**Triangle Perimeter**

**This program calculates the perimeter of a Triangle.**

(Define Terms)

* 1. Let x1, y1, x2, y2, x3 and y3 be the user inputs.

START

1. Input x1, y1, x2, y2, x3, y3
2. If 0 = (y3 - y2) \* x1 + (x2 - x3) \* y1 + (x3 \* y2 - x2 \* y3);
3. Create a method verify\_input1
   1. If 0 = (y3 - y2) \* x1 + (x2 - x3) \* y1 + (x3 \* y2 - x2 \* y3) then

* Return “true”
* Otherwise, return “false”

1. Create a method verify\_input2
   1. If all the user inputs = between 1 and 40, then

* Return “true”
* Otherwise, return “false”

1. Repeat while (the answer is “yes”)
   1. If (verify\_input1 && verify\_input2) then

* l1 = (x1 – x2)^2 + (y1 – y2)^2
* l2 = (x1 – x3)^2 + (y1 – y3)^2
* l3 = (x2 – x3)^2 + (y2 – y3)^2
* result = (√ l1) + (√ l2) + (√ l3)
  1. Else if (verify\_input1 = false) then
* Print an error message “The three points must make a triangle.”
* Exit
  1. Else
* Print an error message “The points must be in the 40 X 40 grid.”
* Exit

1. Print “The perimeter of a Triangle with point 1 ( x1, y1), point 2 (x2, y2) and point3 (x3, y3) is” + result
2. Print “Would you like to repeat the program?”
3. Print “End of the program”

END