Java module 2

Exercises Day 3

1 Streams	Filter an array
Instructions	Create a variable with the following array: int[] numbers = {1, 92, 23, 404, 5, 1027, 20, 115, 119, 120}; Create a program that is able to filter the array in order to print only the even numbers.
Expected output	The even numbers are: 92, 404, 20, 120
| Solution | ```java
import java.util.Arrays;

public class Ex1 {
    public static void main(String[] args) {
        int[] numbers = {1, 92, 23, 404, 5, 1027, 20, 115,
119, 120};
        int[] evenNumbers = Arrays.stream(numbers).filter(n
-> n % 2 == 0).toArray();
        System.out.println("The even numbers are: " +
Arrays.toString(evenNumbers));
    }
}
``` |

2 Streams	Apply a function
Instructions	Create a variable with the following array: String[] words = {"java", "stream", "api"}; Create a program that is able to convert all words to uppercase.
Expected output	The uppercase words are: JAVA, STREAM, API
| Solution | ```java
import java.util.Arrays;

public class Ex2 {
    public static void main(String[] args) {
        String[] words = {"java", "stream", "api"};
        String[] upperCaseWords =
Arrays.stream(words).map(String::toUpperCase).toArray(Strin
g[]::new);
        System.out.println("The uppercase words are: " +
``` |

```
    Arrays.toString(upperCaseWords));
        }
}
```

3 Streams	Remove duplicates
Instructions	Create a variable with the following array: int[] numbers = {1, 2, 2, 3, 4, 4, 5}; Create a program that is able to remove duplicates from the array of integers.
Expected output	The numbers are: 1, 2, 3, 4, 5
| Solution | ```java
import java.util.Arrays;

public class Ex3 {

    public static void main(String[] args) {
        int[] numbers = {1, 2, 2, 3, 4, 4, 5};
        int[] distinctNumbers =
Arrays.stream(numbers).distinct().toArray();

System.out.println(Arrays.toString(distinctNumbers));
    }
}
``` |

4 Streams	Sort an array
Instructions	Create a variable with the following array: int[] numbers = {5, 3, 4, 1, 2}; Create a program that is able to sort the array of integers in ascending order.
Expected output	The numbers are: 1, 2, 3, 4, 5
| Solution | ```java
import java.util.Arrays;

public class Ex4 {

    public static void main(String[] args) {
        int[] numbers = {5, 3, 4, 1, 2};
        int[] sortedNumbers =
Arrays.stream(numbers).sorted().toArray();
``` |

```
        System.out.println("The numbers are: " +
Arrays.toString(sortedNumbers));
    }
}
```

5 Streams	Filter and count
Instructions	Create a variable with the following list of names: List<String> names = Arrays.asList("Alice", "Bob", "Charlie", "Anna"); Create a program that is able to count the number of strings in a List<String> that start with "A".
Expected output	There are 2 names that start with A
| Solution | ```
import java.util.Arrays;
import java.util.List;

public class Ex5 {

    public static void main(String[] args) {
        List<String> names = Arrays.asList("Alice", "Bob",
"Charlie", "Anna");
        long count = names.stream().filter(name ->
name.startsWith("A")).count();

        System.out.println("There are " + count + " names
that start with A.");
    }
}
``` |