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2024_28_III_OOPS Using Java Lab

2028_REC_OOPS using Java_Week 2_Q8

Attempt : 1
Total Mark : 10
Marks Obtained : 10

Section 1 : Coding

1. Problem Statement

A bank generates secure codes using 3-digit numbers where each digit is unique, and the code must be divisible by 3. You are tasked with generating the first N such codes based on user input, ensuring the digits are unique and the number is divisible by 3.

Note: Use nested for loops to solve.

Input Format

The first line contains an integer N representing the number of valid codes to generate.

Output Format

The output prints N line,s each line contains a valid 3-digit code.

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 5

Output: 102
105
108
120
123

Answer

```
import java.util.Scanner;

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

      int N = sc.nextInt();  // Number of valid codes to generate
      int count = 0;         // Count of codes generated

      // Use nested for loops to generate 3-digit numbers with unique digits
      for (int i = 1; i <= 9; i++) {          // Hundreds place: 1 to 9 (cannot be 0)
         for (int j = 0; j <= 9; j++) {       // Tens place: 0 to 9
            if (j == i) continue;             // Digits must be unique
            for (int k = 0; k <= 9; k++) {    // Units place: 0 to 9
               if (k == i || k == j) continue;

               int num = i * 100 + j * 10 + k;

               if (num % 3 == 0) {            // Check divisibility by 3
                  System.out.print(num + " ");
                  count++;

                  if (count == N) {
                     break;  // Stop after printing N valid codes
                  }
               }
            }
```

```
            if (count == N) break;
        }
        if (count == N) break;
    }

    sc.close();
  }
}
```

Status : Correct **Marks : 10/10**