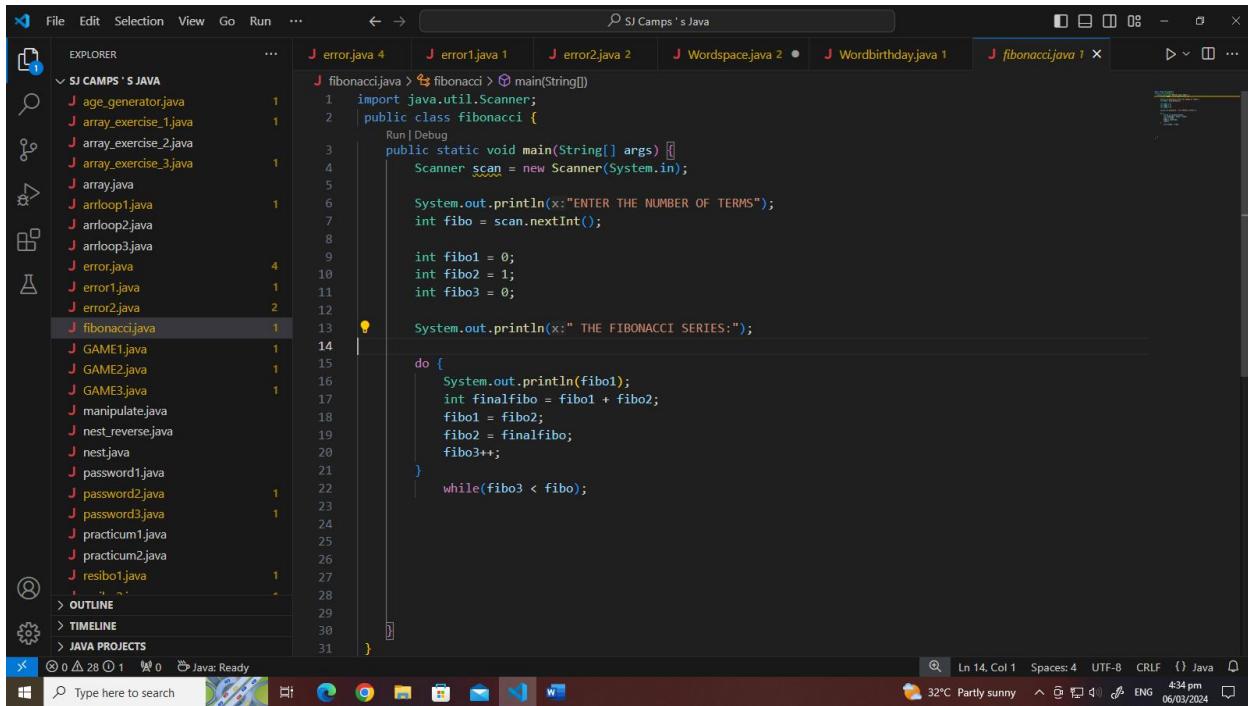
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## Chapter 1 : Preliminary

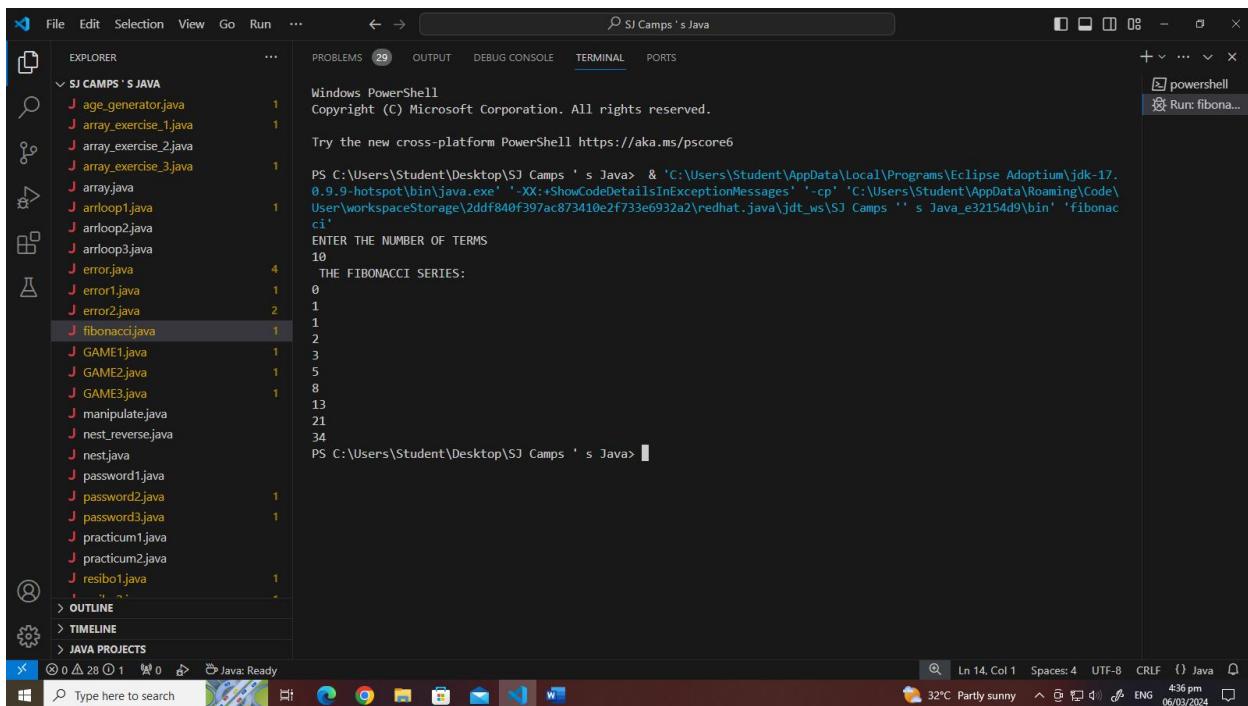
### Fibonacci Series (Input)



The screenshot shows a Java code editor with the file `fibonacci.java` selected in the Explorer sidebar. The code prints a Fibonacci series based on user input. The code uses a scanner to read the number of terms and then iterates through the series, printing each term.

```
fibonacci.java > fibonacci > main(String[])
1 import java.util.Scanner;
2 public class fibonacci {
3     public static void main(String[] args) {
4         Scanner scan = new Scanner(System.in);
5
6         System.out.println("ENTER THE NUMBER OF TERMS");
7         int fibo = scan.nextInt();
8
9         int fibo1 = 0;
10        int fibo2 = 1;
11        int fibo3 = 0;
12
13        System.out.println(" THE FIBONACCI SERIES:");
14
15        do {
16            System.out.println(fibo1);
17            int finalfibo = fibo1 + fibo2;
18            fibo1 = fibo2;
19            fibo2 = finalfibo;
20            fibo3++;
21        }
22        while(fibo3 < fibo);
23
24    }
25
26}
27
28}
29
30}
31}
```

### Fibonacci Series (Output)



The screenshot shows a terminal window running on Windows PowerShell. It displays the output of the `fibonacci.java` program. The user enters the number of terms (10), and the program prints the Fibonacci series up to that point.

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\2ddf840f3973410e2f733e6932a2\redhat.java\jdt_ws\SJ Camps 's Java_e32154d9\bina\fibonacci.java'
ENTER THE NUMBER OF TERMS
10
THE FIBONACCI SERIES:
0
1
1
2
3
5
8
13
21
34
PS C:\Users\Student\Desktop\SJ Camps 's Java>
```

## Array Looping(Input)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar shows an "EXPLORER" view with several Java files listed under "SJ CAMPS'S JAVA". The main editor window displays the following Java code:

```
error.java 4 J error1.java 1 J error2.java 2 J Wordspace.java 2 J Wordbirthday.java 1 J arrloop1.java 1

J arrloop1.java > arrloop1 > main(String[])
1 import java.util.*;
2 public class arrloop {
3     Run | Debug
4     public static void main(String[] args) {
5         Scanner scan = new Scanner(System.in);
6         int [] array_10x_mangayo = new int [10];
7         int total = 0;
8
9         for ( int i = 0; i <= 9; i++){
10             System.out.print(" Enter any number ["+ i +"] : ");
11             array_10x_mangayo[i] = scan.nextInt();
12             total += array_10x_mangayo[i];
13         }
14
15         for ( int i = 0; i <= 9; i++){
16             System.out.println(" num ["+ i +"] : " + array_10x_mangayo[i]);
17         }
18
19         System.out.println("The total is :"+" "+total);
20     }
21 }
22
23
24
25
26 }
```

The status bar at the bottom indicates "Java: Ready".

## Array Looping 1(Output)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar shows an "EXPLORER" view with several Java files listed under "SJ CAMPS'S JAVA". The "TERMINAL" tab is selected, displaying the output of running the "arrloop1" Java application. The output shows the user entering 10 numbers from 1 to 10, and the program printing each number and calculating a total of 55.

```
PROBLEMS 29 OUTPUT DEBUG CONSOLE TERMINAL PORTS

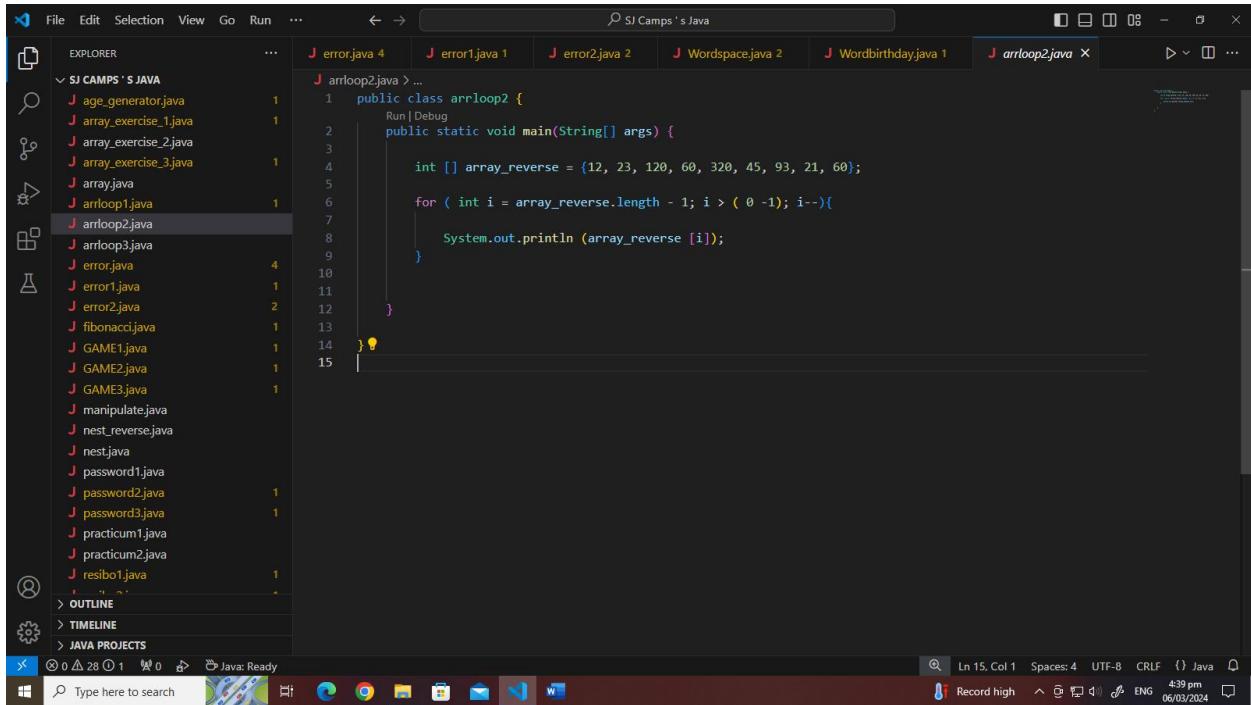
Windows PowerShell
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PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\bddf840f397ac873410e2f733e6932a2\redhat.java\jdt_ws\SJ Camps '' s Java_e32154d9\bin' 'arrloop
1'
Enter any number [0] : 1
Enter any number [1] : 2
Enter any number [2] : 3
Enter any number [3] : 4
Enter any number [4] : 5
Enter any number [5] : 6
Enter any number [6] : 7
Enter any number [7] : 8
Enter any number [8] : 9
Enter any number [9] : 10
num [0] : 1
num [1] : 2
num [2] : 3
num [3] : 4
num [4] : 5
num [5] : 6
num [6] : 7
num [7] : 8
num [8] : 9
num [9] : 10
The total is : 55
PS C:\Users\Student\Desktop\SJ Camps 's Java>
```

The status bar at the bottom indicates "Java: Ready".

## Array Looping 2(Input)



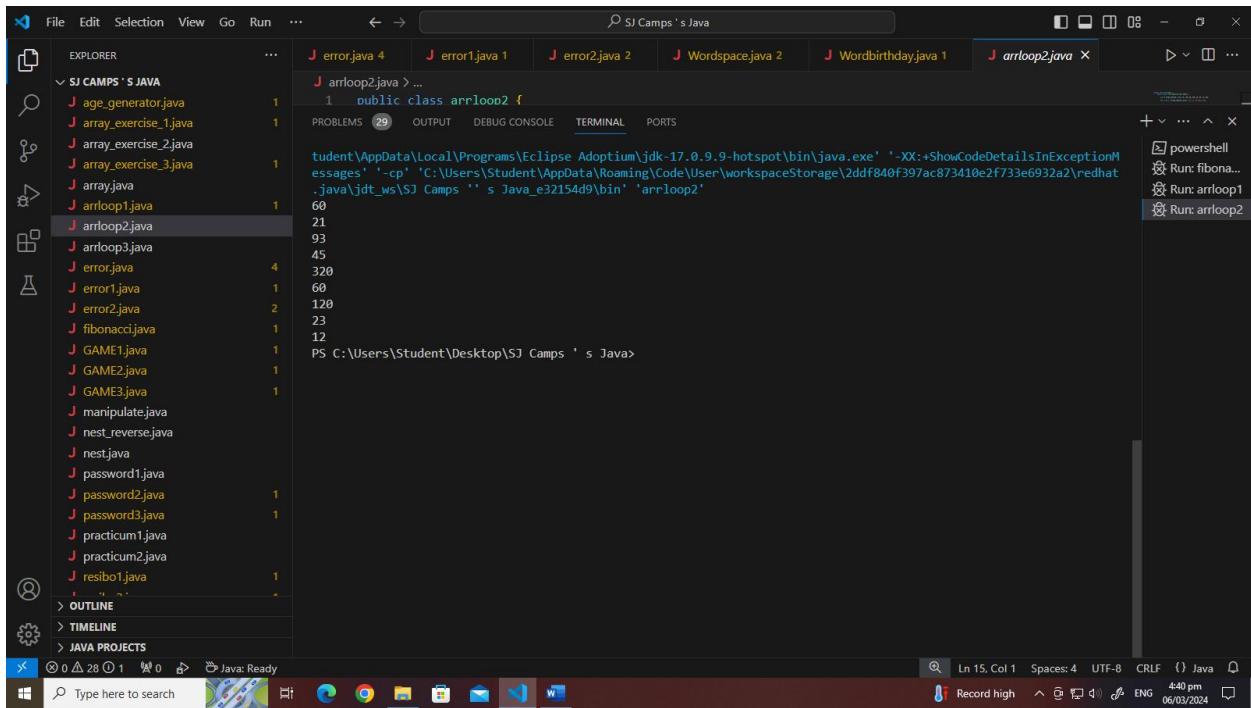
The screenshot shows the Eclipse IDE interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, ...
- Toolbar:** Standard Eclipse toolbar.
- Search Bar:** SJ Camps's Java
- Left Sidebar (Explorer):** Shows a tree view of Java files in the workspace, including SJ CAMPS'S JAVA, OUTLINE, TIMELINE, and JAVA PROJECTS.
- Central Area:** Code editor showing the content of arrloop2.java. The code prints an array in reverse order.

```
1 public class arrloop2 {  
2     public static void main(String[] args) {  
3         int [] array_reverse = {12, 23, 120, 60, 320, 45, 93, 21, 60};  
4         for ( int i = array_reverse.length - 1; i > ( 0 -1); i--){  
5             System.out.println (array_reverse [i]);  
6         }  
7     }  
8 }
```

- Bottom Status Bar:** Ln 15, Col 1, Spaces: 4, UTF-8, CRLF, Java, Record high, 4:39 pm, ENG, 06/03/2024.

## Array Looping 2 (Output)



The screenshot shows the Eclipse IDE interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, ...
- Toolbar:** Standard Eclipse toolbar.
- Search Bar:** SJ Camps's Java
- Left Sidebar (Explorer):** Shows a tree view of Java files in the workspace, including SJ CAMPS'S JAVA, OUTLINE, TIMELINE, and JAVA PROJECTS.
- Central Area:** Code editor showing the content of arrloop2.java. The code prints an array in reverse order.

```
1 public class arrloop2 {  
2     public static void main(String[] args) {  
3         int [] array_reverse = {12, 23, 120, 60, 320, 45, 93, 21, 60};  
4         for ( int i = array_reverse.length - 1; i > ( 0 -1); i--){  
5             System.out.println (array_reverse [i]);  
6         }  
7     }  
8 }
```

- Terminal Tab:** Shows the command-line output of the Java execution.

```
tudent\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\2ddf840f397ac873410e2f733e6932a2\redhat.java\jdt_ws\SJ Camps '' s Java_e32154d9\bin' 'arrloop2'  
60  
21  
93  
45  
320  
60  
120  
23  
12  
PS C:\Users\Student\Desktop\SJ Camps 's Java>
```

- Bottom Status Bar:** Ln 15, Col 1, Spaces: 4, UTF-8, CRLF, Java, Record high, 4:40 pm, ENG, 06/03/2024.

## Array Looping 3(Input)

The screenshot shows the Eclipse IDE interface with the following details:

- File Menu:** File, Edit, Selection, View, Go, Run, ...
- Toolbar:** Back, Forward, Search, Refresh, Minimize, Maximize, Close.
- Search Bar:** SJ Camps's Java
- Left Sidebar (EXPLORER):** Shows a tree view of Java files in the workspace, including arrloop3.java, error.java, error1.java, error2.java, Wordspace.java, Wordbirthday.java, and arrloop3.java.
- Central Area:** Code editor for arrloop3.java. The code prints an array of integers.

```
public class arrloop3 {
    public static void main(String[] args) {
        int [] array_magshift_siya_ug_ika2 = {12, 23, 120, 60, 320, 45, 93, 21, 60};

        for ( int i = 0; i < 9; i += 2){
            System.out.print(" num [" + i + "]: ");
            System.out.println(array_magshift_siya_ug_ika2[i]);
        }
    }
}
```

- Bottom Status Bar:** Ln 17, Col 6, Spaces: 4, UTF-8, CRLF, Java, Record high, ENG, 4:40 pm, 06/03/2024.

## Array Looping 3(Output)

The screenshot shows the Eclipse IDE interface with the following details:

- File Menu:** File, Edit, Selection, View, Go, Run, ...
- Toolbar:** Back, Forward, Search, Refresh, Minimize, Maximize, Close.
- Search Bar:** SJ Camps's Java
- Left Sidebar (EXPLORER):** Shows a tree view of Java files in the workspace, including arrloop3.java, error.java, error1.java, error2.java, Wordspace.java, Wordbirthday.java, and arrloop3.java.
- Central Area:** Terminal tab showing the output of the arrloop3.java program.

```
Windows PowerShell
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PS C:\Users\Student\Desktop\SJ Camps's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\2ddf840f397ac873410e2f733e6932a2\redhat.java\jdt_ws\SJ Camps' 's Java_e32154d9\bin\arrloop3'
num [0]: 12
num [2]: 120
num [4]: 320
num [6]: 93
num [8]: 60
PS C:\Users\Student\Desktop\SJ Camps's Java>
```

- Bottom Status Bar:** Ln 17, Col 6, Spaces: 4, UTF-8, CRLF, Java, Record high, ENG, 4:42 pm, 06/03/2024.

## Array Exercise 1(Input)

The screenshot shows the Microsoft Visual Studio Code interface with the following details:

- File Explorer:** Shows a list of Java files in the "SJ CAMPS'S JAVA" folder.
- Code Editor:** Displays the content of `array_exercise_1.java`. The code initializes two arrays, `numbers` and `evenNumbers`, both of size 10. It then prompts the user to enter 10 numbers. For each number, it checks if it's even or odd and stores it in the respective array. Finally, it prints the even elements followed by the odd elements.
- Status Bar:** Shows the file path as "SJ CAMPS's Java", line 16, column 30, and other system information like date and time.

```
public class array_exercise_1 {
    public static void main(String[] args) {
        int[] numbers = new int[10];
        int[] evenNumbers = new int[10];
        int[] oddNumbers = new int[10];
        int evenCount = 0;
        int oddCount = 0;

        Scanner scan = new Scanner(System.in);

        System.out.print("*****INPUT*****");
        for (int i = 0; i < numbers.length; i++) {
            System.out.print("Enter a number: ");
            numbers[i] = scan.nextInt();
            if (numbers[i] % 2 == 0) {
                evenNumbers[evenCount++] = numbers[i];
            } else {
                oddNumbers[oddCount++] = numbers[i];
            }
        }

        System.out.print("*****OUTPUT*****");
        System.out.print("Even Elements: ");
        for (int i = 0; i < evenCount; i++) {
            System.out.print(evenNumbers[i]);
            if (i != evenCount - 1)
                System.out.print(", ");
        }

        System.out.println();

        System.out.print("Odd Elements: ");
        for (int i = 0; i < oddCount; i++) {
            System.out.print(oddNumbers[i]);
            if (i != oddCount - 1)
                System.out.print(", ");
        }
    }
}
```

## Array Exercise 1(Output)

The screenshot shows the Microsoft Visual Studio Code interface with the following details:

- File Explorer:** Shows a list of Java files in the "SJ CAMPS'S JAVA" folder.
- Terminal:** Displays the output of running the Java application. The application asks for 10 numbers, processes them, and then prints the even and odd elements separately.
- Status Bar:** Shows the file path as "SJ CAMPS's Java", line 16, column 30, and other system information like date and time.

```
Windows PowerShell
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PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\2ddfb0f397ac873410e2f733e6932a2\redhat\java\jdt_ws\SJ Camps '' s Java_e32154db\bin' 'array_exercise_1'
*****INPUT*****
Enter a number:
PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\Desktop\SJ Camps '' s Java'; & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\2ddfb0f397ac873410e2f733e6932a2\redhat\java\jdt_ws\SJ Camps '' s Java_e32154db\bin' 'array_exercise_1'
Enter a number: 1
Enter a number: 2
Enter a number: 3
Enter a number: 4
Enter a number: 5
Enter a number: 6
Enter a number: 7
Enter a number: 8
Enter a number: 9
Enter a number: 10
*****OUTPUT*****
Even Elements: 2, 4, 6, 8, 10
Odd Elements: 1, 3, 5, 7, 9
PS C:\Users\Student\Desktop\SJ Camps 's Java>
```

## Array Exercise 2(Input)

The screenshot shows the Microsoft Visual Studio Code interface. The left sidebar displays a file tree for a project named 'SI CAMPS'S JAVA'. The current file is 'array\_exercise\_2.java'. The code in the editor window is:

```
1 public class array_exercise_2 {
2     public static void main(String[] args) {
3
4         int [] numbers = {1,8,10,7,4,112,43,144,18,11};
5
6         for ( int i = 0; i < numbers.length; i++){
7             System.out.print(i + "t ");
8         }
9         System.out.println("t\n-----");
10        for ( int s = 0; s < numbers.length; s++){
11            System.out.print(numbers [s] + "t ");
12        }
13        System.out.println("t\n-----");
14    }
15 }
16
17
18 }
```

The status bar at the bottom right shows: Ln 20, Col 1 Spaces: 4 UTF-8 CRLF {} Java 4:45 pm 06/03/2024

## Array Exercise 2(Output)

The screenshot shows the Microsoft Visual Studio Code interface with the 'TERMINAL' tab selected. The terminal window displays the output of the Java program. It starts with the Windows PowerShell copyright notice, followed by a prompt, and then the execution of the Java command:

```
PS C:\Users\Student\Desktop\SI Camps's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeData
f1sInExceptionMessages' '-cp' ':C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\2ddff04ff39ac873410e2f733e6932a2\redhat.java\jdt_ws\SI Camps '' s Java
e32154d9\bin' 'array_exercise_2'
```

Below the command, the output shows the array elements separated by vertical bars:

0	1	2	3	4	5	6	7	8	9
1	8	10	7	4	112	43	144	18	11

The status bar at the bottom right shows: Ln 20, Col 1 Spaces: 4 UTF-8 CRLF {} Java 4:45 pm 06/03/2024

## Array Exercise 3(Input)

```
array_exercise_3.java
1 import java.util.*;
2 public class array_exercise_3 {
3     public static void main(String[] args) {
4         Scanner scan = new Scanner(System.in);
5
6         System.out.print("ENTER A NUMBER OF ROWS: ");
7         int rows = scan.nextInt();
8         System.out.print("ENTER NUMBER OF COLUMNS: ");
9         int columns = scan.nextInt();
10        System.out.println("MULTIPLICATION OF TABLE OF ELEMENTS");
11
12        for (int i = 1; i <= rows; i++) {
13            for (int s = 1; s <= columns; s++) {
14                System.out.print(i * s + "\t");
15            }
16            System.out.println();
17        }
18    }
19}
20}
21
```

## Array Exercise 3(Output)

```
array_exercise_3
Windows PowerShell
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PS C:\Users\Student\Desktop\SJ Camps's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeData
_e2154d9\bin' 'array_exercise_3'
ENTER A NUMBER OF ROWS: 10
ENTER NUMBER OF COLUMNS: 7
MULTIPLICATION OF TABLE OF ELEMENTS
1   2   3   4   5   6   7
2   4   6   8   10  12  14
3   6   9   12  15  18  21
4   8   12  16  20  24  28
5   10  15  20  25  30  35
6   12  18  24  30  36  42
7   14  21  28  35  42  49
8   16  24  32  40  48  56
9   18  27  36  45  54  63
10  20  30  40  50  60  70
PS C:\Users\Student\Desktop\SJ Camps's Java>
```

## Chapter 2: Midterm

### Nested Loop (Input)

The screenshot shows the VS Code interface with the file `nest.java` open in the editor. The code is a Java program that prints a nested pattern of asterisks. It uses a `Scanner` to read the number of rows from standard input. The code is as follows:

```
nest.java
nest> nest > main(String[])
1 import java.util.Scanner;
2
3 public class nest {
4     Run|Debug
5     public static void main(String[] args) {
6
7         int i, column, rows;
8         Scanner scan = new Scanner(System.in);
9
10        System.out.print(" Enter the number of rows to print : \t");
11        rows = scan.nextInt();
12
13        for (i = 1; i <= rows; i++) {
14            for (column = 1; column <= i; column++) {
15                System.out.print ("*");
16            }
17            System.out.println();
18
19        }
20    }
21
22
23
24 }
```

### Nested Loop (Output)

The screenshot shows the VS Code interface with the terminal tab selected, displaying the output of the `nest` command. The output shows the nested asterisk pattern printed to the console.

```
nest.java
nest> nest
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

PS C:\Users\Student\Desktop\SJ Camps's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9-9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\2ddf34bf397ac873410e2f733e6932a2\redhat\java\jdt_ws\SJ Camps'' s Java_e32154d9\bin' 'nest'
Enter the number of rows to print : 5
*****
***
```

### Nested Loop Reverse (Output)

The screenshot shows a Java development environment with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Terminal Tab:** TERMINAL
- Terminal Output:**

```
Windows PowerShell
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PS C:\Users\Student\Desktop\SJ Camps's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspacesStorage\2ddfb80f397ac873410e2f733e6932a2\redhat.java\jdt_ws\SJ Camps' 'SJ Camps's Java
Enter the number of rows to print : 5
*****
***
```
- Explorer View:** Shows a list of Java files in the 'SJ CAMPS'S JAVA' folder, including array\_exercise\_1.java, array\_exercise\_2.java, array\_exercise\_3.java, array.java, arrloop1.java, arrloop2.java, arrloop3.java, error.java, error1.java, error2.java, fibonacci.java, GAME1.java, GAME2.java, GAME3.java, manipulate.java, nest\_reverse.java, nest.java, password1.java, password2.java, password3.java, practicum1.java, practicum2.java, resibo1.java, resibo2.java, rmdm.java, Stringmanipulation.java, twoDarray.java, Wordbirthday.java, Wordcount.java, Wordname.java, and Wordspace.java.
- Status Bar:** Ln 18, Col 30, Spaces: 4, UTF-8, CRLF, Java, Earnings upcoming, 4:51 pm, 06/03/2024.

## 2D Array(Input)

The screenshot shows the Eclipse IDE interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Title Bar:** SJ Camps's Java
- Toolbar:** Standard Eclipse toolbar icons.
- Left Sidebar (Explorer):** Shows a project named "SJ CAMP'S JAVA" containing numerous Java files, with "twoDarray.java" currently selected.
- Central Area:** Code editor showing the following Java code:

```
1 public class twoDarray {
2     public static void main(String[] args) {
3         int [][] uneven = {{1,2,3},{0,2},{0,1,2,3,4}};
4         for (int row = 0; row < uneven.length; row++){
5             System.out.print("Row "+ row + "\n");
6             for (int col = 0; col < uneven[row].length; col++)
7                 System.out.print(uneven[row][col]+ " ");
8             System.out.println();
9         }
10    }
11 }
```

- Bottom Status Bar:** Ln 15, Col 1 Spaces: 4 UTF-8 CR/LF Java Go Live
- Taskbar:** Shows the Windows taskbar with various pinned and running applications.

## 2D Array(Output)

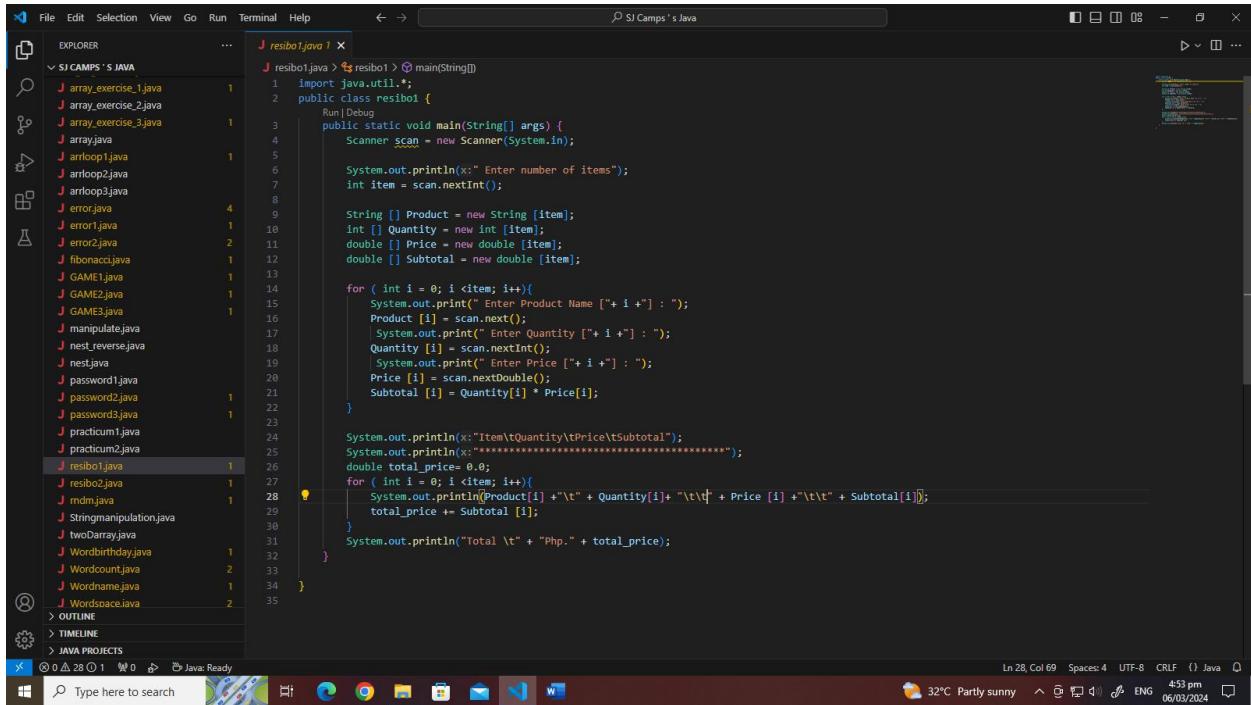
The screenshot shows the Eclipse IDE interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, ...
- Title Bar:** SJ Camps's Java
- Toolbar:** Standard Eclipse toolbar icons.
- Left Sidebar (Explorer):** Shows a project named "SJ CAMP'S JAVA" containing numerous Java files, with "twoDarray.java" currently selected.
- Central Area:** Code editor showing the same Java code as the previous screenshot.
- Bottom Status Bar:** Ln 15, Col 1 Spaces: 4 UTF-8 CR/LF Java Go Live
- Terminal Tab:** Shows the output of the "Run: twoDarray" command in the Windows PowerShell terminal:

```
PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9-hotspot\bin\java' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\2ddf840f397ac873410e2f32aa\redhat-java\jdt_ws\SJ Camps 's Java_e32154d9\bin' 'twoDarray'
Row 0: 1|2|3
Row 1: 0|2|
Row 2: 0|1|2|3|4|
```

- Taskbar:** Shows the Windows taskbar with various pinned and running applications.

## Receipt 1(Input)



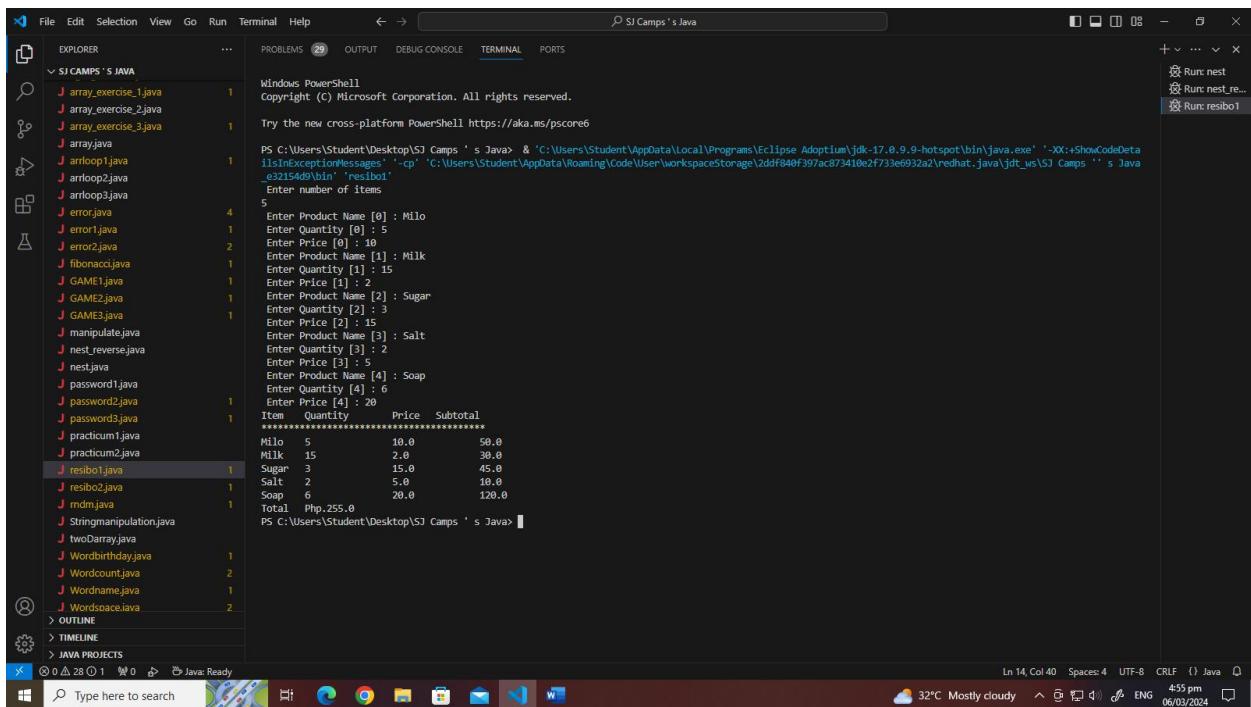
```

File Edit Selection View Go Run Terminal Help
SJ CAMPS 'S JAVA
resibo1.java
import java.util.*;
public class resibo1 {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        System.out.print("Enter number of items");
        int item = scan.nextInt();
        String [] Product = new String [item];
        int [] Quantity = new int [item];
        double [] Price = new double [item];
        double [] Subtotal = new double [item];
        for ( int i = 0; i < item; i++) {
            System.out.print(" Enter Product Name [" + i + "] : ");
            Product [i] = scan.next();
            System.out.print(" Enter Quantity [" + i + "] : ");
            Quantity [i] = scan.nextInt();
            System.out.print(" Enter Price [" + i + "] : ");
            Price [i] = scan.nextDouble();
            Subtotal [i] = Quantity[i] * Price[i];
        }
        System.out.println("Item\tQuantity\tPrice\tSubtotal");
        System.out.println("*****");
        double total_price= 0.0;
        for ( int i = 0; i < item; i++) {
            System.out.println(Product[i] + "\t" + Quantity[i] + "\t" + Price [i] + "\t" + Subtotal[i]);
            total_price += Subtotal [i];
        }
        System.out.println("Total \t" + "Php." + total_price);
    }
}

```

Ln 28, Col 69 Spaces: 4 UTF-8 CRLF Java 453 pm 06/03/2024

## Receipt 1(Output)



```

File Edit Selection View Go Run Terminal Help
SJ CAMPS 'S JAVA
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeData
filesInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspacesStorage\2ddfb04f397ac873410e2f733e6932a2\redhat.java\jdt_ws\SJ Camps '' s Java
-e22154d9\bin' 'resibo1'
Enter number of items
5
Enter Product Name [0] : Milo
Enter Quantity [0] : 5
Enter Price [0] : 10
Enter Product Name [1] : Milk
Enter Quantity [1] : 15
Enter Price [1] : 2
Enter Product Name [2] : Sugar
Enter Quantity [2] : 3
Enter Price [2] : 15
Enter Product Name [3] : Salt
Enter Quantity [3] : 2
Enter Price [3] : 5
Enter Product Name [4] : Soap
Enter Quantity [4] : 6
Enter Price [4] : 20
Item Quantity Price Subtotal
*****
Milo 5 10.0 50.0
Milk 15 2.0 30.0
Sugar 3 15.0 45.0
Salt 2 5.0 10.0
Soap 6 20.0 120.0
Total Php.255.0
PS C:\Users\Student\Desktop\SJ Camps 's Java>

```

Ln 14, Col 40 Spaces: 4 UTF-8 CRLF 453 pm 06/03/2024

## Receipt 2(Input)

```
import java.util.*;
public class receipt2 {
    Run|Debug
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);

        String cashier_name = "";
        String date = "January 31, 2024";
        int OR = 0;
        int payment = 0;
        double tax = 0.0, subtotal = 0.0, total = 0.0, exchange= 0.0;
        double VAT = 0.05;

        System.out.println("\t PURCHASE RECEIPT SYSTEM");
        System.out.println("\t INPUT DETAILS BELOW");
        System.out.println("\t*****");
        System.out.print("Enter Cashier Name: \t");
        cashier_name = scan.nextLine();
        System.out.print("Enter O.R. No: \t");
        OR = scan.nextInt();
        System.out.println("\t*****");
        System.out.print("Enter Number of Items: \t ");
        int item = scan.nextInt();
        System.out.println("\t*****");

        String [] name = new String [item];
        int [] quantity = new int [item];
        double [] price = new double [item];
        double [] total_of_product = new double [item];

        for (int s = 0; s < item; s++){
            System.out.print("Enter Item Name: \t");
            name [s] = scan.nextLine();
            name [s] = scan.nextLine();
            System.out.print("Enter Item Price: \t");
            price [s] = scan.nextDouble();
            System.out.print("Enter Item Quantity: \t");
            quantity [s] = scan.nextInt();
            System.out.println("-----");
            total_of_product [s] = quantity[s] * price[s];
            subtotal = subtotal + total_of_product[s];
        }

        tax = VAT * subtotal;
        total = subtotal + tax;

        System.out.println("Total Payment: " + total);

        do {
            System.out.print("Enter Customer Payment:\t");
            payment = scan.nextInt();
        } while (payment < total);

        exchange = payment - total;

        System.out.println("\n\n\t GAISANO GRAND MALL OF Digos");
        System.out.println("\t 1PC. ARTHUR HIGHWAY, Digos City");
        System.out.println("\t TEL: 553-2847 | FAX: 6796523825");
        System.out.println("\t GST Reg. No. 0823548294");
        System.out.println("\t ICB: 520873290");
        System.out.println("\t Purchase Receipt");
        System.out.println("\nCashier : " + cashier_name);
        System.out.println(date + "O.R. No.: " + OR);
        System.out.println("\t*****");
        System.out.println("\tQty\Item\Price");
        System.out.println("-----");

        for (int s = 0; s < item; s++){
            System.out.println(quantity[s] + "\t" + name[s] + "\t" + price[s]);
        }
        System.out.println("\t*****");
        System.out.println("Subtotal \t" + subtotal);
        System.out.println("VAT (%) \t" + tax);
        System.out.println("Total \t" + total);
        System.out.println("Cash \t" + payment);
        System.out.println("Change \t" + exchange);
        System.out.println("\t THANK YOU FOR SHOPPING!");
    }
}
```

## Receipt 2(Input)

```
PURCHASE RECEIPT SYSTEM
INPUT DETAILS BELOW
*****
Enter Cashier Name: Stephen Campilan
Enter O.R. No: 123456789
*****
Enter Number of Items: 4
*****
Enter Item Name: Milo
Enter Item Price: 10
Enter Item Quantity: 2

-----
Enter Item Name: Milk
Enter Item Price: 15
Enter Item Quantity: 2

-----
Enter Item Name: Sugar
Enter Item Price: 20
Enter Item Quantity: 2

-----
Enter Item Name: Salt
Enter Item Price: 10
Enter Item Quantity: 2

-----
Total Payment: 115.5
Enter Customer Payment: 100
Enter Customer Payment: 110
Enter Customer Payment: 150

GAISANO GRAND MALL OF DIGOS
MC ARTHUR HIGHWAY, DIGOS CITY
TEL. 553-2847 FAX: 6796523825
GST Reg. No. 0023648294
RCB: 529873298

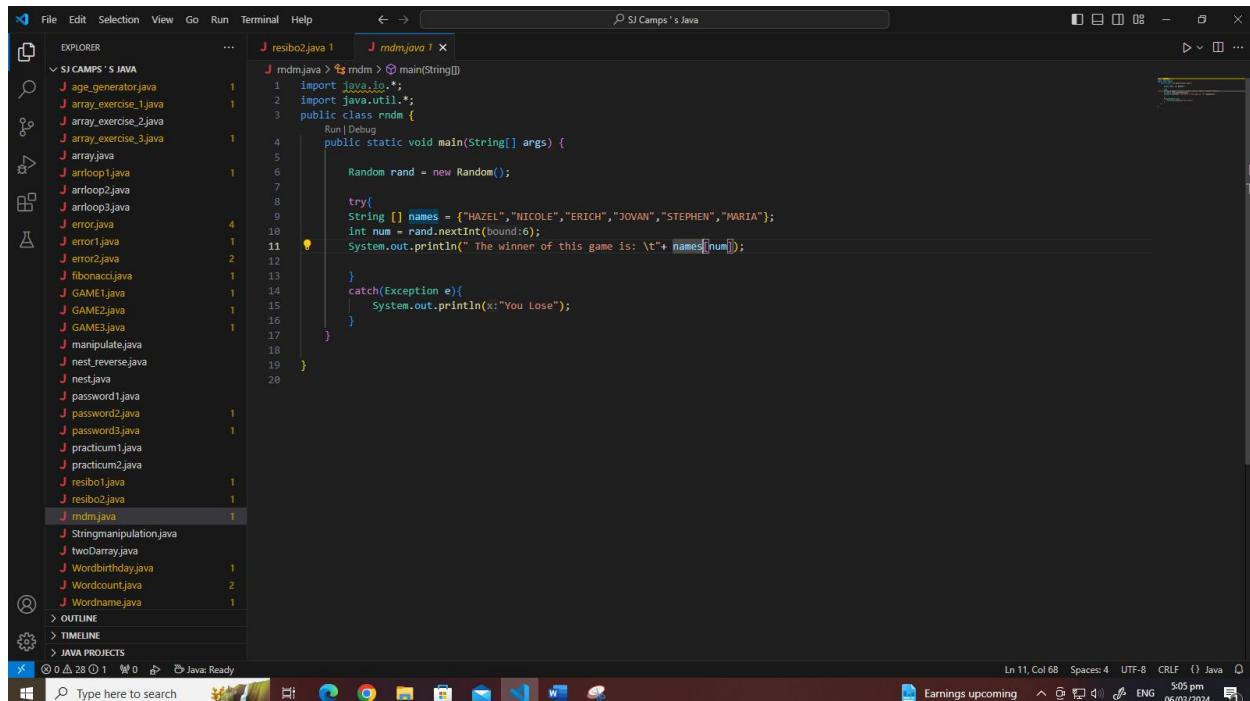
Purchase Receipt

Cashier : Stephen Campilan
January 31, 2024 O.R. No.:123456789
*****
Qty Item/s Price/s
-----
2 Milo 10.0
2 Milk 15.0
2 Sugar 20.0
2 Salt 10.0
-----
Subtotal 110.0
VAT (5%) 5.5
Total 115.5
Cash 150
Change 34.5

THANK YOU FOR SHOPPING!
PS C:\Users\Student\Desktop\SJ Camps 's Java> █
```

## Chapter 3 : Semi Final

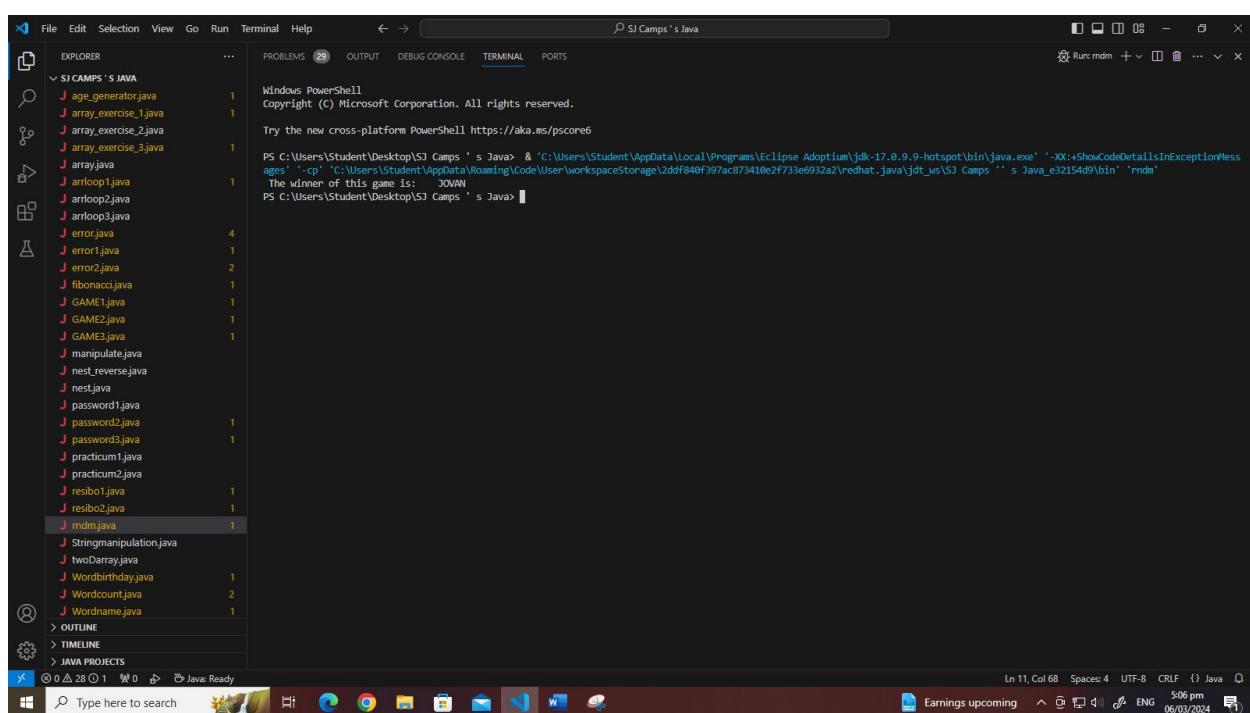
### Random (Input)



```
File Edit Selection View Go Run Terminal Help < - > SJ Camps's Java
EXPLORER ... J resibo2.java 1 J rndm.java 1
SJ CAMP'S JAVA
J age_generator.java 1
J array_exercise_1.java 1
J array_exercise_2.java 1
J array_exercise_3.java 1
J array.java 1
J arrloop1.java 1
J arrloop2.java 1
J arrloop3.java 1
J error.java 4
J error1.java 1
J error2.java 2
J fibonacci.java 1
J GAME1.java 1
J GAME2.java 1
J GAME3.java 1
J manipulate.java 1
J nest_reverse.java 1
J nest.java 1
J password.java 1
J password2.java 1
J password3.java 1
J practicum1.java 1
J practicum2.java 1
J resibo1.java 1
J resibo2.java 1
J rndm.java 1
J Stringmanipulation.java 1
J twoDarray.java 1
J Wordbirthday.java 1
J Wordcount.java 2
J Wordname.java 1
OUTLINE
TIMELINE
JAVA PROJECTS
Type here to search Earnings upcoming 5:05 pm 06/03/2024
Ln 11, Col 68 Spaces: 4 UTF-8 CRLF {} Java
```

```
import java.io.*;
import java.util.*;
public class rndm {
    public static void main(String[] args) {
        Random rand = new Random();
        try{
            String [] names = {"HAZEL","NICOLE","ERICH","JOVAN","STEPHEN","MARIA"};
            int num = rand.nextInt(names.length);
            System.out.println(" The winner of this game is: "+names[num]);
        }
        catch(Exception e){
            System.out.println(" You Lose");
        }
    }
}
```

### Random (Output)



```
File Edit Selection View Go Run Terminal Help < - > SJ Camps's Java
PROBLEMS 29 OUTPUT DEBUG CONSOLE TERMINAL PORTS
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\Student\Desktop\SJ Camps's Java> & "C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe" '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\2ddfb340f397ac87341e2f733e693a2\redhat.java\jdt_ws\SJ Camps's Java_e32154d9\bin' 'rndm'
The winner of this game is: JOVAN
PS C:\Users\Student\Desktop\SJ Camps's Java>
```

```
Type here to search Earnings upcoming 5:06 pm 06/03/2024
Ln 11, Col 68 Spaces: 4 UTF-8 CRLF {} Java
```

## Practicum 1(Input)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar displays a file tree under "SJ CAMPS'S JAVA" containing various Java files. The central workspace shows the code for "practicum1.java". The code is a Java program that searches for a student name in an array of names. It imports java.util.\* and defines a class practicum1 with a main method. It uses Scanner to read input from System.in and prints search results to System.out.

```
import java.util.*;
public class practicum1 {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);

        String[] students = {"Claniedhel", "Jayvive", "Weeslyn", "Lorne", "Mae Ann", "Nelson", "Mervin", "Jay", "Ryan", "Eric", "Michael", "Joy", "Angelo", "Marisol", "Kent", "Vinten"};

        System.out.println("\nSEARCH ARRAY CODE");
        System.out.println("This is a system that can search the name of the student of ICT -TVL-89");
        System.out.print("Please Enter The Name Of Student: " + "\t");
        String name = scan.nextLine();
        System.out.println("-----");

        boolean FOUND = false;

        for (int i = 0; i < students.length; i++) {
            if (name.equals(students[i])) {
                FOUND = true;
                break;
            } else {
                FOUND = false;
            }
        }
        if (FOUND) {
            System.out.println("Name Found");
        } else {
            System.out.println("Not Found");
        }
    }
}
```

## Practicum 1(Output)

The screenshot shows the Windows taskbar with the title bar "SJ Camps's Java". The taskbar includes icons for File Explorer, Task View, Start, Taskbar settings, and a search bar. The search bar contains the text "Type here to search". The taskbar also shows the date and time as "06/03/2024 5:17 pm".

## Practicum 2(Input)

```
File Edit Selection View Go Run Terminal Help < > SJ CAMPS's Java J resibo2.java J practicum2.java 1

import java.util.*;

public class practicum2{
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);

        String names[] = {"Clareidhel", "Jay vive", "Weelyn", "Lorre", "Mae ann", "Nelson", "Mervin", "Jay", "ryan", "Eric", "Michel", "Joy", "Angelo", "Marisol", "Kent", "Vincent"};
        do {
            System.out.println("This is a system that can search the name of the student if ICT-TVL-89");
            System.out.println("*****");
            System.out.println("Please Enter the Name of Student "+'\t');
            String name = scan.nextLine();
            System.out.println("-----");
            boolean Found = false;
            for (int i = 0;i<names.length;i++){
                if (name.equals(names[i])){
                    Found = true;
                    break;
                }else{
                    Found = false;
                }
            }
            if (Found){
                System.out.println("Name Found");
            }else{
                System.out.println("No Name Found");
            }
        }while (System.out.println("Do you want to search again[Y/N]"));
        while (scan.nextLine().equals("noObject")=="Y");
    }
}
```

Ln 30, Col 41 Spaces: 4 UTF-8 CRLF {} Java

Sunset coming 5:13 pm 06/03/2024

## Practicum 2(Input)

```
File Edit Selection View Go Run Terminal Help < > SJ CAMPS's Java J resibo2.java J practicum2.java 1

Windows PowerShell
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PS C:\Users\Student\Desktop\SJ Camps's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\Code\workspaceStorage\b2df840f397ac87341de2f733e6932a2\redhat.java\jdt_ws\SJ Camps'' s Java\c32154d9\bin' 'practicum2'
This is a system that can search the name of the student if ICT-TVL-89
*****
Please Enter the Name of Student
Stephen
-----
No Name Found
Do you want to search again[Y/N]
Y
This is a system that can search the name of the student if ICT-TVL-89
*****
Please Enter the Name of Student
Jay vive
-----
Name Found
Do you want to search again[Y/N]
N
PS C:\Users\Student\Desktop\SJ Camps's Java>
```

Ln 1, Col 20 Spaces: 4 UTF-8 CRLF {} Java

Sunset coming 5:14 pm 06/03/2024

## Password Generator 1(Input)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar displays a file tree under "SJ CAMPS'S JAVA" containing various Java files. The central editor pane shows the code for "password1.java". The code generates a random OTP password by selecting 8 characters from a pool of uppercase letters and digits.

```
import java.util.*;
public class password1 {
    public static void main(String[] args) {
        Random rand = new Random();
        String pass = "";
        int num = 0;
        char [] character = {'A','a','B','b','C','c','D','d','E','e','F','f',
        'G','g','H','h','I','i','J','j','K','k','L','l',
        'M','m','N','n','O','o','P','p','Q','q','R','r',
        'S','s','T','t','U','u','V','v','W','w','X','x',
        'Y','y','Z','z','0','1','2','3','4','5','6','7',
        '8','9'};
        for (int i = 0; i < 8;i++){
            num = rand.nextInt(character.length);
            pass+=character[num];
        }
        System.out.print(" Your OTP Password is:\t"+ pass);
    }
}
```

## Password Generator 1(Output)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar displays a file tree under "SJ CAMPS'S JAVA". The central editor pane shows the code for "password1.java". The bottom right corner shows the Windows Taskbar with the "Terminal" icon selected. The terminal window displays the command "java password1" being run in a Windows PowerShell, and the output shows the generated OTP password "VNIEpiOp".

```
PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspacesStorage\2ddfb40f397ac873410e2f733e6932a2\redhat\.java\jdt_us\$3J Camps '' $Java\_e21215d9\b1n' 'password1'
Your OTP Password is: VNIEpiOp
PS C:\Users\Student\Desktop\SJ Camps 's Java>
```

## Password Generator 2(Input)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar displays a file tree under "SJ CAMPS'S JAVA" containing various Java files. The main editor window contains the following Java code:

```
import java.io.IOException;
import java.util.*;
public class password2 {
    public static void main(String[] args) {
        Random rand = new Random();
        try {
            int num ,num1,num2 = 0;
            char [] capital= {'A','B','C','D','E','F','G','H','I','J','K','L','M',
                'N','O','P','Q','R','S','T','U','V','W','X','Y','Z'};
            int [] number = {0,1,2,3,4,5,6,7,8,9};
            char [] lowercase = { 'a','b','c','d','e','f','g','h','i','j','k','l','m',
                'n','o','p','q','r','s','t','u','v','w','x','y','z'};
            System.out.print("Here is your password:\t");
            for (int j = 0; j < 2;j++){
                num1 = rand.nextInt(number.length);
                System.out.print( number[num1]);
            }
            for (int i = 0; i < 1;i++){
                num = rand.nextInt(capital.length);
                System.out.print (capital[num]);
            }
            for (int k = 0; k< 5;k++){
                num2 = rand.nextInt(lowercase.length);
                System.out.print (lowercase[num2]);
            }
        } catch (Exception e) {
            System.out.println("your input is invalid");
        }
    }
}
```

The status bar at the bottom shows "Ln 8, Col 7" and "Java: Ready".

## Password Generator 2(Output)

The screenshot shows the Windows Terminal interface with the title bar "SJ Camps's Java". The left sidebar displays a file tree under "SJ CAMPS'S JAVA". The terminal tab shows the command line output:

```
Windows PowerShell
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PS C:\Users\Student\Desktop\SJ Camps 's Java> & C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspacesStorage\2ddfb40f397ac873410e2f733e6932a2\redhat.java\jdt_us\SJ Camps '' $Java\_e21214d9\bin' "password2"
Here is your password: 65Rz1mmh
PS C:\Users\Student\Desktop\SJ Camps 's Java>
```

The status bar at the bottom shows "Ln 8, Col 7" and "Java: Ready".

## Password Generator 3 (Input)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar shows a file tree with various Java files. The main editor window displays the code for "password3.java". The code generates a password based on user input for character count and includes validation for at least 5 characters.

```
import java.util.*;
public class password3 {
    public static void main(String[] args) {
        Random rand = new Random();
        Scanner f = new Scanner(System.in);
        char [] alphanumeric = {'A','a','B','b','C','c','D','d','E','e','F','f',
                               'G','g','H','h','I','i','J','j','K','k','L','l',
                               'M','m','N','n','O','o','P','p','Q','q','R','r',
                               'S','s','T','t','U','u','V','v','W','w','X','x',
                               'Y','y','Z','z','0','1','2','3','4','5','6','7',
                               '8','9'};
        int password = 0;
        do {
            try{
                System.out.println("How many characters do you want in your password?");
                password = f.nextInt();
                int alphabet = 0;
                if (password > 4){
                    for (int i = 0; i < password; i++) {
                        alphabet = rand.nextInt(alphanumeric.length);
                        System.out.print(alphanumeric[alphabet]);
                    }
                }else{
                    System.out.println("Your password must have at least 5 character");
                }
            } catch (Exception e){
                System.out.println("Your Password must have at least 5 character");
            }
        } while (password < 5);
    }
}
```

## Password Generator 3 (Output)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The terminal window is open, showing the command "Run: passw...". The output shows the Java command being run and the user interaction for entering a password length of 12 characters.

```
Windows PowerShell
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PS C:\Users\Student\Desktop\SJ Camps's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' '<C:\Users\Student\AppData\Roaming\Code\User\workspacesStorage\2ddfb840f397ac873410e2f733e6932a2\redhat.java\jdt_us\$3 Camps '' $Java\_e21215d9\bin' 'password3'
How many characters do you want in your password?
12
0Jy6Rwo0J3BK
PS C:\Users\Student\Desktop\SJ Camps's Java>
```

## Arithmetic Exception(Input)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar displays a file tree under "SJ CAMPS'S JAVA" containing numerous Java files. The central workspace shows the code for "error.java":

```
import java.io.IOException;
import java.util.*;
public class error {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        try {
            int a = 30, b = 0;
            int c = a/b;
            System.out.println("Result:\t" + c);

            try {
                int d = 30;
                int f = d/2;
                System.out.println("RESULT" + c);
            }
            catch (Exception e){
                System.out.println("Wrong");
            }
        }
        catch(ArithmeticException e){
            System.out.println("Invalid Input");
        }
    }
}
```

The code includes several nested try-catch blocks to handle different types of exceptions, specifically focusing on division by zero and arithmetic exceptions.

## Arithmetic Exception(Output)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar displays a file tree under "SJ CAMPS'S JAVA". The central workspace shows the code for "error.java" and the terminal output:

```
Windows PowerShell
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PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\2ddfb40f397ac87341de2f733e6932a2\redhat-.java\jdt_ws\SJ Camps '' s Java\c32154d9\bin' "error"
Invalid Input
PS C:\Users\Student\Desktop\SJ Camps 's Java>
```

The terminal output shows the execution of the Java program and its response to invalid input, demonstrating the behavior of the arithmetic exception handling code.

## Input Output Exception(Input)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar displays the "EXPLORER" view with a list of Java files. The "error1.java" file is selected and shown in the central editor area. The code demonstrates how to handle an `InputMismatchException` using a `Scanner` object to read user input.

```
import java.util.*;  
public class error1 {  
    public static void main(String[] args) {  
        Scanner scan = new Scanner(System.in);  
        try {  
            System.out.println(" Enter a number");  
            int name = scan.nextInt();  
            System.out.println(name);  
        } catch (Exception e){  
            System.out.println(" [invalid Input]");  
        }  
    }  
}
```

## Input Output Exception(Output)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The "TERMINAL" tab is active in the bottom right corner. The terminal window displays the command "java error1" being run in a Windows PowerShell. The output shows the program prompting for a number, accepting it, and then printing it back. A user inputs "invalid Input", which causes the program to catch the exception and print the error message " [invalid Input]".

```
Windows PowerShell  
Copyright (C) Microsoft Corporation. All rights reserved.  
Try the new cross-platform PowerShell https://aka.ms/pscore6  
PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspacesStorage\2d6f840f397ac873410e2f733e6932a2\redhat-.java\jdt_us\SJ Camps '' & java -e32154d9\b1n 'error1'  
Enter a number  
steve  
invalid Input  
PS C:\Users\Student\Desktop\SJ Camps 's Java>
```

## Array Index Out Of Bounds Exception(Input)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar displays the "EXPLORER" view with a list of Java files. The main editor window contains the following Java code:

```
import java.util.Scanner;

public class error2 {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);

        try {
            int [] num = {1,2,3};
            System.out.println(num[10]);
        }
        catch (ArrayIndexOutOfBoundsException e){
            System.out.println("Sorry, It's out of bound");
        }
    }
}
```

The code attempts to print the element at index 10 of an array containing three elements (1, 2, 3), which results in an `ArrayIndexOutOfBoundsException`. A yellow warning icon is visible next to the catch block.

## Array index Out Of Bounds Exception(Output)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar displays the "EXPLORER" view with a list of Java files. The "TERMINAL" tab is selected in the bottom navigation bar. The terminal window displays the following output:

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspacesStorage\2ddfb40f397ac873410e2f733e6932a2\redhat.java\jdt_us\$3 Camps '' $Java\_e21214d9\bin' 'error2'

Sorry, It's out of bound
PS C:\Users\Student\Desktop\SJ Camps 's Java>
```

The terminal output shows the execution of the Java code and the resulting `ArrayIndexOutOfBoundsException` with the message "Sorry, It's out of bound".

## Bato Bato Pick 1(Input)

```
1 import java.util.*;
2 public class GAME1 {
3     Run | Debug
4     public static void main(String[] args) {
5         Scanner scan = new Scanner(System.in);
6         Random rand = new Random();
7         String [] game = {"rock","paper","scissor"};
8         String play = "";
9         try {
10             do {
11                 System.out.println(x:"Let's play , bato bato pick");
12                 System.out.println(x:"1. rock");
13                 System.out.println(x:"2. paper");
14                 System.out.println(x:"3. scissor");
15                 System.out.println(x:"Pick a number");
16                 int choice = scan.nextInt();
17
18                 if (choice >= 4){
19                     System.out.println(x:"Invalid, Enter Again");
20                     choice = scan.nextInt();
21                 }
22                 int enemy = rand.nextInt(bound:3);
23                 int user1 = choice -1;
24                 System.out.println(" You picked:"+ game [user1]);
25                 System.out.println(" Computer picked:"+ game [enemy]);
26                 if (user1 == enemy){
27                     System.out.println(x:"----Its a tie----");
28                 }
29                 else if ((user1 == 0 && enemy == 2)|| (user1 == 1 && enemy == 0)|| (user1 == 2 && enemy == 1)){
30                     System.out.println(x:"----You win----");
31
32                 }else {
33                     System.out.println(x:"----You lose----");
34
35                 }
36                 System.out.println(x:"Do you want to play again?");
37                 play = scan.nextLine();
38                 play = scan.nextLine();
39
40
41
42
43             } while (play.equalsIgnoreCase(anotherString:"Y"));
44             System.out.println(x:"thanks for playing");
45         } catch (Exception e){
46             System.out.println(x:" Invalid Input");
47         }
48
49     }
50
51 }
52 }
```

## Bato Bato Pick 1(Output)

The screenshot shows a Java development environment with multiple tabs open. The active tab is 'GAME1.java'. The code in the editor is as follows:

```
's Java_e32154d9\bin' 'GAME1'
let's play , bato bato pick
1. rock
2. paper
3. scissor
Pick a number
1
You picked:rock
Computer picked:paper
-----You lose-----
Do you want to play again?
y
Let's play , bato bato pick
1. rock
2. paper
3. scissor
Pick a number
2
You picked:paper
Computer picked:paper
-----its a tie-----
Do you want to play again?
n
thanks for playing
```

The terminal window shows the output of the program, which asks the user to pick between rock, paper, and scissor. The computer picks paper, resulting in a loss for the user. The user then chooses to play again, but enters 'n', so the program exits.

## Bato Bato Pick

2(Input)

```
public class GAMES{
    public static void main(String[] args) {
        boolean Winner = true, play_bet = true;
        String bot = "";
        try {

            System.out.println("-----Bato bato pick-----");
            System.out.print("Enter player's Name:\t");
            String name = scan.nextLine();
            System.out.println("*****" + name + " Vs. Computer*****");

            System.out.println("Who will be the Champion of Bato Bato Pick?");
            System.out.print("Place your bet +" "(Type A for " + name + " Type B for Computer):\t");
            bet = scan.nextLine();
            System.out.println("*****");

            if(bet.equalsIgnoreCase("a")) {play_bet = true;}
            else {play_bet = false;}

            System.out.println("Legend");
            System.out.println("0 - Rock");
            System.out.println("1 - Scissors" );
            System.out.println("2 - Paper");

            int player_score = 0, computer_score =0;

            do{
                int user1 = scan.nextInt();
                int computer = rand.nextInt(bound:3);
                System.out.println(name + ":" + game [user1]);
                System.out.println("Computer:" +game [computer]);

                if (user1 == computer){

                } else if ((user1 == 0 && computer == 2)|| (user1 == 1 && computer== 0)|| (user1 == 2 && computer == 1)){
                    player_score++;
                } else {
                    computer_score++;
                }
                System.out.println("*****" + player_score+ ":" + computer_score + "*****");

            } while ((player_score < 5)&&(computer_score < 5));

            if (player_score == 5){
                Winner = true;
                System.out.println(name + " Wins! The Champion of the Ultimate bato bato pick");
            } else {
                Winner = false;
                System.out.println("Computer Wins! The champion of the ultimate bato bato pick");
            }

            if (play_bet == Winner){
                System.out.println(" You Win the bet");
            } else {
                System.out.println(" You Lose the bet");
            }

            System.out.println("thanks for playing");
        } catch (Exception e){
            System.out.println(" Invalid Input");
        }
    }
}
```

## Bato Bato Pick 2(Output)

```
-----Bato bato pick-----
Enter player's Name: Stephen
***** Stephen Vs. Computer*****
Who will be the Champion of Bato Bato Pick?
Place your bet (Type A for Stephen Type B for Computer): a
*****
Legend
0 - Rock
1 - Scissors
2 - Paper
0
Stephen: rock
Computer:scissor
*****1;0*****
1
Stephen: paper
Computer:rock
*****2;0*****
2
Stephen: scissor
Computer:rock
*****2;1*****
1
Stephen: paper
Computer:scissor
*****2;2*****
2
Stephen: scissor
Computer:rock
*****2;3*****
0
Stephen: rock
Computer:scissor
*****3;3*****
1
Stephen: paper
Computer:paper
*****3;3*****
2
Stephen: scissor
Computer:scissor
*****3;3*****
0
Stephen: rock
Computer:paper
*****3;4*****
1
Stephen: paper
Computer:paper
*****3;4*****
0
Stephen: rock
Computer:scissor
*****4;4*****
2
Stephen: scissor
Computer:scissor
*****4;4*****
1
Stephen: paper
Computer:paper
*****4;4*****
0
Stephen: rock
Computer:scissor
*****5;4*****
Stephen Wins! The Champion of the Ultimate bato bato pick
You Win the bet
thanks for playing
PS C:\Users\Student\Desktop\SJ Camps ' s Java> |
```

## Guessing Game (Input)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The "EXPLORER" view on the left lists various Java files, with "GAME2.java" selected. The "EDITOR" view on the right displays the source code for "GAME2.java". The code defines a class GAME2 with a main method that generates a random number between 1 and 10, prompts the user for three tries to guess it, and prints "Right" if correct or "Wrong" if incorrect. It also handles invalid input exceptions.

```
public class GAME2 {
    public static void main(String[] args) {
        Random rand = new Random();
        Scanner scan = new Scanner(System.in);
        int guess = 0;
        int unknown_number = rand.nextInt(10)+1;
        System.out.println("I am thinking a number from 1 to 10");
        System.out.println("You must guess what it is in three tries");

        try{
            for (int i = 1; i < 4; i++){
                System.out.println(" Enter a guess");
                guess = scan.nextInt();
                if(guess == unknown_number){
                    System.out.println("Right");
                    System.out.println(" You have won the game");
                    break;
                }else {
                    System.out.println("Wrong");
                }
                if (i==3){
                    System.out.println("The correct number is:" + unknown_number);
                    System.out.println(" You have lost the game");
                }
            }
        } catch (Exception e){
            System.out.println("Invalid Input");
        }
    }
}
```

## Guessing Game (Output)

The screenshot shows the Windows Terminal window titled "SJ Camps's Java". The terminal output shows the execution of the "GAME2" class. It prints a welcome message, asks for three guesses, and correctly identifies the number as 8. The terminal also shows the Java environment details at the bottom.

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse_Adoptium\jdk-17.0.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaces\storage\2ddfb40f397ac873410e2f33e6932a2\redhat\.java\jdt_ws\SJ Camps '' $ Java
8
I am thinking a number from 1 to 10
You must guess what it is in three tries
Enter a guess
3
Wrong
Enter a guess
5
Wrong
Enter a guess
8
Right
You have won the game
PS C:\Users\Student\Desktop\SJ Camps 's Java>
```

## Chapter 4 : Final

### String Manipulation (Input)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar displays a file tree under "SJ CAMP'S JAVA" containing numerous Java files, with "Stringmanipulation.java" selected. The main editor window shows the following Java code:

```
public class Stringmanipulation {
    public static void main(String[] args) {
        String str = "Geeks@forGeeks";
        String [] arrofstr = str.split(regex:"@");
        for (String a : arrofstr)
            System.out.print(a + " ");
    }
}
```

The status bar at the bottom indicates "Java: Ready".

### String Manipulation (Output)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar displays a file tree under "SJ CAMP'S JAVA" containing numerous Java files, with "Stringmanipulation.java" selected. The main editor window shows the same Java code as the previous screenshot. Below the editor, the "TERMINAL" tab is active, displaying the Windows PowerShell command prompt and the output of the Java program:

```
PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptions' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\2ddfb840f397ac873410e2f733e6932a2\redhat\_java\jdt_ws\SJ Camps '' s Java e32154d9\bin' 'Stringmanipulation'
Geeks for Geeks
PS C:\Users\Student\Desktop\SJ Camps 's Java>
```

The status bar at the bottom indicates "Java: Ready".

## Word Count(Input)

The screenshot shows the Eclipse IDE interface with the title bar "SI Camps's Java". The left sidebar displays a file tree under "SI CAMPS'S JAVA" containing various Java files like array\_exercise\_2.java, array.java, and Wordcount.java. The main editor window contains the following Java code:

```
import java.util.*;
public class Wordcount {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        System.out.println(" Enter a statement");
        String word = scan.nextLine();
        String [] arrayword = word.split(regex: " ");
        for (String a : arrayword) {
        }
        System.out.println("Word Count: "+ arrayword.length + " Words");
    }
}
```

The "Wordcount.java" file is selected in the editor.

## Word Count(Output)

The screenshot shows the Eclipse IDE interface with the title bar "SI Camps's Java". The left sidebar displays a file tree under "SI CAMPS'S JAVA" containing various Java files like array\_exercise\_2.java, array.java, and Wordcount.java. The main editor window contains the same Java code as the previous screenshot. The terminal tab is active, showing the output of running the Wordcount.java program:

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Student\Desktop\SI Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeBeta
-lls:ExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspacesStorage\2ddfb40f397ac873410e2f733e6932a2\redhat\java\jdt_ws\SI Camps 's Java
-e32194d9\bin\Wordcount'
Enter a statement
The quick brown fox jumps over the lazy dog
Word Count: 9 Words
PS C:\Users\Student\Desktop\SI Camps 's Java>
```

The "Wordcount.java" file is selected in the editor.

## Word Space(Input)

The screenshot shows the Eclipse IDE interface with the title bar "SI Camps's Java". The left sidebar is the "EXPLORER" view, showing a list of Java files in the "SI CAMPS'S JAVA" project. The "TERMINAL" tab is active at the top, displaying the code for Wordspace.java:

```
import java.util.*;
public class Wordspace {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        System.out.println("Enter a statement");
        String word = scan.nextLine().trim();
        String [] arrayword = word.split(regex: " ");
        for (String a : arrayword) {
        }
        System.out.println("Word Count: "+ arrayword.length);
        int space = arrayword.length;
        int blank = space - 1;
        System.out.println("Space Count: "+ blank);
    }
}
```

The status bar at the bottom shows "Ln 6, Col 50 Spaces: 4 UFT-8 CRLF {} Java".

## Word Space(Output)

The screenshot shows the Eclipse IDE interface with the title bar "SI Camps's Java". The left sidebar is the "EXPLORER" view. The "TERMINAL" tab is active at the top, displaying the output of running Wordspace.java:

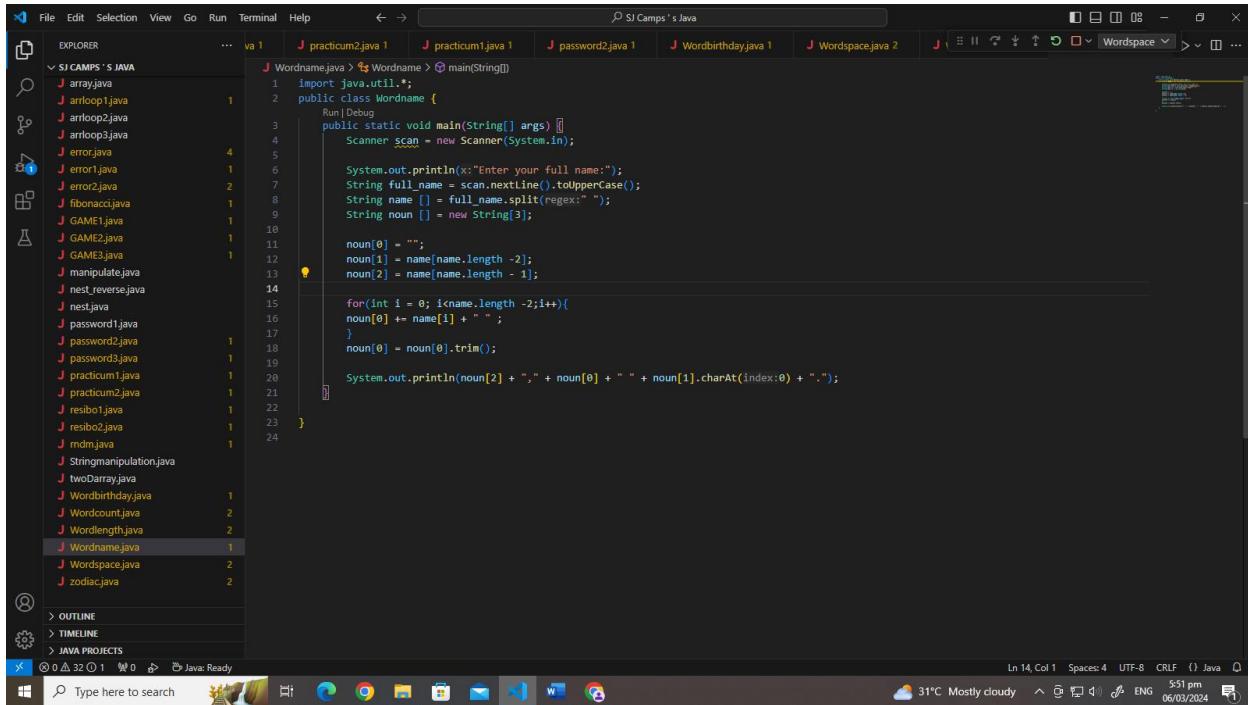
```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Student\Desktop\SI Camps 's Java> & C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeBeta
-e11s:ExceptionMessages' "-cp" 'C:\Users\Student\AppData\Roaming\Code\User\workspacesStorage\2ddfb40f397ac873410e2f733e6932a2\redhat\java\jdt_ws\SI Camps '' s Java
-e21214d9\bin' Wordspace
Enter a statement
The quick brown fox jumps over the lazy dog
Word Count: 9
Space Count: 8
PS C:\Users\Student\Desktop\SI Camps 's Java>
```

The status bar at the bottom shows "Ln 6, Col 50 Spaces: 4 UFT-8 CRLF {} Java".

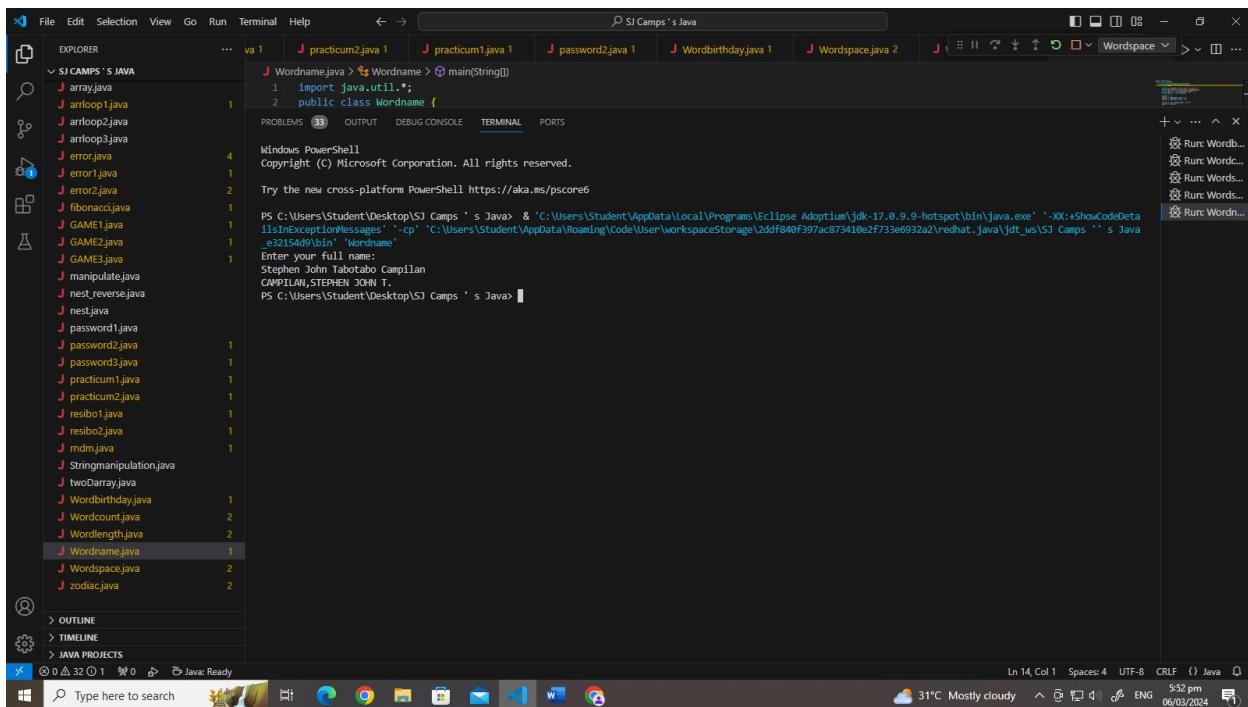
## Word Name(Input)



The screenshot shows the Eclipse IDE interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Title Bar:** SJ Camps's Java.
- Left Sidebar (Explorer):** Shows a list of Java files in the workspace, including array.java, arloop1.java, arloop2.java, arloop3.java, error.java, error1.java, error2.java, fibonacci.java, GAME1.java, GAME2.java, GAME3.java, manipulate.java, nest\_reverse.java, nest.java, password1.java, password2.java, password3.java, practicum1.java, practicum2.java, resibo1.java, resibo2.java, rdm.java, Stringmanipulation.java, twoDarray.java, Wordbirthday.java, Wordcount.java, Wordlength.java, Wordname.java (selected), Wordspace.java, and zodiac.java.
- Central Area:** The code editor displays the Wordname.java file. The code reads a full name from the user, splits it into three parts, and prints them in reverse order.
- Bottom Bar:** Shows Java: Ready, system tray icons, and a status bar indicating Ln 14, Col 1, Spaces: 4, UTF-8, ENG, 5:51 pm, 06/03/2024.

## Word Name(Output)



The screenshot shows the Eclipse IDE interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Title Bar:** SJ Camps's Java.
- Left Sidebar (Explorer):** Shows a list of Java files in the workspace, identical to the previous screenshot.
- Central Area:** The code editor displays the Wordname.java file. The terminal tab shows the execution of the program and its output.
- Terminal Output:**

```
PS C:\Users\Student\Desktop\SJ Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeBeta -HsIntExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspacesStorage\2ddfb80f397ac873410e2f733e6932a2\redhat\java\jdt_ws\$SJ Camps '$ java _e32194d9\bin\Wordname
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Try the new cross-platform PowerShell https://aka.ms/pscore6
Windows PowerShell
Enter your full name:
Stephen John Fabiano Capilan
CAPILAN,STEPHEN JOHN I.
PS C:\Users\Student\Desktop\SJ Camps 's Java>
```
- Bottom Bar:** Shows Java: Ready, system tray icons, and a status bar indicating Ln 14, Col 1, Spaces: 4, UTF-8, ENG, 5:52 pm, 06/03/2024.

## Word Length (Input)

The screenshot shows the Eclipse IDE interface with the title bar "SI Camps's Java". The left sidebar displays a file tree under "EXPLORER" for "SI CAMPS'S JAVA" containing numerous Java files. The main editor window shows the code for "Wordlength.java":

```
import java.util.*;
public class Wordlength {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        String [] words = {"the","quick","brown","Fox"};
        String name = "Stephen";
        System.out.println("The numbers of character of your name is " + name.length());
        System.out.println("The number of words in an array is " + words.length());
    }
}
```

The status bar at the bottom indicates "Ln 9, Col 63" and "Java: Ready".

## Word Length (Output)

The screenshot shows the Eclipse IDE interface with the title bar "SI Camps's Java". The left sidebar displays a file tree under "EXPLORER" for "SI CAMPS'S JAVA". The terminal tab in the center shows the output of running "Wordlength.java":

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\Student\Desktop\SI Camps 's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9.9-hotspot\bin\java.exe' '-XX:+ShowCodeBeta
-lls:ExceptionMessages' '-cp' 'C:\Users\Student\AppData\Roaming\Code\User\workspaceStorage\2ddfb80f397ac873410e2f733e6932a2\redhat\java\jdt_ws\SI Camps '' s Java
-e2194d9\bin\Wordlength
The numbers of character of your name is 7
The number of words in an array is 4
PS C:\Users\Student\Desktop\SI Camps 's Java>
```

The status bar at the bottom indicates "Ln 9, Col 63" and "Java: Ready".

## Age Generator (Input)

The screenshot shows the Eclipse IDE interface with the title bar "SJ Camps's Java". The left sidebar shows a project named "SJ CAMP'S JAVA" containing several Java files. The main editor window displays the code for "age\_generator.java". The code prompts the user to enter their birthday and calculates their age based on the current date.

```
File Edit Selection View Go Run Terminal Help ← → SJ Camps's Java
EXPLORER ... J resibo2.java J practicum2.java J practicum1.java J password2.java J Wordbirthday.java J Wordspace.java 2 J Wordlength.java 2 J age_generator.java 1 J zodiac.java 2
J age_generator.java 1
J array_exercise_1.java 1
J array_exercise_2.java 1
J array_exercise_3.java 1
J array.java 1
J antloop1.java 1
J antloop2.java 1
J error.java 4
J error.java 1
J error.java 2
J error.java 3
J fibonacc.java 1
J GAME1.java 1
J GAME2.java 1
J GAME3.java 1
J manipulate.java 18
J nest_reverse.java 19
J nestjava 20
J password1.java 21
J password2.java 1
J password3.java 1
J practicum1.java 1
J practicum2.java 1
J resibo1.java 1
J resibo2.java 1
J rmdm.java 1
J Stringmanipulation.java 1
J twoDarray.java 1
J Wordbirthday.java 1
J Wordcount.java 2
J Wordlength.java 2
J Wordname.java 1
J Wordspace.java 2
J zodiac.java 2
J
public static void main(String[] args) {
    Scanner scan = new Scanner(System.in);
    try {
        int currentyear = LocalDate.now().getYear();
        int currentmonth = 3;
        int currentday = 4;
        System.out.println("Enter your birthday");
        String bday[] = birthday.split("-");
        int year = Integer.parseInt(bday[2]);
        int day = Integer.parseInt(bday[1]);
        int month = Integer.parseInt(bday[0]);
        int age = currentyear - year;
        if(month>currentmonth){
            age--;
        }
        else if ((day > currentday)&& (month == currentmonth)){
            age--;
        }
        System.out.println("Your age is : " + age);
    } catch (Exception e) {
        System.out.println("Mali gud siya");
    }
}
// TODO: handle exception
```

OUTLINE TIMELINE JAVA PROJECTS

Type here to search 31°C Mostly cloudy 6:01 pm 06/03/2024

## Age Generator

The screenshot shows a Windows PowerShell window titled "SJ Camps's Java". It displays the command "PS C:\Users\Student\Desktop\SJ Camps's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\Roaming\Code\User\workspaceStorage\b2ddfb40f397ac873410e2733ee6932a2\redhat.java\dt\_ws\SJ Camps''s Java\_e3215ad9\bin'" "age\_generator". The terminal then prompts for the user's birthday and shows the output "Your age is : 18".

```
File Edit Selection View Go Run Terminal Help ← → SJ Camps's Java
EXPLORER ... J resibo2.java J practicum2.java J practicum1.java J password2.java J Wordbirthday.java J Wordspace.java 2 J Wordlength.java 2 J age_generator.java 1 J zodiac.java 2
J age_generator.java 1
J array_exercise_1.java 1
J array_exercise_2.java 1
J array_exercise_3.java 1
J array.java 1
J antloop1.java 1
J antloop2.java 1
J error.java 4
J error.java 1
J error.java 2
J error.java 3
J fibonacc.java 1
J GAME1.java 1
J GAME2.java 1
J GAME3.java 1
J manipulate.java 18
J nest_reverse.java 19
J nestjava 20
J password1.java 21
J password2.java 1
J password3.java 1
J practicum1.java 1
J practicum2.java 1
J resibo1.java 1
J resibo2.java 1
J rmdm.java 1
J Stringmanipulation.java 1
J twoDarray.java 1
J Wordbirthday.java 1
J Wordcount.java 2
J Wordlength.java 2
J Wordname.java 1
J Wordspace.java 2
J zodiac.java 2
J
Windows PowerShell
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PS C:\Users\Student\Desktop\SJ Camps's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\Roaming\Code\User\workspaceStorage\b2ddfb40f397ac873410e2733ee6932a2\redhat.java\dt_ws\SJ Camps''s Java_e3215ad9\bin'" "age_generator"
1 Enter your birthday
2 03-11-2005
1 Your age is : 18
PS C:\Users\Student\Desktop\SJ Camps's Java>
```

OUTLINE TIMELINE JAVA PROJECTS

Type here to search 31°C Mostly cloudy 6:01 pm 06/03/2024

## Zodiac Generator(Input)

```

import java.util.Date;
import java.util.Scanner;
import java.time.LocalDateTime;
import java.time.ZonedDateTime;
public class main {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        try {
            int currentYear = ZonedDateTime.now().getYear();
            int currentMonth = ZonedDateTime.now().getMonthValue();
            int currentDay = ZonedDateTime.now().getDayOfMonth();
            String sign [] = {"Capricorn","Pisces","Aries","Taurus","Gemini","Cancer","Leo","Virgo","Libra","Scorpio","Sagittarius","Capricorn"};
            String horoscope [] = {"Wise, learn for a transformative journey as planetary movements influence your destiny", "Wise, the celestial alignments promise a year of profound introspection and growth", "Wise, the universe urges you out of your comfort zone, whispering that change is not just good, it's essential", "Wise, heralds a transformational journey marked by the signs of focus and travel", "Wise, today is good to meet interviewers and those who have one scheduled for today can confidently attend it", "Wise, making them sensitive, intuitive, empathetic and understanding in the core of your personality", "You, keep calm and let everything go, you may get a little bit lost today, but maintaining a positive environment around you will help", "Wise, don't be too strenuous over anything as it is a perfect day to chill, spend yourself with the people who make you happy", "Wise, reflect on the beauty and harmony you've cultivated throughout the day", "Wise, new friendships could develop, as well as new ones are possibly exciting new goals", "Wise, suggestions you go-go sign tends to rule on all occasions all the time, but once a year, the stars demand a rest period", "Wise, today will be a hectic day at work, so stay focused to avoid getting behind. Maintain your equilibrium at all times."};

            System.out.print("Enter your name : ");
            String name = scan.nextLine();
            System.out.print("Enter your birthday : ");
            String birthday = scan.nextLine();
            String day[] = birthday.split("/");
            int year = Integer.parseInt(day[0]);
            int day = Integer.parseInt(day[1]);
            int month = Integer.parseInt(day[2]);

            int age = currentYear - year;
            int currentMonth = month;
            int currentDay = day;

            if (age < 0) {
                System.out.println("Age cannot be negative");
                System.out.println("Age : " + age);
                System.out.println("Month : " + month);
                System.out.println("Day : " + day);
                System.out.println("Horoscope : " + horoscope[0]);
            } else if ((day >= 21 & month == currentMonth)) {
                System.out.println("Name : " + name);
                System.out.println("Age : " + age);
                System.out.println("Month : " + month);
                System.out.println("Day : " + day);
                System.out.println("Horoscope : " + horoscope[1]);
            } else if ((month == 3 & day >= 21) || (month == 4 & day <= 20)) {
                System.out.println("Name : " + name);
                System.out.println("Age : " + age);
                System.out.println("Month : " + month);
                System.out.println("Day : " + day);
                System.out.println("Horoscope : " + horoscope[2]);
            } else if ((month == 4 & day >= 21) || (month == 5 & day <= 20)) {
                System.out.println("Name : " + name);
                System.out.println("Age : " + age);
                System.out.println("Month : " + month);
                System.out.println("Day : " + day);
                System.out.println("Horoscope : " + horoscope[3]);
            } else if ((month == 5 & day >= 21) || (month == 6 & day <= 20)) {
                System.out.println("Name : " + name);
                System.out.println("Age : " + age);
                System.out.println("Month : " + month);
                System.out.println("Day : " + day);
                System.out.println("Horoscope : " + horoscope[4]);
            } else if ((month == 6 & day >= 21) || (month == 7 & day <= 20)) {
                System.out.println("Name : " + name);
                System.out.println("Age : " + age);
                System.out.println("Month : " + month);
                System.out.println("Day : " + day);
                System.out.println("Horoscope : " + horoscope[5]);
            } else if ((month == 7 & day >= 21) || (month == 8 & day <= 20)) {
                System.out.println("Name : " + name);
                System.out.println("Age : " + age);
                System.out.println("Month : " + month);
                System.out.println("Day : " + day);
                System.out.println("Horoscope : " + horoscope[6]);
            } else if ((month == 8 & day >= 21) || (month == 9 & day <= 20)) {
                System.out.println("Name : " + name);
                System.out.println("Age : " + age);
                System.out.println("Month : " + month);
                System.out.println("Day : " + day);
                System.out.println("Horoscope : " + horoscope[7]);
            } else if ((month == 9 & day >= 21) || (month == 10 & day <= 20)) {
                System.out.println("Name : " + name);
                System.out.println("Age : " + age);
                System.out.println("Month : " + month);
                System.out.println("Day : " + day);
                System.out.println("Horoscope : " + horoscope[8]);
            } else if ((month == 10 & day >= 21) || (month == 11 & day <= 20)) {
                System.out.println("Name : " + name);
                System.out.println("Age : " + age);
                System.out.println("Month : " + month);
                System.out.println("Day : " + day);
                System.out.println("Horoscope : " + horoscope[9]);
            } else if ((month == 11 & day >= 21) || (month == 12 & day <= 20)) {
                System.out.println("Name : " + name);
                System.out.println("Age : " + age);
                System.out.println("Month : " + month);
                System.out.println("Day : " + day);
                System.out.println("Horoscope : " + horoscope[10]);
            } else if ((month == 12 & day >= 21) || (month == 1 & day <= 20)) {
                System.out.println("Name : " + name);
                System.out.println("Age : " + age);
                System.out.println("Month : " + month);
                System.out.println("Day : " + day);
                System.out.println("Horoscope : " + horoscope[11]);
            }
        } catch (Exception e) {
            System.out.println("Invalid!");
        }
    }
}

```

## Zodiac Generator(Output)

```
SI Camps's Java
```

```
zodiac.java:1: main(String[])
  import java.util.Scanner;
  ^
  1 error
```

```
PS C:\Users\Student\Desktop\SJ Camps's Java> & 'C:\Users\Student\AppData\Local\Programs\Eclipse Adoptium\jdk-17.0.9-hotspot\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Student\Desktop\SJ Camps's Java_e42154d6\bin' "zodiac"
Enter your name : Stephen John Campilan
Enter your birthday 03-11-2005
Name : Stephen John Campilan
Age : 18
Zodiac Sign : Pisces
Horoscope: Pisces, the celestial alignments promise a year of profound introspection and growth
PS C:\Users\Student\Desktop\SJ Camps's Java>
```

The screenshot shows the Eclipse IDE interface with the title bar "SI Camps's Java". The left sidebar lists various Java files in the project. The terminal window at the bottom shows a PowerShell session running the "zodiac.java" program. The user enters their name and birthdate, and the program outputs their zodiac sign (Pisces) and a horoscope message.

