**TEST CASE 1:**

"Polygons=[(4,8),(4,3),(4,3),(10,3),(13,3),(13,8),(13,8);(-1,5),(-4,11),(2,18),(2,18),(2,18),(8,6);(17,14),(9,9),(14,5),(17,14);(-13,-1),(-6,3),(2,-11),(-5,-15),(-9,-8),(-9,-8);(7,-14),(4,-17),(4,-17),(-1,-14),(-2,-9),(3,-6),(10,-7),(6,-11);(-7,12),(-6.5,13),(3,4),(3,4),(-8,10);(19,-8),(19,-8),(16,-3),(10,-4),(7,-8),(10,-11),(13,-8),(14,-12),(19,-8),(19,-8);(7,-4),(5,-5),(3,-6),(5,-1);(3,-6),(1,-2),(-1,-4)]"

**LEVEL 1:**

|  |  |
| --- | --- |
| **Number\_Polygons** | **9** |
| **Total\_Number\_Points** | **53** |
| **Minimum\_X** | **-13** |
| **Maximum\_X** | **19** |
| **Minimum\_Y** | **-17** |
| **Maximum\_Y** | **18** |
| **Enclosing\_Rectangle** | **(19,-17),(19,18),(-13,18),(-13,-17)** |
| **Total\_Redundant\_Points** | **15** |
| **Quit** | **The program ends** |

**LEVEL 2:**

|  |  |
| --- | --- |
| **Polygon\_Points 9** | **(3,-6),(1,-2),(-1,-4)** |
| **Point\_Polygons (3,-6)** | **5,8,9** |
| **List\_Polygons\_Points More 3** | **1,2,4,5,7** |
| **List\_Polygons\_Points Less 7** | **1,2,3,4,6,8,9** |
| **List\_Polygons\_Points Equal 7** | **5,7** |
| **List\_Points\_Polygons More 3** | **None** |
| **List\_Points\_Polygons Less 2** | **(4,8),(4,3),(10,3),(-1,5),(-4,11),(2,18),(17,14),(9,9),(14,5),(-13,-1),(-6,3),(2,-11),(-5,-15),(7,-14),(4,-17),(-1,-14),(-2,-9),(10,-7),(-7,12),(-6.5,13),(3,4),(19,-8),(16,-3),(10,-4),(7,-8),(10,-11),(13,-8),(7,-4),(5,-5),(1,-2),(-1,-4)** |
| **List\_Points\_Polygons Equal 3** | **(3,-6)** |
| **Polygon\_Perimeter 5** | **36.8938** |
| **List\_Triangles** | **3,6,8,9** |
| **List\_Rectangles** | **1,4** |
| **List\_Trapezoid** | **2** |

**LEVEL 3:**

|  |  |
| --- | --- |
| **Polygon\_Area 4** | **130** |
| **Polygons\_Area\_Range 10,50** | **1,3,6** |
| **Inside\_Circle (3,0),7** | **8,9** |
| **Inside\_Rectangle**  **(-5,19),(11,19),(11,-18),(-5,-18)** | **2,5,8,9** |
| **Polygons\_Enclosing\_Point (3,-6)** | **5,8,9** |
| **Is\_Intersecting 1,3** | **TRUE** |