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Batch Code: ANP-C6315

Lab Assignment – 5

Question 1: Write a program to enter marks of five subjects and calculate total marks and average. Each subject has a full mark of 100. Give grades based on average marks. Grades should be Ex A+ (>90%), A (>80%) , B(>60%) ,C (>=40%) and F(<40%). Use the Scanner class to take inputs.

INPUT:

```
import java.util.Scanner;


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


        // Initialize variables
        double totalMarks = 0;
        double averageMarks;
        String grade;


        // Prompt the user to enter marks for five subjects
        for (int i = 1; i <= 5; i++) {
            System.out.print("Enter marks for Subject " + i + " (out of 100): ");
            double subjectMarks = scanner.nextDouble();


            // Validate input for each subject
            if (subjectMarks < 0 || subjectMarks > 100) {
                System.out.println("Invalid marks! Please enter marks between 0 and 100.");
```

```
            return;
        }

        totalMarks += subjectMarks;
    }

    // Calculate the average marks
    averageMarks = totalMarks / 5;

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

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

```
        scanner.close();
    }
}
```

Output:

Enter marks for Subject 1 (out of 100): 85

Enter marks for Subject 2 (out of 100): 92

Enter marks for Subject 3 (out of 100): 78

Enter marks for Subject 4 (out of 100): 67

Enter marks for Subject 5 (out of 100): 95

Total Marks: 417.0

Average Marks: 83.4

Grade: A

Question 2: 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:

```
import java.util.Scanner;


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


        int oddCount = 0;
        int evenCount = 0;


        System.out.println("Enter numbers (enter -1 to stop):");
```

```
        while (true) {
            int number = scanner.nextInt();

            if (number == -1) {
                break; // Terminate the loop when -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 numbers (enter -1 to stop):
3
5
8
12
```

-1

Total even numbers: 2

Total odd numbers: 2