

Table of Contents

[Program in C](#)[Program in Java](#)

Write a program that takes three angles of a triangle as input and determines whether it is an equilateral, isosceles, or scalene triangle.

Program In C



```
#include <stdio.h>

int main() {
    int angle1, angle2, angle3;

    // Getting input from the user
    printf("Enter three angles of a triangle: ");
    scanf("%d %d %d", &angle1, &angle2, &angle3);

    // Checking the type of triangle
    if (angle1 == angle2 && angle2 == angle3) {
        printf("It is an equilateral triangle.\n");
    } else if (angle1 == angle2 || angle2 == angle3 || angle1 ==
angle3) {
        printf("It is an isosceles triangle.\n");
    } else {
        printf("It is a scalene triangle.\n");
    }

    return 0;
}
```

```
}
```

Explanation:

1. The program starts by including the necessary header file `stdio.h`, which provides input/output functions like `printf` and `scanf`.
2. In the main function, we declare the variables `angle1`, `angle2`, and `angle3` to store the three angles of the triangle.
3. The `printf` function is used to prompt the user to enter the three angles.
4. The `scanf` function is used to read the three angles entered by the user and store them in the corresponding variables.
5. We then use an if-else statement to determine the type of triangle based on the angles.
6. If all three angles are equal, we conclude that it is an equilateral triangle, as all sides and angles of an equilateral triangle are equal.
7. If any two angles are equal, we conclude that it is an isosceles triangle, as an isosceles triangle has two equal angles.
8. If none of the above conditions are met, we conclude that it is a scalene triangle, as a scalene triangle has no equal angles.
9. Finally, we use the `printf` function to print the type of triangle detected.
10. We return 0 to indicate successful execution of the program.

Output:

Output

```
Enter three angles of a triangle: 40
20
```

60

It is a scalene triangle.

Program In Java

java

```
import java.util.Scanner;

public class TriangleType {
    public static void main(String[] args) {
        int angle1, angle2, angle3;

        // Getting input from the user
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter three angles of a triangle: ");
        angle1 = scanner.nextInt();
        angle2 = scanner.nextInt();
        angle3 = scanner.nextInt();

        // Checking the type of triangle
        if (angle1 == angle2 && angle2 == angle3) {
            System.out.println("It is an equilateral triangle.");
        } else if (angle1 == angle2 || angle2 == angle3 || angle1 ==
angle3) {
            System.out.println("It is an isosceles triangle.");
        } else {
            System.out.println("It is a scalene triangle.");
        }
    }
}
```

```
}
```

Explanation:

1. The program starts by importing the `java.util.Scanner` class, which allows us to read input from the user.
2. The `TriangleType` class is defined, which contains the `main` method where the program execution begins.
3. Inside the `main` method, three integer variables `angle1`, `angle2`, and `angle3` are declared to store the input angles of the triangle.
4. A `Scanner` object named `scanner` is created to read input from the user.
5. The program prompts the user to enter three angles of a triangle using `System.out.print("Enter three angles of a triangle: ")`.
6. The `nextInt()` method of the `Scanner` class is used to read integer values entered by the user, and the values are assigned to `angle1`, `angle2`, and `angle3` variables.
7. The program checks the type of triangle based on the input angles using conditional statements.
 - If `angle1` is equal to `angle2` and `angle2` is equal to `angle3`, it means all three angles are equal, and the program prints "It is an equilateral triangle."
 - If any two angles are equal (e.g., `angle1 == angle2` or `angle2 == angle3` or `angle1 == angle3`), it means the triangle is isosceles, and the program prints "It is an isosceles triangle."
 - If none of the above conditions are true, it means all three angles are different, and the triangle is scalene. The program prints "It is a scalene triangle."
8. The program execution ends, and the program terminates.

Java Output



Program to determines equilateral, isosceles, or scalene triangle

```
Enter three angles of a triangle: 40
80
50
It is a scalene triangle.
```

Related posts:

1. Programming examples
2. Program to prints even numbers from 1 to 20
3. Program to calculate sum of all numbers from 1 to 100.
4. Program to get factorial of a number
5. Program to get Fibonacci sequence
6. Program to checks if number is prime
7. Program to get multiplication table
8. Program to find largest element in an array
9. Program to prints reverse of a string
10. Program to calculates sum of all elements in a list
11. Program determines integer is positive, negative, or zero
12. Program to find largest among three numbers using conditional statements.
13. Program determines it is a leap year or not
14. Program to determines even or odd
15. Program to calculate student exam grade
16. Program determines character is a vowel or consonant
17. Program to determines product is positive or negative
18. Program to determine divisible by both 5 and 7
19. Programme to check if number is inside range
20. Function to calculate the factorial

Program to determines equilateral, isosceles, or scalene triangle

21. Write a function to detect palindromes in strings
22. Write a function to find the greatest common divisor of two numbers
23. Program to calculate the area of different geometric shapes
24. try-catch block in C++