

Write a program using the function to calculate the simple interest. Suppose the customer is a senior citizen. He is being offered a 12 percent rate of interest; for all other customers, the ROI is 10 percent.

Sample Input: Enter the principal amount: 200000

Enter the no of years: 3

Is customer senior citizen (y/n): n

Sample Output: Interest: 60000

Test Cases: 1. Principal: 2000 , Years: 0

2. Principal: 20000 , Years: -2

3. Principal: -2000 , Years: 2

4. Principal: 2 , Years: 2000

5. Principal: 0 , Years: 5

### **Program:**

```
import java.util.Scanner;

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

        // Get input from the user
        System.out.print("Enter the principal amount: ");
        double principal = scanner.nextDouble();

        System.out.print("Enter the no of years: ");
        int years = scanner.nextInt();

        System.out.print("Is customer senior citizen (y/n): ");
        char seniorCitizen = scanner.next().charAt(0);

        // Calculate interest based on the customer type
        double rateOfInterest;
        if (seniorCitizen == 'y' || seniorCitizen == 'Y') {
            rateOfInterest = 0.12; // 12% interest for senior citizens
        } else {
            rateOfInterest = 0.10; // 10% interest for other customers
        }

        // Calculate simple interest
        double interest = calculateSimpleInterest(principal, rateOfInterest, years);
    }
}
```

```

// Check for negative or invalid inputs
if (principal <= 0 || years <= 0) {
    System.out.println("Invalid input. Principal amount and years should be
greater than zero.");
} else {
    System.out.println("Interest: " + interest);
}

scanner.close();
}

public static double calculateSimpleInterest(double principal, double
rateOfInterest, int years) {
    return principal * rateOfInterest * years;
}
}

```

## Output:

```

C:\Users\Thise pc> Desktop > SimpleInterestCalculator.java > SimpleInterestCalculator > main(String[])
1  import java.util.Scanner;
2
3  public class SimpleInterestCalculator {
4      public static void main(String[] args) {
5          Scanner scanner = new Scanner(System.in);
6
7          // Get input from the user
8          System.out.print(s:"Enter the principal amount: ");
9          double principal = scanner.nextDouble();
10
11         System.out.print(s:"Enter the no of years: ");
12         int years = scanner.nextInt();
13
14         System.out.print(s:"Is customer senior citizen (y/n): ");
15         char seniorCitizen = scanner.next().charAt(index:0);
16
17         // Calculate interest based on the customer type
18         double rateOfInterest;
19         if (seniorCitizen == 'y' || seniorCitizen == 'Y') {
20             rateOfInterest = 0.12; // 12% interest for senior citizens
21         } else {
22             rateOfInterest = 0.10; // 10% interest for other customers
23         }
24     }
25 }

```

PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```

+ ~
The ampersand (&) character is not allowed. The & operator is reserved for future use; wrap an ampersand in double quotation marks ("&") to pass
it as part of a string.
+ CategoryInfo          : ParserError: (:) [], ParentContainsErrorRecordException
+ FullyQualifiedErrorId : AmpersandNotAllowed

PS C:\Users\Thise pc> & 'C:\Program Files\Java\jdk-20\bin\java.exe' '-enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Th
ise pc\AppData\Local\Temp\vscodesw_8a19d\jdt_ws\jdt.ls-java-project\bin' 'SimpleInterestCalculator'
Enter the principal amount: 200000
Enter the no of years: 3
Is customer senior citizen (y/n): n
Interest: 60000.0
PS C:\Users\Thise pc>

```

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