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**Problem 5.1**

```
import java.util.Scanner;

public class Q51 {

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

		System.out.print(
				"Enter and integer  (the input ends if it is 0): ");

		  int positive = 0, negative = 0, total = 0, count = 0;

		    float average;
		    int number = -1;

		  while(number != 0) {
			number = input.nextInt();
			total += number;
	    count++;

	    if(number > 0){
	    positive++;
	    } else if(number < 0){
	    negative++;
	    }
	  }

		    average = total / count;

	    System.out.println("The number of positives is "+ positive);
	    System.out.println("The number of negatives is "+ negative);
	    System.out.println("The total is "+ total);
	    System.out.println("The average is "+ average);

	  }
	}
```

**Problem 5.5**

```
import java.util.Scanner;

public class Q55 {

	public static void main(String[] args) {
```

```
            Scanner input = new Scanner(System.in);

        // Display the table heading
        String output = "Kilograms        Pounds        Pounds        Kilograms \n";


        // Print table body
        int k = 20;
        for (int i = 1; i <= 199; i+=2) {
            output += i + " l ";
          double j = 2.2;

           // Display the product and align properly
                        output += "  " + i * j + "                ";
                        output += k + " l ";
                        output += "  " + k / j;


          output += "\n";

          k += 5;

        }
        System.out.println(output);
      }

}
```

**Problem 5.16**

```
import java.util.Scanner;
public class Q516 {

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

            System.out.print("Enter a integer: ");

            int num = input.nextInt();

    int factor = 1;
    while (factor <= num) {
      if (num % factor == 0) {
            System.out.print(factor + " ");
      }
       factor++;
    }

    }
```

```
        }
```

**Problem 6.1**

```
import java.util.Scanner;
public class Q516 {

        public static void main(String[] args) {
                Scanner input = new Scanner(System.in);
                System.out.println("The first 100 pentagonal number are:");
      for (int i = 1; i < 101; i++){
        System.out.printf("%7d ", getPentagonalNumber(i));
        if (i % 10 == 0)
          System.out.println();
      }
   }

   public static int getPentagonalNumber(int n){
      return (n * (3 * n - 1)) / 2;

        }
}
```

**Problem 6.3**

```
import java.util.Scanner;

public class Q63 {

public static int reverse(int number) {
        int reverse = 0;
   while (number != 0) {
      reverse = (reverse * 10) + number % 10;
      number = number / 10;
   }
   return (reverse);
}

public static boolean isPalindrome(int number) {
   return (number == reverse(number));
}

        public static void main(String[] args) {

                Scanner input = new Scanner(System.in);

      System.out.print("Enter an integer: ");
```

```
        int number = input.nextInt();
        System.out.println("Reversed: " + reverse(number));

        if (number == reverse(number)) {
            System.out.println(number + " is a palindrome.");
        } else {
            System.out.println("It is not a palindrome.");
        }

            }
}
```