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Lab Assignment-6

Q1: Write a program to enter marks of five subjects and calculate total marks and average. Each subject has a full mark of 100. Give gradesbased on average marks. Grades should be Ex (>90%), A (>80%) ,B(>60%) ,C (>=40%) and F(<40%). Use the Scanner class to take inputs.

Input:

```
package CoreJava;
import java.util.Scanner;
public class GradeCalulator {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		Scanner scanner = new Scanner(System.in);

	// Initialize variables
	int totalMarks = 0;
	double averageMarks;
	int[] subjectMarks = new int[5];

	// Input marks for five subjects
	for (int i = 0; i < 5; i++) {
	   System.out.print("Enter marks for Subject " + (i + 1) + " (out of 100): ");
	   subjectMarks[i] = scanner.nextInt();

	   // Validate input marks (between 0 and 100)
	   if (subjectMarks[i] < 0 || subjectMarks[i] > 100) {
	      System.out.println("Marks should be between 0 and 100. Please re-
enter.");
	      i--; // Decrement i to re-enter marks for the current subject
	   } else {
	      totalMarks += subjectMarks[i];
	   }
```

```
        }

        // Calculate average marks
        averageMarks = (double) totalMarks / 5;

        // Determine the grade based on average marks
        String grade;
        if (averageMarks > 90) {
            grade = "Ex";
        } else if (averageMarks > 80) {
            grade = "A";
        } else if (averageMarks > 60) {
            grade = "B";
        } else if (averageMarks >= 40) {
            grade = "C";
        } else {
            grade = "F";
        }

        // Display results
        System.out.println("Total Marks: " + totalMarks);
        System.out.println("Average Marks: " + averageMarks);
        System.out.println("Grade: " + grade);

        // Close the scanner
        scanner.close();
          }

}
```

Output:

```
Enter marks for Subject 1 (out of 100): 99
Enter marks for Subject 2 (out of 100): 00
Enter marks for Subject 3 (out of 100): 100
Enter marks for Subject 4 (out of 100): 50
Enter marks for Subject 5 (out of 100): 67
Total Marks: 316
Average Marks: 63.2
Grade: B
```

Q2: Write a program to count and print the total number of odd and even numbers from user inputs. Program will ask for user inputs in a loop. Loop will terminate if -1 is entered as input.

Input:

```
package CoreJava;
import java.util.Scanner;
public class OddEvenCounter {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		Scanner scanner = new Scanner(System.in);

	int evenCount = 0;
	int oddCount = 0;

	while (true) {
	   System.out.print("Enter a number (-1 to exit): ");
	   int number = scanner.nextInt();

	   if (number == -1) {
	      break; // Exit the loop if -1 is entered
	   }

	   if (number % 2 == 0) {
	      evenCount++;
	   } else {
	      oddCount++;
	   }
	}

	System.out.println("Total even numbers: " + evenCount);
	System.out.println("Total odd numbers: " + oddCount);

	scanner.close();
    }

}
```

Output:

Enter a number (-1 to exit): 99
Enter a number (-1 to exit): 00
Enter a number (-1 to exit): 87
Enter a number (-1 to exit): 01
Enter a number (-1 to exit): 29
Enter a number (-1 to exit): -1
Total even numbers: 1
Total odd numbers: 4