

NumberSquareArray.java43aaae825NEWJAVARUN

```
1 import java.util.Scanner;
2
3 public class NumberSquareArray {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6
7         System.out.print("Enter the lower limit: ");
8         int lowerLimit = scanner.nextInt();
9
10        System.out.print("Enter the upper limit: ");
11        int upperLimit = scanner.nextInt();
12
13        if (lowerLimit > upperLimit) {
14            System.out.println("Invalid input: Lower limit is greater than upper limit.");
15            return;
16        }
17
18        int n = upperLimit - lowerLimit + 1;
19        int[][] array = new int[n][2];
20
21        for (int i = 0; i < n; i++) {
22            array[i][0] = lowerLimit + i; // First element is the number
23            array[i][1] = (lowerLimit + i) * (lowerLimit + i); // Second element is the square of
24        }
25
26        // Printing the array
27        for (int i = 0; i < n; i++) {
28            System.out.println("Number: " + array[i][0] + ", Square: " + array[i][1]);
29        }
30    }
31 }
32
```

45  
49

Output:  
Enter the lower limit: Enter the upper limit: Number: 45, Square: 2025  
Number: 46, Square: 2116  
Number: 47, Square: 2209  
Number: 48, Square: 2304  
Number: 49, Square: 2401

ReverseWord.java43aaae825NEWJAVARUN

```
1 import java.util.Scanner;
2
3 public class ReverseWord {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6
7         System.out.print("Enter a word: ");
8         String word = scanner.nextLine();
9
10        String reversedWord = "";
11        for (int i = word.length() - 1; i >= 0; i--) {
12            reversedWord += word.charAt(i);
13        }
14
15        System.out.println("Reversed Word: " + reversedWord);
16    }
17 }
18
```

temple

Output:  
Enter a word: Reversed Word: elpmet

VowelCounter.java43aaae825NEWJAVARUN

```
1 import java.util.Scanner;
2
3 public class VowelCounter {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6
7         System.out.print("Enter a statement: ");
8         String statement = scanner.nextLine();
9
10        int vowelCount = 0;
11        String vowels = "AEIOUaeiou";
12
13        for (int i = 0; i < statement.length(); i++) {
14            if (vowels.indexOf(statement.charAt(i)) != -1) {
15                vowelCount++;
16            }
17        }
18
19        System.out.println("Number of vowels in the given statement: " + vowelCount);
20    }
21 }
22
```

saveetha school of engineering

Output:  
Enter a statement: Number of vowels in the given statement: 12

CharacterInString.java

43aaae825

AI NEW JAVA RUN

```
1 import java.util.Scanner;
2
3 public class CharacterInString {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6
7         System.out.print("Enter a string: \n");
8         String inputString = scanner.nextLine();
9
10        System.out.print("Enter a character to search for:\n ");
11        char searchChar = scanner.next().charAt(0);
12
13        boolean found = false;
14        for (int i = 0; i < inputString.length(); i++) {
15            if (inputString.charAt(i) == searchChar) {
16                System.out.println("Character " + searchChar + " found at index: " + (i+1));
17                found = true;
18            }
19        }
20
21        if (!found) {
22            System.out.println("Character " + searchChar + " is not present in the string.");
23        }
24    }
25 }
26
```

STDIN

iam a programmer  
p

Output:

Enter a string:  
Enter a character to search for:  
Character 'p' found at index: 8

RemoveVowels.java

43aaae825

AI NEW JAVA RUN

```
1 import java.util.Scanner;
2
3 public class RemoveVowels {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6
7         System.out.print("Enter a string: ");
8         String inputString = scanner.nextLine();
9
10        String result = "";
11        String vowels = "AEIOUaeiou";
12
13        for (int i = 0; i < inputString.length(); i++) {
14            if (vowels.indexOf(inputString.charAt(i)) == -1) {
15                result += inputString.charAt(i);
16            }
17        }
18
19        System.out.println("String after removing vowels: " + result);
20    }
21 }
22
```

STDIN

we can play the game

Output:

Enter a string: String after removing vowels: w cn ply th gm

CharacterCounter.java

43aaae825

AI NEW JAVA RUN

```
1 import java.util.Scanner;
2
3 public class CharacterCounter {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6
7         int upperCaseCount = 0;
8         int lowerCaseCount = 0;
9         int numberCount = 0;
10
11        System.out.println("Enter characters (input ends with '*'):");
12
13        while (true) {
14            char ch = scanner.next().charAt(0);
15
16            if (ch == '*') {
17                break;
18            }
19
20            if (Character.isUpperCase(ch)) {
21                upperCaseCount++;
22            } else if (Character.isLowerCase(ch)) {
23                lowerCaseCount++;
24            } else if (Character.isDigit(ch)) {
25                numberCount++;
26            }
27        }
28
29        System.out.println("Number of uppercase letters: " + upperCaseCount);
30        System.out.println("Number of lowercase letters: " + lowerCaseCount);
31        System.out.println("Number of numbers: " + numberCount);
32    }
33 }
34
```

STDIN

W  
d  
A  
G  
g  
H  
\*

Output:

Enter characters (input ends with '\*'):  
Number of uppercase letters: 4  
Number of lowercase letters: 2  
Number of numbers: 0

```
SpecialCharacterCounter.java
1 import java.util.Scanner;
2
3 public class SpecialCharacterCounter {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6
7         System.out.print("Enter a statement:\n ");
8         String statement = scanner.nextLine();
9
10        int specialCharCount = 0;
11        String specialChars = "!@#$%^&*()-_+[]{}|;:\'\".,<>?/~`";
12
13        for (int i = 0; i < statement.length(); i++) {
14            if (specialChars.indexOf(statement.charAt(i)) != -1) {
15                specialCharCount++;
16            }
17        }
18
19        System.out.println("Number of special characters in the given statement: " + specialCharCount);
20    }
21 }
22
```

STDIN

Modi birthday @ september 17, #&\$% is the wish code for him

Output:

Enter a statement:  
Number of special characters in the given statement: 5

```
LastWordLength.java
1 import java.util.Scanner;
2
3 public class LastWordLength {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6
7         System.out.print("Enter a string: ");
8         String inputString = scanner.nextLine();
9
10        // Trim any trailing spaces
11        inputString = inputString.trim();
12
13        // Find the last word
14        int lastSpaceIndex = inputString.lastIndexOf(' ');
15        String lastWord = inputString.substring(lastSpaceIndex + 1);
16
17        // Print the length of the last word
18        System.out.println("Length of the last word: " + lastWord.length());
19    }
20 }
21
```

STDIN

Hello world

Output:

Enter a string: Length of the last word: 5

```
NameSorter.java
1 import java.util.ArrayList;
2 import java.util.Collections;
3 import java.util.Comparator;
4 import java.util.Scanner;
5
6 public class NameSorter {
7     public static void main(String[] args) {
8         Scanner scanner = new Scanner(System.in);
9         ArrayList<String> names = new ArrayList<>();
10
11        System.out.println("Enter names (type 'done' when finished):\n");
12        while (true) {
13            String name = scanner.nextLine();
14            if (name.equalsIgnoreCase("done")) {
15                break;
16            }
17            names.add(name);
18        }
19
20        System.out.print("Enter 'A' for ascending order or 'D' for descending order:\n");
21        String order = scanner.nextLine();
22
23        if (order.equalsIgnoreCase("A")) {
24            Collections.sort(names);
25            System.out.println("Names in ascending order: " + names);
26        } else if (order.equalsIgnoreCase("D")) {
27            Collections.sort(names, Comparator.reverseOrder());
28            System.out.println("Names in descending order: " + names);
29        } else {
30            System.out.println("Invalid input. Please enter 'A' for ascending order or 'D' for descending order.");
31        }
32    }
33 }
```

STDIN

Banana  
Carrot  
Raddish  
Apple  
Jack  
done  
A

Output:

Enter names (type 'done' when finished):

Enter 'A' for ascending order or 'D' for descending order:  
Names in ascending order: [Apple, Banana, Carrot, Jack , Raddish]

```
EmployeeManagement.java 43aaae825 AI NEW JAVA RUN

8 double pf;
9 double allowance;
10
11 public Employee(String name, int id, double salary, double pf, double allowance) {
12     this.name = name;
13     this.id = id;
14     this.salary = salary;
15     this.pf = pf;
16     this.allowance = allowance;
17 }
18
19 @Override
20 public String toString() {
21     return "Employee [name=" + name + ", id=" + id + ", salary=" + salary + ", pf=" + pf + ", allowance=" + allowance + "]";
22 }
23 }
24
25 public class EmployeeManagement {
26     public static void main(String[] args) {
27         Scanner scanner = new Scanner(System.in);
28         ArrayList<Employee> employees = new ArrayList<>();
29
30         while (true) {
31             System.out.println("1. Add Employee");
32             System.out.println("2. Retrieve Employee");
33             System.out.println("3. Remove Employee");
34             System.out.println("4. Exit");
35             System.out.print("Choose an option:\n ");
36             int choice = scanner.nextInt();
37             scanner.nextLine(); // Consume newline
38
39             switch (choice) {
40                 case 1:
41                     // Add Employee logic
42                     System.out.print("Enter employee name: ");
43                     String name = scanner.nextLine();
44                     System.out.print("Enter employee id: ");
45                     int id = scanner.nextInt();
46                     System.out.print("Enter employee salary: ");
47                     double salary = scanner.nextDouble();
48                     System.out.print("Enter employee PF: ");
49                     double pf = scanner.nextDouble();
50                     System.out.print("Enter employee allowance: ");
51                     double allowance = scanner.nextDouble();
52                     Employee employee = new Employee(name, id, salary, pf, allowance);
53                     employees.add(employee);
54                     System.out.println("Employee added successfully!");
55                     break;
56                 case 2:
57                     // Retrieve Employee logic
58                     System.out.print("Enter employee id to retrieve: ");
59                     int idToRetrieve = scanner.nextInt();
60                     Employee found = null;
61                     for (Employee employee : employees) {
62                         if (employee.id == idToRetrieve) {
63                             found = employee;
64                             break;
65                         }
66                     }
67                     if (found != null) {
68                         System.out.println("Employee found: " + found.toString());
69                     } else {
70                         System.out.println("Employee not found!");
71                     }
72                     break;
73                 case 3:
74                     // Remove Employee logic
75                     System.out.print("Enter employee id to remove: ");
76                     int idToRemove = scanner.nextInt();
77                     Employee removed = null;
78                     for (Employee employee : employees) {
79                         if (employee.id == idToRemove) {
80                             removed = employee;
81                             break;
82                         }
83                     }
84                     if (removed != null) {
85                         employees.remove(removed);
86                         System.out.println("Employee removed successfully!");
87                     } else {
88                         System.out.println("Employee not found!");
89                     }
90                     break;
91                 case 4:
92                     // Exit
93                     System.out.println("Exiting...");
94                     return;
95             }
96         }
97     }
98 }
```

```
BankDetails.java 43aaae825 AI NEW JAVA RUN

1 import java.util.Hashtable;
2 import java.util.Scanner;
3
4 public class BankDetails {
5     public static void main(String[] args) {
6         Hashtable<Integer, String> bankDetails = new Hashtable<>();
7         Scanner scanner = new Scanner(System.in);
8
9         // Adding 3 records
10        for (int i = 1; i <= 3; i++) {
11            System.out.print("Enter account number for record\n" + i + ": ");
12            int accountNumber = scanner.nextInt();
13            scanner.nextLine(); // Consume newline
14            System.out.print("Enter customer name for record\n" + i + ": ");
15            String customerName = scanner.nextLine();
16            bankDetails.put(accountNumber, customerName);
17        }
18
19        // Displaying the size of the hashtable
20        System.out.println("\nSize of hashtable: " + bankDetails.size());
21
22        // Clearing the hashtable
23        bankDetails.clear();
24        System.out.println("\nHashtable cleared. Size of hashtable: " + bankDetails.size());
25    }
26 }
27
```

STDIN

```
1000
john
1001
divya
1002
priya
```

Output:

```
Enter account number for record
1: Enter customer name for record
1: Enter account number for record
2: Enter customer name for record
2: Enter account number for record
3: Enter customer name for record
3:
Size of hashtable: 3

Hashtable cleared. Size of hashtable: 0
```

```
MatrixMultiplication.java 43aaae825 AI NEW JAVA RUN

1 import java.util.Scanner;
2
3 public class MatrixMultiplication {
4     public static void main(String[] args) {
5         Scanner scanner = new Scanner(System.in);
6
7         System.out.print("Enter the number of rows for the first matrix:\n ");
8         int rows1 = scanner.nextInt();
9         System.out.print("Enter the number of columns for the first matrix (and rows for the second matrix):\n ");
10        int cols1 = scanner.nextInt();
11        System.out.print("Enter the number of columns for the second matrix: \n");
12        int cols2 = scanner.nextInt();
13
14        int[][] matrix1 = new int[rows1][cols1];
15        int[][] matrix2 = new int[cols1][cols2];
16        int[][] result = new int[rows1][cols2];
17
18        System.out.println("Enter elements of the first matrix:\n");
19        for (int i = 0; i < rows1; i++) {
20            for (int j = 0; j < cols1; j++) {
21                matrix1[i][j] = scanner.nextInt();
22            }
23        }
24
25        System.out.println("Enter elements of the second matrix:\n");
26        for (int i = 0; i < cols1; i++) {
27            for (int j = 0; j < cols2; j++) {
28                matrix2[i][j] = scanner.nextInt();
29            }
30        }
31
32        // Matrix multiplication
33        for (int i = 0; i < rows1; i++) {
34
STDIN
2
2
2
1
2
2
5
3
2
3
.
Output:
Enter the number of rows for the first matrix:
Enter the number of columns for the first matrix (and rows for the second matrix):
Enter the number of columns for the second matrix:
Enter elements of the first matrix:
Enter elements of the second matrix:
Resultant matrix after multiplication:
10 5
22 18
```

```
MthMaxNMin.java 43aaae825 AI NEW JAVA RUN

1 import java.util.Arrays;
2 import java.util.Scanner;
3
4 public class MthMaxNMin {
5     public static void main(String[] args) {
6         Scanner scanner = new Scanner(System.in);
7
8         System.out.print("Enter the size of the array:\n ");
9         int size = scanner.nextInt();
10
11        int[] array = new int[size];
12
13        System.out.println("Enter the elements of the array:\n");
14        for (int i = 0; i < size; i++) {
15            array[i] = scanner.nextInt();
16        }
17
18        System.out.print("Enter the value of m (mth maximum): \n");
19        int m = scanner.nextInt();
20
21        System.out.print("Enter the value of n (nth minimum): \n ");
22        int n = scanner.nextInt();
23
24        if (m > size || n > size || m <= 0 || n <= 0) {
25            System.out.println("Invalid input: m or n is out of range.");
26            return;
27        }
28
29        Arrays.sort(array);
30
31        int mthMax = array[size - m];
32        int nthMin = array[n - 1];
33
34
STDIN
7
14
16
87
36
25
89
34
1
3
Output:
Enter the size of the array:
Enter the elements of the array:
Enter the value of m (mth maximum):
Enter the value of n (nth minimum):
1th maximum number: 89
3th minimum number: 25
Sum of 1th maximum and 3th minimum: 114
Difference of 1th maximum and 3th minimum: 64
```

RemoveDuplicates.java43aaae825AI NEW JAVA RUN

```
1 import java.util.Arrays;
2 import java.util.HashSet;
3 import java.util.Scanner;
4 import java.util.Set;
5
6 public class RemoveDuplicates {
7     public static void main(String[] args) {
8         Scanner scanner = new Scanner(System.in);
9
10        System.out.print("Enter the size of the array:\n ");
11        int size = scanner.nextInt();
12
13        int[] array = new int[size];
14
15        System.out.println("Enter the elements of the array:\n");
16        for (int i = 0; i < size; i++) {
17            array[i] = scanner.nextInt();
18        }
19
20        // Removing duplicates using HashSet
21        Set<Integer> set = new HashSet<>();
22        for (int num : array) {
23            set.add(num);
24        }
25
26        // Converting Set back to array
27        int[] uniqueArray = new int[set.size()];
28        int index = 0;
29        for (int num : set) {
30            uniqueArray[index++] = num;
31        }
32        Arrays.sort(uniqueArray);
33        // Printing the array after removing duplicates
34    }
```

STDIN

7  
10  
20  
20  
30  
40  
40  
50

Output:

Enter the size of the array:  
Enter the elements of the array:

Array after removing duplicates: [10, 20, 30, 40, 50]

CommonElements.java43aaae825AI NEW JAVA RUN

```
1 import java.util.ArrayList;
2 import java.util.Arrays;
3 import java.util.HashSet;
4 import java.util.Scanner;
5 import java.util.Set;
6
7 public class CommonElements {
8     public static void main(String[] args) {
9         Scanner scanner = new Scanner(System.in);
10
11        System.out.print("Enter the size of the first array: \n");
12        int size1 = scanner.nextInt();
13        int[] array1 = new int[size1];
14        System.out.println("Enter the elements of the first array:\n");
15        for (int i = 0; i < size1; i++) {
16            array1[i] = scanner.nextInt();
17        }
18
19        System.out.print("Enter the size of the second array: \n");
20        int size2 = scanner.nextInt();
21        int[] array2 = new int[size2];
22        System.out.println("Enter the elements of the second array:\n");
23        for (int i = 0; i < size2; i++) {
24            array2[i] = scanner.nextInt();
25        }
26
27        // Finding common elements using HashSet
28        Set<Integer> set1 = new HashSet<>();
29        Set<Integer> commonElements = new HashSet<>();
30        for (int num : array1) {
31            set1.add(num);
32        }
33        for (int num : array2) {
34            if (set1.contains(num)) {
35                commonElements.add(num);
36            }
37        }
38        System.out.println("Common elements in the two arrays: " + commonElements);
39    }
```

1  
2  
3  
4  
5  
6  
7

Output:

Enter the size of the first array:  
Enter the elements of the first array:

Enter the size of the second array:  
Enter the elements of the second array:

Common elements in the two arrays: [2, 4]