Task 3 – Part 1

## Task 1.1. (exercises a and b and c)

**Conditions:**

|  |  |
| --- | --- |
| X | Y |
| -20 <= x <= -1  0 <= x <= 99  100 <= x <= 116  x <= -21  x >= 117 | y = -1  0 <= y <= 9  10 <= y <= 100  y <= -2  y >= 101 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **EQn** | **X range** | **Y range** | **X value** | **Y value** | **Output** |
| EQ1 | -20 <= x <= -1 | y = -1 | x=-20 | y=-1 | RED |
| EQ2 | -20 <= x <= -1 | 0 <= y <= 9 | x=-20 | y=0 | YELLOW |
| EQ3 | -20 <= x <= -1 | 11 <= y <= 100 | x=-20 | y=11 | YELLOW |
| EQ4 | 0 <= x <= 99 | y = -1 | x=0 | y=-1 | YELLOW |
| EQ5 | 0 <= x <= 99 | 0 <= y <= 9 | x=0 | y=0 | YELLOW |
| EQ6 | 0 <= x <= 99 | 11 <= y <= 100 | x=0 | y=11 | YELLOW |
| EQ7 | 100 <= x <= 116 | y = -1 | x=100 | y=-1 | YELLOW |
| EQ8 | 100 <= x <= 116 | 0 <= y <= 9 | x=100 | y=0 | YELLOW |
| EQ9 | 100 <= x <= 116 | 11 <= y <= 100 | x=100 | y=11 | GREEN |

Ends with 36% coverage.

|  |  |  |
| --- | --- | --- |
| **uEQn** | **x** | **y** |
| uEQ1 | -20 <= x <= -1 | y <= -2 |
| uEQ2 | -20 <= x <= -1 | y >= 101 |
| uEQ3 | 0 <= x <= 99 | y <= -2 |
| uEQ4 | 0 <= x <= 99 | y >= 101 |
| uEQ5 | 100 <= x <= 116 | y <= -2 |
| uEQ6 | 100 <= x <= 116 | y >= 101 |
| uEQ7 | x <= -21 | y = -1 |
| uEQ8 | x <= -21 | 0 <= y <= 9 |
| uEQ9 | x <= -21 | 11 <= y <= 100 |
| uEQ10 | x <= -21 | y <= -2 |
| uEQ11 | x <= -21 | y >= 101 |
| uEQ12 | x >= 117 | y = -1 |
| uEQ13 | x >= 117 | 0 <= y <= 9 |
| uEQ14 | x >= 117 | 11 <= y <= 100 |
| uEQ15 | x >= 117 | y <= -2 |
| uEQ16 | x >= 117 | y >= 101 |

Ends with 100% coverage.

Exercise d)

|  |  |  |
| --- | --- | --- |
| **X** | **Y** | **Output** |
| -1 | -2 | *RED* |
| -1 | 9 | *YELLOW* |
| 100 | 10 | *YELLOW* |
| 100 | 100 | *GREEN* |
| 116 | 100 | *GREEN* |

## Task 1.2. (both exercises)

**Conditions:**

|  |  |  |
| --- | --- | --- |
| X | Y | B |
| 1 < x < 10  10 <= x < 17  x <= 1  x >= 17 | 0 < y <= 2  -2 <= y <= 0  y < -2  y > 2 | b = true || false |

|  |  |  |  |
| --- | --- | --- | --- |
| **EQn** | **X range** | **Y range** | **b** |
| EQ1 | 1 < x < 10 | 0 < y <= 2 | False |
| EQ2 | 1 < x < 10 | 0 < y <= 2 | True |
| EQ3 | 1 < x < 10 | -2 <= y <= 0 | False |
| EQ4 | 1 < x < 10 | -2 <= y <= 0 | True |
| EQ5 | 10 <= x < 17 | 0 < y <= 2 | False |
| EQ6 | 10 <= x < 17 | 0 < y <= 2 | True |
| EQ7 | 10 <= x < 17 | -2 <= y <= 0 | False |
| EQ8 | 10 <= x < 17 | -2 <= y <= 0 | True |

|  |  |  |  |
| --- | --- | --- | --- |
| **uEQn** | **X range** | **Y range** | **b** |
| uEQ1 | x <= 1 | 0 < y <= 2 | False |
| uEQ2 | x <= 1 | 0 < y <= 2 | True |
| uEQ3 | x <= 1 | -2 <= y <= 0 | False |
| uEQ4 | x <= 1 | -2 <= y <= 0 | True |
| uEQ5 | x <= 1 | y < -2 | False |
| uEQ6 | x <= 1 | y < -2 | True |
| uEQ7 | x <= 1 | y > 2 | False |
| uEQ8 | x <= 1 | y > 2 | True |
| uEQ9 | x >= 17 | 0 < y <= 2 | False |
| uEQ10 | x >= 17 | 0 < y <= 2 | True |
| uEQ11 | x >= 17 | -2 <= y <= 0 | False |
| uEQ12 | x >= 17 | -2 <= y <= 0 | True |
| uEQ13 | x >= 17 | y < -2 | False |
| uEQ14 | x >= 17 | y < -2 | True |
| uEQ15 | x >= 17 | y > 2 | False |
| uEQ16 | x >= 17 | y > 2 | True |
| uEQ17 | 1 < x < 10 | y < -2 | False |
| uEQ18 | 1 < x < 10 | y < -2 | True |
| uEQ19 | 10 <= x < 17 | y < -2 | False |
| uEQ20 | 10 <= x < 17 | y < -2 | True |
| uEQ21 | 1 < x < 10 | y > 2 | False |
| uEQ22 | 1 < x < 10 | y > 2 | True |
| uEQ23 | 10 <= x < 17 | y > 2 | False |
| uEQ24 | 10 <= x < 17 | y > 2 | True |