**Exercise:**

With two points calculate the area of rectangle.

**Rectangle area:**

Area = Width \* Length

**Inputs:** P1 (X1, Y1); P2 (X2, Y2).

Where X1, Y1, X2 and Y2 € R.

**Outputs:** A positive number € R.

**Mathematic-logic Model:**

Length = |X2 – X1|

Width = |Y2 – Y1|

**Conditions:**

If X2 == X1 (Vertical) or If Y2 == Y1 (Horizontal)

Area of rectangle is 0? So, it is not possible to calculate the area of rectangle.

**Algorithm:**

Rectangle\_Area (P1, P2): A

1. Read P1, P2
2. Verify Condition (P\_getX(P1), P\_getX(P2), P\_getY(P2), P\_getY(P2))
3. Calculate Length (P\_getX(P1), P\_getX(P2))
4. Calculate Width (P\_getY(P1), P\_getY(P2)))
5. Calculate Area (length, width)
6. Show Area

Condition (P1\_getX, P2\_getX, P1\_getY, P2\_getY): Valid or Invalid

1. If P1\_getX == P2\_getX or P1\_getY P2\_getY
2. Return: Invalid
3. Else: Return: Valid

P\_getX(P): x

1. Return: X

P\_getY(P): y

1. Return: Y

Length (P1\_getX, P2\_getX): length

1. Return: Subtraction (P1\_getX, P2\_getX)

Width (P1\_getY, P2\_getY): length

1. Return: Subtraction (P1\_getY, P2\_getY)

Subtraction (n1, n2): substraction\_result

1. Return: |n1 – n2|

Area (length, width): Area

1. Return: length \* width