

Table of Contents

◆
Program in C
Program in Java

Write a program that prints the multiplication table of a given number.

Program In C

C ➔

```
#include <stdio.h>

int main() {
    int num, i;
    // Get input from user
    printf("Enter a number: ");
    scanf("%d", &num);
    // Print table up to 10
    for (i = 1; i <= 10; i++) {
        printf("%d x %d = %d\n", num, i, num * i);
    }
    return 0;
}
```

Explanation:

1. The program begins with the `#include` directive, which allows the use of input/output functions in the program.
2. The `main()` function is the entry point of the program. It has a return type of `int`,

indicating that it should return an integer value when it completes.

3. Inside the main() function, two variables are declared: num and i. num will store the input number from the user, and i will be used as a counter for the for loop.
4. The program prompts the user to enter a number by displaying the message “Enter a number: ” using the printf() function.
5. The user’s input is read and stored in the num variable using the scanf() function.
6. A for loop is used to iterate from 1 to 10. The loop variable i is initialized to 1, and the loop continues as long as i is less than or equal to 10. After each iteration, i is incremented by 1.
7. Inside the for loop, the printf() function is used to display the multiplication table for the given number. It prints the format string “%d x %d = %d\n”, where the first %d represents the num variable, the second %d represents the loop variable i, and the third %d represents the result of multiplying num and i.
8. Finally, the main() function ends with a return 0; statement, indicating that the program executed successfully.

Output:

Output

```
Enter a number: 4
4 x 1 = 4
4 x 2 = 8
4 x 3 = 12
4 x 4 = 16
4 x 5 = 20
4 x 6 = 24
4 x 7 = 28
4 x 8 = 32
4 x 9 = 36
```

```
4 x 10 = 40
```

Program In Java

Java ➔

```
import java.util.Scanner;

public class TableInJava {
    public static void main(String[] args) {
        int num, i;

        // Get input from user
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a number: ");
        num = scanner.nextInt();

        // Print table up to 10
        for (i = 1; i <= 10; i++) {
            System.out.printf("%d x %d = %d\n", num, i, num * i);
        }

        scanner.close();
    }
}
```

Explanation:

1. The program starts by importing the Scanner class from the java.util package, which allows us to read input from the user.
2. The program defines a public class named TableInJava.
3. Inside the TableInJava class, the program declares the main method, which is the entry point of the program.
4. The main method declares two integer variables, num and i, which will be used to store the user input and the loop counter, respectively.
5. The program creates a Scanner object named scanner to read input from the user. It uses System.in as the input source, which represents the standard input (keyboard).
6. The program prompts the user to enter a number by using System.out.print() to display the message “Enter a number: ”.
7. The program uses the nextInt() method of the Scanner class to read an integer input from the user and stores it in the num variable.
8. The program enters a for loop that iterates from 1 to 10. The loop counter is stored in the i variable.
9. Inside the loop, the program uses System.out.printf() to print the multiplication table. It displays the value of num, i, and the product of num and i in the format “num x i = num * i”.
10. After the loop finishes, the program calls the close() method on the Scanner object to release any system resources associated with it.
11. The program execution completes, and the program terminates.

Output

```
Enter a number: 4
4 x 1 = 4
```

```
4 x 2 = 8
4 x 3 = 12
4 x 4 = 16
4 x 5 = 20
4 x 6 = 24
4 x 7 = 28
4 x 8 = 32
4 x 9 = 36
4 x 10 = 40
```

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 find largest element in an array
8. Program to prints reverse of a string
9. Program to calculates sum of all elements in a list
10. Program determines integer is positive, negative, or zero
11. Program to find largest among three numbers using conditional statements.
12. Program determines it is a leap year or not
13. Program to determines even or odd
14. Program to calculate student exam grade
15. Program determines character is a vowel or consonant
16. Program to determines product is positive or negative
17. Program to determine divisible by both 5 and 7

18. Program to determines equilateral, isosceles, or scalene triangle
19. Programme to check if number is inside range
20. Function to calculate the factorial
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++