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HW 4 Pseudocode and test cases

Point:

1. Int whichQuadrant()
2. int quadrant
3. if x and y > 0
4. Quadrant = 1
5. Else if x < 0 and y > 0
6. Quadrant = 2
7. Else if x < 0 and y < 0
8. Quadrant = 3
9. Else if x > 0 and y < 0
10. Quadrant = 4
11. Else
12. Quadrant = 0
13. Return quadrant
14. \_
15. Double Distancefrom(x2, y2)()
16. Changex = x – x2
17. Changey = y – y2
18. Distance = sqrt(changex^2+changey^2)
19. Return distance
20. \_
21. Void Move(deltaX,deltaY)
22. X = x + deltaX
23. Y = y + deltaY
24. \_
25. String toString()
26. return(“Coordinate = (“ + x + “, “ + y + “ )”)

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| Test Case | Sample Data | Expected Result | Tested? |
| Quadrant 0 (origin) | X = 0, y = 0 | Quadrant 0 | Yes |
| Quadrant 1 | X = 2, y = 2 | Quadrant 1 | Yes |
| Quadrant 2 | X = -2, y = 2 | Quadrant 2 | Yes |
| Quadrant 3 | X = -2, y = -2 | Quadrant 3 | Yes |
| Quadrant 4 | X = 2, y = -2 | Quadrant 4 | Yes |
| Distance from 2 points | x= 2, y = 2  x= 0, y = 0 | 2.828427 | yes |
| Distance from 2 points | X = -2, y = 3  X = 4, y = -5 | 10 | Yes |
| Quadrant 0 (axis) | X = 5, y = 0 | Quadrant 0 | yes |

Zoning:

1. Double heightlimit()
2. double area = length \* width
3. Double heightlim
4. If area <= 2000
5. Heightlim = 25
6. Else if area <= 2500
7. Heightlim = 25 + 0.02 \* (area – 2000)
8. Else if area <= 3500
9. Heightlim = 35 + 0.01 \* (area – 2500)
10. Else if area <= 5000
11. Heightlim = 45 + 0.005 \* (area – 3500)
12. Else
13. Heightlim = 52.5 + 0.0025 \* (area – 5000)
14. Return heightlim
15. \_
16. Int Unicountlimit()
17. Area = length \* width
18. Int unitcount
19. If area <= 2000
20. Unitcount = 1
21. Else if area <= 2500
22. Unitcount = 2
23. Else if area <= 3500
24. Unitcount = 2
25. Else if area <= 5000
26. Unitcount = 3
27. Else
28. Unitcount = 4
29. Return unitcount
30. \_
31. String toString()
32. Area = length \* width
33. Return (“length = “ + length + “ width = “ + width + “ Area = “ + area + “ heightlimit = “ + this.heightlimit() + “ unit count limit = “ + this.unitcountlimit())

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| Test Case | Sample Data | Expected Result | Tested? |
| Zone 1 | Length = 0 , width = 0 | Area = 0  Height Limit = 25  Unit Count Limit = 1 | Yes |
| Zone 2 | Length = 120, width = 20 | Area = 2400  Height Limit = 33  Unit Count Limit = 2 | yes |
| Zone 3 | Length = 125, width = 25 | Area = 3125  Height limit = 41.25  Unit Count Limit = 2 | yes |
| Zone 4 | Length = 150, width = 25 | Area = 3750  Height Limit = 46.25  Unit Count Limit = 3 | Yes |
| Zone 5 | Length = 50 , width = 165 | Area = 8250  Height Limit = 60.625  Unit Count limit = 4 | yes |