

Day 26 coding Statement : Write a program to calculate Maximum number of handshakes

Description

Get the number of people in the room as input from the user. Then calculate the maximum number of handshakes possible among that people.

For e.g. If there are N people in the room then the first person has to shake hand with N-1 people and second person has to shake hand with N-1-1 people i.e., N-2 handshakes are possible. Thus, it goes on.

So total handshakes = $N-1 + N-2 + N-3 + \dots + 1 + 0$

Input

10

Output

45

Code:

```
import java.util.Scanner;
```

```
class Day_26 {  
    public static void main(String args[]) {  
        Scanner sc = new Scanner(System.in);  
  
        System.out.print("Enter Number of Persons : ");  
        int N = sc.nextInt();  
        int HandShake = 0;  
        for (int i = 0; i < N; i++) {  
            for (int j = i+1; j < N; j++) {  
                HandShake += 1;  
            }  
        }  
        System.out.println("Total Handshake for "+N+" People are "+HandShake);  
    }  
}
```

Output:

```
C:\Users\DELL\Talent-Battle-100-Days-Coding-Series\Day_26\Java>java Day_26.java
Enter Number of Persons : 10
Total Handshake for 10 People are 45

C:\Users\DELL\Talent-Battle-100-Days-Coding-Series\Day_26\Java>java Day_26.java
Enter Number of Persons : 20
Total Handshake for 20 People are 190

C:\Users\DELL\Talent-Battle-100-Days-Coding-Series\Day_26\Java>java Day_26.java
Enter Number of Persons : 1
Total Handshake for 1 People are 0

C:\Users\DELL\Talent-Battle-100-Days-Coding-Series\Day_26\Java>java Day_26.java
Enter Number of Persons : 2
Total Handshake for 2 People are 1

C:\Users\DELL\Talent-Battle-100-Days-Coding-Series\Day_26\Java>
```