Rajalakshmi Engineering College

Name: sanjana s
Email: 240701467@rajalakshmi.edu.in
Roll no: 240701467
Phone: 8667365200
Branch: REC
Department: CSE - Section 3
Batch: 2028
Degree: B.E - CSE

2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 7_Q5

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

Raj is curious about how old he is in the current year.

He has asked you to create a simple program that calculates a person's age based on their birth year. You decide to implement this functionality using the AgeCalculator interface and the HumanAgeCalculator class.

Note: The current year is 2024. Calculate the current age by using the formula: current year - birth year.

Input Format

The input consists of an integer representing the birth year.

Output Format

The output displays "You are X years old." where X is an integer representing the calculated age based on the entered birth year.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 1934

Output: You are 90 years old.

Answer

```java
import java.util.Scanner;

interface AgeCalculator {
    int calculateAge(int birthYear);
}
class HumanAgeCalculator implements AgeCalculator {
    private final int CURRENT_YEAR = 2024;
    @Override
    public int calculateAge(int birthYear) {
        return CURRENT_YEAR - birthYear;
    }
}
class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        AgeCalculator ageCalculator = new HumanAgeCalculator();
        int birthYear = scanner.nextInt();
        int age = ageCalculator.calculateAge(birthYear);
        System.out.println("You are " + age + " years old.");
        scanner.close();
    }
}

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

        AgeCalculator ageCalculator = new HumanAgeCalculator();
```

```java
            int birthYear = scanner.nextInt();
            int age = ageCalculator.calculateAge(birthYear);

            System.out.println("You are " + age + " years old.");
        }
    }
```

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