Rajalakshmi Engineering College

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2024_28_III_OOPS Using Java Lab

REC_Week 12_Java_Lamba Expressions_MCQ

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : MCQ

1. Which of the following interfaces is NOT a functional interface in Java?

Answer

Iterable

Status : Correct ***Marks : 1/1***

2. What is a lambda expression in Java?

Answer

A way to define anonymous methods

Status : Correct ***Marks : 1/1***

3. Can a lambda expression have more than one parameter?

Answer

Yes, it can have multiple parameters

Status : Correct ***Marks : 1/1***

4. What is the return type of a lambda expression in Java?

Answer

The return type is inferred from the context

Status : Correct ***Marks : 1/1***

5. Which functional interface is commonly used with lambda expressions in Java?

Answer

Runnable

Status : Correct ***Marks : 1/1***

6. Which of the following is a valid lambda expression in Java?

Answer

All of the mentioned options

Status : Correct ***Marks : 1/1***

7. Can a lambda expression in Java have a body with multiple statements?

Answer

Yes, if the statements are enclosed in curly braces

Status : Correct ***Marks : 1/1***

8. Which functional interface in Java takes two arguments and returns a result?

Answer

BiFunction

Status : Correct ***Marks : 1/1***

9. Can a lambda expression in Java have a body with multiple statements?

Answer

Yes, if the statements are enclosed in curly braces

Status : Correct ***Marks : 1/1***

10. What is the syntax for a basic lambda expression in Java?

Answer

(parameters) -> expression

Status : Correct ***Marks : 1/1***

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2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 12_Q1

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Sabrina is working on a project that involves analyzing a set of numbers. In her exploration, she encounters scenarios where extracting even numbers and finding their sum is essential.

Create a program that calculates the sum of even numbers from a given array of integers using a lambda expression.

Input Format

The first line of input consists of an integer N, representing the size of the array.

The second line consists of N space-separated integers, representing the elements of the array.

Output Format

The output prints the sum of the even integers from the array.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 3
29 37 45

Output: 0

Answer

```
// You are using Java
import java.util.*;
import java.util.stream.*;
public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int N = sc.nextInt();
        int[] arr = new int[N];
        for (int i = 0; i < N; i++) {
            arr[i] = sc.nextInt();
        }
        int sum = Arrays.stream(arr)
                        .filter(x -> x % 2 == 0)
                        .sum();
        System.out.println(sum);
    }
}
```

Status : Correct ***Marks : 10/10***

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2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 12_Q2

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Alex is learning about Java's functional interfaces and lambda expressions.

He wants to write a simple program that prints the square of each number in an array using a predefined functional interface.

Help Alex complete this task using the Consumer functional interface.

Input Format

- The first line contains an integer N, the number of elements in the array.
- The second line contains N space-separated integers.

Output Format

- Print the squares of all elements in the array, separated by a space.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 4
1 2 3 4
Output: 1 4 9 16

Answer

```
// You are using Java
import java.util.*;
import java.util.function.Consumer;
public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int N = sc.nextInt();
        int[] arr = new int[N];
        for (int i = 0; i < N; i++) {
            arr[i] = sc.nextInt();
        }
        Consumer<Integer> square = x -> System.out.print((x * x) + " ");
        for (int num : arr) {
            square.accept(num);
        }
    }
}
```

Status : Correct ***Marks : 10/10***

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2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 12_Q3

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

In the mystical realm of programming, there exists a magical incantation to reveal hidden words.

Elara, the skilled enchantress, wishes to summon a word using her spell and then reverse its characters to uncover its enchanted reflection.

Write a program that uses the predefined functional interface Supplier<String> and a lambda expression to:

Supply (generate) a string, and

Display its reversed form.

Input Format

No input is required from the user.

The string must be supplied internally using a Supplier<String>.

Output Format

Print the reversed version of the supplied string.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: Wizard!!
Output: !!draziW

Answer

```
// You are using Java
import java.util.function.Supplier;
import java.util.Scanner;
public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String input = sc.nextLine();
        Supplier<String> supplier = () -> input;
        String word = supplier.get();
        String reversed = new StringBuilder(word).reverse().toString();
        System.out.println(reversed);
    }
}
```

Status : Correct ***Marks : 10/10***

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2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 1_MCQ

Attempt : 1
Total Mark : 15
Marks Obtained : 11

Section 1 : MCQ

1. What will be the output of the following code snippet?

```
import java.util.*;

class OperatorPrecedenceExample {
    public static void main(String[] args) {
        int a = 5, b = 3, c = 2;
        int result = a + b * c;

        System.out.println(result);
    }
}
```

Answer

16

Status : Wrong ***Marks : 0/1***

2. What is the output of the following code?

```
import java.util.*;

class RelationalOperatorExample {
   public static void main(String[] args) {
      int x = 8, y = 4;
      boolean result = (x != y);

      System.out.println(result);
   }
}
```

Answer

false

Status : Wrong ***Marks : 0/1***

3. Which of the following data types is used to store floating-point numbers with greater precision?

Answer

double

Status : Correct ***Marks : 1/1***

4. What is the output of the following code?

```
class TestClass {
   public static void main(String[] args) {
      int a = 5;
      int b = 10;

      int sum = a + b;
      int bitwiseAnd = a & b;
      int bitwiseOr = a | b;
```

```
        System.out.println(sum);
        System.out.println(bitwiseAnd);
        System.out.println(bitwiseOr);
    }
}
```

Answer

15015

Status : Correct ***Marks : 1/1***

5. What will be the output of the following code?

```
import java.util.*;

class TernaryOperatorExample {
    public static void main(String[] args) {
        int a = 5, b = 10;
        int result = (a > b) ? a : b;
        System.out.println(result);
    }
}
```

Answer

5

Status : Wrong ***Marks : 0/1***

6. What is the output of the following program?

```
class Arithmetic {
    public static void main(String[] args) {
        char ch = 'A';
        System.out.println(ch);
    }
}
```

Answer

A

Status : Correct **Marks : 1/1**

7. What will be the output of the following program?

```
class DataTypesMCQ {
   public static void main(String[] args) {
      int a = 10;
      double b = 5;
      System.out.println(a / b);
   }
}
```

Answer

2.0

Status : Correct **Marks : 1/1**

8. Which of the following data types is used to store single characters?

Answer

char

Status : Correct **Marks : 1/1**

9. Which of the following is not a primitive data type?

Answer

string

Status : Correct **Marks : 1/1**

10. What is the output of the following program?

```
class Demo {
   public static void main(String[] args) {
      String text = "Hello, World!";
```

```
        System.out.println(text);
    }
}
```

Answer

Hello, World!

Status : Correct ***Marks : 1/1***

11. What is the output of the following code?

```
class TestClass {
    public static void main(String[] args) {
        int a = 10;
        int b = 3;
        System.out.println(a / b);
    }
}
```

Answer

3.3333333333333335

Status : Wrong ***Marks : 0/1***

12. What is the output of the following code?

```
class TestClass {
    public static void main(String[] args) {
        int count = 8;
        count = count ^ 1;

        System.out.println(count);
    }
}
```

Answer

9

Status : Correct ***Marks : 1/1***

13. What is the output of the following code?

```
class TestClass {
    public static void main(String[] args) {
        int x = 5;
        int X = 10;

        int sum = x + X;
        int bitwiseResult = x | X;

        System.out.println(sum);
        System.out.println(bitwiseResult);
    }
}
```

Answer

1515

Status : Correct ***Marks : 1/1***

14. What is the result of the following expression?

```
import java.util.*;

class ComplexExpressionExample {
    public static void main(String[] args) {
        int a = 5, b = 2, c = 3, d = 4;
        int result = a + b * c / d - b;

        System.out.println(result);
    }
}
```

Answer

4

Status : Correct ***Marks : 1/1***

15. What will be the output of the following code snippet?

```
class DivisionExample {
    public static void main(String[] args) {
        double num1 = 10.5;
        double num2 = 3;
        int result = (int)(num1 / num2);
        System.out.println(result);
    }
}
```

Answer

3

Status : Correct ***Marks : 1/1***