Topic: Elementary Programming

Activity Guidelines

Group Size: 3

Method of Assigning Students: Count the number of students in the class, divide by 3, count off from 1 to the quotient, and group identical numbers.

Materials:

✓ Handout (one copy per group) with questions to be answered at the end of the session

Roles:

   Coordinator/Leader: Clarifies goals and objectives, allocates roles for each team member and divides the tasks within the group.

   Monitor/Evaluator: Person designed to evaluate the different ideas to approach the problem and make an accurate judgment of the most beneficial option.

   Implementer: Person in charge to transform discussions and ideas into a technical solution for the given problem.

Individual Accountability: Every student will be working on teams for the exercises. Every team member is given a specific role which allows everyone on the team to get involved and participate in the problem-solving activity. Every team member should participate in solving the exercises according to their determined role in the group.

Activity Summary

1) Create three short java programs that involve user input, data types and variable manipulation.
   a. Use of the primitive data type double to compute area and perimeter of a rectangle.
   b. Use of the primitive data type int and multiplication operator to find the product of two numbers.
   c. Manipulate several String variables to output a person's full name.

INTRODUCTION TO COMPUTER SCIENCE
    PEER SESSION

Elementary Programming

1. Write a program that reads in the height and width of a rectangle and computes the area and
    the perimeter. Display the area and perimeter of the rectangle.

```java
import java.util.Scanner;
public class rectangle {
  public static void main(String[] args) {
    Scanner input = new Scanner(System.in);
    System.out.println("Enter width of rectangle: ");
    double width= input.nextDouble();

    System.out.println("Enter height of rectangle: ");
    double length= input.nextDouble();

    double area = width*length;
    double perimeter = (2*width) + (2*length);

    System.out.println("Rectangle area: " + area + "\nRectangle perimeter: " +
perimeter);
  }
}
```

2. Write a program that computes the product of two numbers. The program prompts the user
    to enter two integer type numbers, finds their product and displays the result.

```java
import java.util.Scanner;
public class product{
  public static void main(String[] args) {
    Scanner input = new Scanner(System.in);
    System.out.println("Enter first number: ");
    int first= input.nextInt();

    System.out.println("Enter second number: ");
    int second= input.nextInt();

    int product = first*second;
    System.out.println("The product of " + first + " and " + second + " is " +
product);
  }
}
```

3. Write a program that has the following String variables: firstName, middleName, and lastName. The program should prompt the user to enter first name, middle name and last name. Display the whole name.

```java
import java.util.Scanner;
public class name{
  public static void main(String[] args) {
    Scanner input = new Scanner(System.in);
    System.out.println("Enter first name: ");
    String firstName= input.next();

    System.out.println("Enter middle name: ");
    String middleName= input.next();

    System.out.println("Enter last name: ");
    String lastName= input.next();

    System.out.println("The name entered is: " + firstName + " "+ middleName + "
" + lastName);
  }
}
```