Consider a 2-D Cartesian coordinate work space of (-100, 100) to (100, 100)

• Input a point P (x, y) and check if it is IN, ON or OUT of WS

• Input two points P and Q and check if a point A is on RIGHT, LEFT or ON the line PQ

• Circle problem, Triangle problem

• Given K, calculate the sum of the first K odd integers
Homework Problem # 1

- Consider a 2-D Cartesian coordinate work space (WS) of \((x_{\text{min}}, x_{\text{max}})\) to \((y_{\text{min}}, y_{\text{max}})\)
- Input a point \(P \ (x, y)\) and check if it is IN, or OUT of WS
  - \((x_{\text{min}} < x)\) and \((x_{\text{max}} > x)\)
  - \((y_{\text{min}} < y)\) and \((y_{\text{max}} > y)\)
- Use logical operations for checking
- Write a pseudo-code
Homework Problem # 2

• Consider a 2-D Cartesian coordinate work space (WS) of \((x_{\text{min}}, x_{\text{max}})\) to \((y_{\text{min}}, y_{\text{max}})\)
• Input point \(P (x_1, y_1)\) and \(Q (x_2, y_2)\). Check if \(P\) and \(Q\) are in WS
• Input \(A (x, y)\)
• Considering a line from \(P\) to \(Q\), check if \(A\) is on RIGHT or LEFT or ON the line \(PQ\)
• Write a pseudo-code
Consider a 2-D Cartesian coordinate work space (WS) of \((x_{\text{min}}, x_{\text{max}})\) to \((y_{\text{min}}, y_{\text{max}})\)

- Input point \(O (x_c, y_c)\) and \(r\) – radius of a circle with \(O\) as the center.
- Input a point \(A (x, y)\)
- Check if \(A\) is INSIDE the circle or OUTSIDE the circle or ON the circle
- Write a pseudo-code
Homework Problem # 4

• Consider a 2-D Cartesian coordinate work space (WS) of \((x_{\text{min}}, x_{\text{max}})\) to \((y_{\text{min}}, y_{\text{max}})\)
• Input three vertex points of a triangle A \((-x, -y)\), B \((x, -y)\) and C\((0, y)\).
• Input a point P \((x_1, y_1)\)
• Check if P is INSIDE the triangle or OUTSIDE the triangle or ON the periphery of the triangle
• Write a pseudo-code
Homework Problem # 5

- Input an integer K
- Enumerate and print the first K odd integers.
- For example, if K = 5, the answer will be 1, 3, 5, 7, 9
- Write a pseudo-code