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Write a program that takes an integer N as input and determines whether it falls within a specific range, such as 1 to 100.

## Program In C

```
#include <stdio.h>

int main() {
    int N;
    int lowerLimit = 1;
    int upperLimit = 100;

    // Getting input from the user
    printf("Enter an integer: ");
    scanf("%d", &N);


    // Checking if N falls within the specified range
    if (N >= lowerLimit && N <= upperLimit) {
        printf("%d falls within the range %d to %d.\n", N, lowerLimit,
upperLimit);
    } else {
        printf("%d does not fall within the range %d to %d.\n", N,
```

```
lowerLimit, upperLimit);  
    }  
  
    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 variable `N` to store the input integer and the variables `lowerLimit` and `upperLimit` to represent the range.
3. The `lowerLimit` and `upperLimit` variables are assigned the values of the specific range, which in this case is 1 to 100.
4. The `printf` function is used to prompt the user to enter an integer.
5. The `scanf` function is used to read the integer entered by the user and store it in the variable `N`.
6. We then use an `if` statement to check if the integer `N` falls within the specified range. This is done by checking if `N` is greater than or equal to `lowerLimit` and less than or equal to `upperLimit`.
7. If `N` falls within the range, we print that it falls within the specified range using the `printf` function.
8. If `N` does not fall within the range, we print that it does not fall within the specified range using the `printf` function.
9. Finally, we return 0 to indicate successful execution of the program.


Output:

Output 

```
Enter an integer: 4
4 falls within the range 1 to 100.
```

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## Program In Java

Java 

```
import java.util.Scanner;

public class NumberRange {
    public static void main(String[] args) {
        int N;
        int lowerLimit = 1;
        int upperLimit = 100;

        // Getting input from the user
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter an integer: ");
        N = scanner.nextInt();

        // Checking if N falls within the specified range
```

```
        if (N >= lowerLimit && N <= upperLimit) {
            System.out.printf("%d falls within the range %d to %d.\n",
N, lowerLimit, upperLimit);
        } else {
            System.out.printf("%d does not fall within the range %d to
%d.\n", N, lowerLimit, upperLimit);
        }
    }
}
```

## Explanation:

1. The program starts by importing the `java.util.Scanner` class, which allows us to read input from the user.
2. The `NumberRange` class is defined, which contains the main method where the program execution begins.
3. Inside the main method, three integer variables are declared: `N` to store the user input, `lowerLimit` to represent the lower limit of the range, and `upperLimit` to represent the upper limit of the range.
4. A `Scanner` object named `scanner` is created to read input from the user.
5. The program prompts the user to enter an integer using `System.out.print("Enter an integer: ")`.
6. The `nextInt()` method of the `Scanner` class is used to read an integer value entered by the user, and the value is assigned to the variable `N`.
7. The program checks if the value of `N` falls within the specified range using an `if` statement. The condition `N >= lowerLimit && N <= upperLimit` checks if `N` is greater than or equal to `lowerLimit` and less than or equal to `upperLimit`.
8. If the condition is true, meaning `N` falls within the range, the program prints the message `"%d falls within the range %d to %d.\n"` using `System.out.printf()`. The

placeholders %d are replaced with the corresponding values of N, lowerLimit, and upperLimit.

9. If the condition is false, meaning N does not fall within the range, the program prints the message “%d does not fall within the range %d to %d.\n” using System.out.printf(). Again, the placeholders %d are replaced with the corresponding values of N, lowerLimit, and upperLimit.
10. The program execution ends, and the program terminates.

#### Java Output

```
Enter an integer: 104
104 does not fall within the range 1 to 100.
```

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