

### **Log File 1: Single drone, 20 Request Points**

RequestXY = (1,10) DroneXY = (1,8) Coordinate = 1 Drone = 1 Distance = 2.00 No.Specimens = 3  
Req.Priority = 7 Drone Range = 2.255524e+01 Drone Capacity = 0/100 Route Possible = 1 Reward = 46.45

Accumulated Distance Travelled = 2.00 Kilometers , Time Elapsed = 2.66 minutes, No.Point Visited = 1 No.Specimens Collected = 3 (00)

RequestXY = (4,7) DroneXY = (1,10) Coordinate = 14 Drone = 1 Distance = 4.24 No.Specimens = 6  
Req.Priority = 4 Drone Range = 22 Drone Capacity = 3/100 Route Possible = 1 Reward = 42.29

Accumulated Distance Travelled = 6.24 Kilometers , Time Elapsed = 8.96 minutes, No.Point Visited = 2 No.Specimens Collected = 9 (00)

RequestXY = (3,6) DroneXY = (4,7) Coordinate = 5 Drone = 1 Distance = 1.41 No.Specimens = 6  
Req.Priority = 4 Drone Range = 22 Drone Capacity = 9/100 Route Possible = 1 Reward = 47.43

Accumulated Distance Travelled = 7.66 Kilometers , Time Elapsed = 10.83 minutes, No.Point Visited = 3 No.Specimens Collected = 15 (00)

RequestXY = (7,2) DroneXY = (3,6) Coordinate = 17 Drone = 1 Distance = 5.66 No.Specimens = 9  
Req.Priority = 7 Drone Range = 22 Drone Capacity = 15/100 Route Possible = 1 Reward = 45.71

Accumulated Distance Travelled = 13.31 Kilometers , Time Elapsed = 19.24 minutes, No.Point Visited = 4 No.Specimens Collected = 24 (00)

RequestXY = (6,5) DroneXY = (7,2) Coordinate = 13 Drone = 1 Distance = 3.16 No.Specimens = 5  
Req.Priority = 3 Drone Range = 22 Drone Capacity = 24/100 Route Possible = 1 Reward = 42.25

Accumulated Distance Travelled = 16.48 Kilometers , Time Elapsed = 23.64 minutes, No.Point Visited = 5 No.Specimens Collected = 29 (00)

RequestXY = (15,3) DroneXY = (6,5) Coordinate = 2 Drone = 1 Distance = 9.22 No.Specimens = 3  
Req.Priority = 9 Drone Range = 22 Drone Capacity = 29/100 Route Possible = 1 Reward = 35.24

Accumulated Distance Travelled = 25.70 Kilometers , Time Elapsed = 36.10 minutes, No.Point Visited = 6 No.Specimens Collected = 32 (00)

RequestXY = (16,4) DroneXY = (15,3) Coordinate = 11 Drone = 1 Distance = 1.41 No.Specimens = 3  
Req.Priority = 7 Drone Range = 22 Drone Capacity = 32/100 Route Possible = 1 Reward = 47.43

Accumulated Distance Travelled = 27.11 Kilometers , Time Elapsed = 38.18 minutes, No.Point Visited = 7 No.Specimens Collected = 35 (00)

RequestXY = (17,14) DroneXY = (16,4) Coordinate = 4 Drone = 1 Distance = 10.05 No.Specimens = 2  
Req.Priority = 9 Drone Range = 22 Drone Capacity = 35/100 Route Possible = 1 Reward = 32.73

Accumulated Distance Travelled = 37.16 Kilometers , Time Elapsed = 50.79 minutes, No.Point Visited = 8 No.Specimens Collected = 37 (00)

RequestXY = (12,18) DroneXY = (17,14) Coordinate = 6 Drone = 1 Distance = 6.40 No.Specimens = 7  
Req.Priority = 4 Drone Range = 22 Drone Capacity = 37/100 Route Possible = 1 Reward = 39.36

Accumulated Distance Travelled = 43.56 Kilometers , Time Elapsed = 58.56 minutes, No.Point Visited = 9 No.Specimens Collected = 44 (00)

RequestXY = (14,23) DroneXY = (12,18) Coordinate = 7 Drone = 1 Distance = 5.39 No.Specimens = 8  
Req.Priority = 6 Drone Range = 22 Drone Capacity = 44/100 Route Possible = 1 Reward = 44.21

Accumulated Distance Travelled = 48.95 Kilometers , Time Elapsed = 65.91 minutes, No.Point Visited = 10 No.Specimens Collected = 52 (00)

RequestXY = (9,27) DroneXY = (14,23) Coordinate = 15 Drone = 1 Distance = 6.40 No.Specimens = 7  
Req.Priority = 5 Drone Range = 22 Drone Capacity = 52/100 Route Possible = 1 Reward = 40.36

Accumulated Distance Travelled = 55.35 Kilometers , Time Elapsed = 73.68 minutes, No.Point Visited = 11 No.Specimens Collected = 59 (00)

RequestXY = (5,19) DroneXY = (9,27) Coordinate = 16 Drone = 1 Distance = 8.94 No.Specimens = 8  
Req.Priority = 6 Drone Range = 22 Drone Capacity = 59/100 Route Possible = 1 Reward = 37.74

Accumulated Distance Travelled = 64.30 Kilometers , Time Elapsed = 85.02 minutes, No.Point Visited = 12 No.Specimens Collected = 67 (00)

RequestXY = (6,16) DroneXY = (5,19) Coordinate = 8 Drone = 1 Distance = 3.16 No.Specimens = 5  
Req.Priority = 7 Drone Range = 22 Drone Capacity = 67/100 Route Possible = 1 Reward = 46.25

Accumulated Distance Travelled = 67.46 Kilometers , Time Elapsed = 89.49 minutes, No.Point Visited = 13 No.Specimens Collected = 72 (00)

RequestXY = (19,16) DroneXY = (6,16) Coordinate = 19 Drone = 1 Distance = 13.00 No.Specimens = 1  
Req.Priority = 3 Drone Range = 22 Drone Capacity = 72/100 Route Possible = 1 Reward = 20.36

Accumulated Distance Travelled = 80.46 Kilometers , Time Elapsed = 107.13 minutes, No.Point Visited = 14 No.Specimens Collected = 73 (00)

RequestXY = (27,15) DroneXY = (19,16) Coordinate = 20 Drone = 1 Distance = 8.06 No.Specimens = 3  
Req.Priority = 4 Drone Range = 22 Drone Capacity = 73/100 Route Possible = 1 Reward = 32.34

Accumulated Distance Travelled = 88.52 Kilometers , Time Elapsed = 118.98 minutes, No.Point Visited = 15 No.Specimens Collected = 76 (00)

RequestXY = (30,12) DroneXY = (27,15) Coordinate = 3 Drone = 1 Distance = 4.24 No.Specimens = 4  
Req.Priority = 8 Drone Range = 22 Drone Capacity = 76/100 Route Possible = 1 Reward = 44.29

Accumulated Distance Travelled = 92.76 Kilometers , Time Elapsed = 125.29 minutes, No.Point Visited = 16 No.Specimens Collected = 80 (00)

RequestXY = (28,9) DroneXY = (30,12) Coordinate = 12 Drone = 1 Distance = 3.61 No.Specimens = 4  
Req.Priority = 2 Drone Range = 22 Drone Capacity = 80/100 Route Possible = 1 Reward = 39.44

Accumulated Distance Travelled = 96.37 Kilometers , Time Elapsed = 129.63 minutes, No.Point Visited = 17 No.Specimens Collected = 84 (00)

RequestXY = (27,6) DroneXY = (28,9) Coordinate = 18 Drone = 1 Distance = 3.16 No.Specimens = 1  
Req.Priority = 8 Drone Range = 22 Drone Capacity = 84/100 Route Possible = 1 Reward = 43.25

Accumulated Distance Travelled = 99.53 Kilometers , Time Elapsed = 134.36 minutes, No.Point Visited = 18 No.Specimens Collected = 85 (00)

RequestXY = (23,6) DroneXY = (27,6) Coordinate = 10 Drone = 1 Distance = 4.00 No.Specimens = 2  
Req.Priority = 3 Drone Range = 22 Drone Capacity = 85/100 Route Possible = 1 Reward = 37.73

Accumulated Distance Travelled = 103.53 Kilometers , Time Elapsed = 139.21 minutes, No.Point Visited = 19 No.Specimens Collected = 87 (00)

### **Log File 2: Two Drones, 20 Request Points**

RequestXY = (1,10) DroneXY = (1,8) Coordinate = 1 Drone = 1 Distance = 2.00 No.Specimens = 3  
Req.Priority = 7 Drone Range = 2.255524e+01 Drone Capacity = 0/100 Route Possible = 1 Reward = 46.45

Accumulated Distance Travelled = 2.00 Kilometers , Time Elapsed = 2.66 minutes, No.Point Visited = 1 No.Specimens Collected = 3 (00)

RequestXY = (18,28) DroneXY = (25,25) Coordinate = 9 Drone = 2 Distance = 7.62 No.Specimens = 1  
Req.Priority = 8 Drone Range = 22 Drone Capacity = 0/100 Route Possible = 1 Reward = 35.15

Accumulated Distance Travelled = 7.62 Kilometers , Time Elapsed = 11.08 minutes, No.Point Visited = 1 No.Specimens Collected = 1 (00)

RequestXY = (4,7) DroneXY = (1,10) Coordinate = 14 Drone = 1 Distance = 4.24 No.Specimens = 6  
Req.Priority = 4 Drone Range = 22 Drone Capacity = 3/100 Route Possible = 1 Reward = 42.29

Accumulated Distance Travelled = 6.24 Kilometers , Time Elapsed = 8.96 minutes, No.Point Visited = 2 No.Specimens Collected = 9 (00)

RequestXY = (14,23) DroneXY = (18,28) Coordinate = 7 Drone = 2 Distance = 6.40 No.Specimens = 8  
Req.Priority = 6 Drone Range = 22 Drone Capacity = 1/100 Route Possible = 1 Reward = 42.36

Accumulated Distance Travelled = 14.02 Kilometers , Time Elapsed = 19.61 minutes, No.Point Visited = 2 No.Specimens Collected = 9 (00)

RequestXY = (3,6) DroneXY = (4,7) Coordinate = 5 Drone = 1 Distance = 1.41 No.Specimens = 6  
Req.Priority = 4 Drone Range = 22 Drone Capacity = 9/100 Route Possible = 1 Reward = 47.43

Accumulated Distance Travelled = 7.66 Kilometers , Time Elapsed = 10.83 minutes, No.Point Visited = 3 No.Specimens Collected = 15 (00)

RequestXY = (12,18) DroneXY = (14,23) Coordinate = 6 Drone = 2 Distance = 5.39 No.Specimens = 7  
Req.Priority = 4 Drone Range = 22 Drone Capacity = 8/100 Route Possible = 1 Reward = 41.21

Accumulated Distance Travelled = 19.40 Kilometers , Time Elapsed = 26.13 minutes, No.Point Visited = 3 No.Specimens Collected = 16 (00)

RequestXY = (7,2) DroneXY = (3,6) Coordinate = 17 Drone = 1 Distance = 5.66 No.Specimens = 9  
Req.Priority = 7 Drone Range = 22 Drone Capacity = 15/100 Route Possible = 1 Reward = 45.71

Accumulated Distance Travelled = 13.31 Kilometers , Time Elapsed = 19.24 minutes, No.Point Visited = 4 No.Specimens Collected = 24 (00)

RequestXY = (5,19) DroneXY = (12,18) Coordinate = 16 Drone = 2 Distance = 7.07 No.Specimens = 8  
Req.Priority = 6 Drone Range = 22 Drone Capacity = 15/100 Route Possible = 1 Reward = 41.14

Accumulated Distance Travelled = 26.48 Kilometers , Time Elapsed = 35.34 minutes, No.Point Visited  
= 4 No.Specimens Collected = 24 (00)

RequestXY = (6,5) DroneXY = (7,2) Coordinate = 13 Drone = 1 Distance = 3.16 No.Specimens = 5  
Req.Priority = 3 Drone Range = 22 Drone Capacity = 24/100 Route Possible = 1 Reward = 42.25

Accumulated Distance Travelled = 16.48 Kilometers , Time Elapsed = 23.64 minutes, No.Point Visited  
= 5 No.Specimens Collected = 29 (00)

RequestXY = (6,16) DroneXY = (5,19) Coordinate = 8 Drone = 2 Distance = 3.16 No.Specimens = 5  
Req.Priority = 7 Drone Range = 22 Drone Capacity = 22/100 Route Possible = 1 Reward = 46.25

Accumulated Distance Travelled = 29.64 Kilometers , Time Elapsed = 39.81 minutes, No.Point Visited  
= 5 No.Specimens Collected = 29 (00)

RequestXY = (15,3) DroneXY = (6,5) Coordinate = 2 Drone = 1 Distance = 9.22 No.Specimens = 3  
Req.Priority = 9 Drone Range = 22 Drone Capacity = 29/100 Route Possible = 1 Reward = 35.24

Accumulated Distance Travelled = 25.70 Kilometers , Time Elapsed = 36.10 minutes, No.Point Visited  
= 6 No.Specimens Collected = 32 (00)

RequestXY = (9,27) DroneXY = (6,16) Coordinate = 15 Drone = 2 Distance = 11.40 No.Specimens = 7  
Req.Priority = 5 Drone Range = 22 Drone Capacity = 27/100 Route Possible = 1 Reward = 31.27

Accumulated Distance Travelled = 41.04 Kilometers , Time Elapsed = 55.83 minutes, No.Point Visited  
= 6 No.Specimens Collected = 36 (00)

RequestXY = (16,4) DroneXY = (15,3) Coordinate = 11 Drone = 1 Distance = 1.41 No.Specimens = 3  
Req.Priority = 7 Drone Range = 22 Drone Capacity = 32/100 Route Possible = 1 Reward = 47.43

Accumulated Distance Travelled = 27.11 Kilometers , Time Elapsed = 38.18 minutes, No.Point Visited  
= 7 No.Specimens Collected = 35 (00)

RequestXY = (17,14) DroneXY = (9,27) Coordinate = 4 Drone = 2 Distance = 15.26 No.Specimens = 2  
Req.Priority = 9 Drone Range = 22 Drone Capacity = 34/100 Route Possible = 1 Reward = 23.25

Accumulated Distance Travelled = 56.30 Kilometers , Time Elapsed = 78.47 minutes, No.Point Visited  
= 7 No.Specimens Collected = 38 (00)

RequestXY = (23,6) DroneXY = (16,4) Coordinate = 10 Drone = 1 Distance = 7.28 No.Specimens = 2  
Req.Priority = 3 Drone Range = 22 Drone Capacity = 35/100 Route Possible = 1 Reward = 31.76

Accumulated Distance Travelled = 34.39 Kilometers , Time Elapsed = 46.93 minutes, No.Point Visited  
= 8 No.Specimens Collected = 37 (00)

RequestXY = (19,16) DroneXY = (17,14) Coordinate = 19 Drone = 2 Distance = 2.83 No.Specimens = 1  
Req.Priority = 3 Drone Range = 22 Drone Capacity = 36/100 Route Possible = 1 Reward = 38.86

Accumulated Distance Travelled = 59.13 Kilometers , Time Elapsed = 82.63 minutes, No.Point Visited  
= 8 No.Specimens Collected = 39 (00)

RequestXY = (27,6) DroneXY = (23,6) Coordinate = 18 Drone = 1 Distance = 4.00 No.Specimens = 1  
Req.Priority = 8 Drone Range = 22 Drone Capacity = 37/100 Route Possible = 1 Reward = 41.73

Accumulated Distance Travelled = 38.39 Kilometers , Time Elapsed = 52.36 minutes, No.Point Visited = 9 No.Specimens Collected = 38 (00)

RequestXY = (27,15) DroneXY = (19,16) Coordinate = 20 Drone = 2 Distance = 8.06 No.Specimens = 3  
Req.Priority = 4 Drone Range = 22 Drone Capacity = 37/100 Route Possible = 1 Reward = 32.34

Accumulated Distance Travelled = 67.19 Kilometers , Time Elapsed = 94.49 minutes, No.Point Visited = 9 No.Specimens Collected = 42 (00)

RequestXY = (28,9) DroneXY = (27,6) Coordinate = 12 Drone = 1 Distance = 3.16 No.Specimens = 4  
Req.Priority = 2 Drone Range = 22 Drone Capacity = 38/100 Route Possible = 1 Reward = 40.25

Accumulated Distance Travelled = 41.55 Kilometers , Time Elapsed = 56.38 minutes, No.Point Visited = 10 No.Specimens Collected = 42 (00)

### **Log File 3: Three Drones, 20 Request Points**

RequestXY = (1,10) DroneXY = (1,8) Coordinate = 1 Drone = 1 Distance = 2.00 No.Specimens = 3  
Req.Priority = 7 Drone Range = 2.255524e+01 Drone Capacity = 0/100 Route Possible = 1 Reward = 46.45

Accumulated Distance Travelled = 2.00 Kilometers , Time Elapsed = 2.66 minutes, No.Point Visited = 1 No.Specimens Collected = 3 (00)

RequestXY = (18,28) DroneXY = (25,25) Coordinate = 9 Drone = 2 Distance = 7.62 No.Specimens = 1  
Req.Priority = 8 Drone Range = 22 Drone Capacity = 0/100 Route Possible = 1 Reward = 35.15

Accumulated Distance Travelled = 7.62 Kilometers , Time Elapsed = 11.08 minutes, No.Point Visited = 1 No.Specimens Collected = 1 (00)

RequestXY = (9,27) DroneXY = (5,25) Coordinate = 15 Drone = 3 Distance = 4.47 No.Specimens = 7  
Req.Priority = 5 Drone Range = 22 Drone Capacity = 0/100 Route Possible = 1 Reward = 43.87

Accumulated Distance Travelled = 4.47 Kilometers , Time Elapsed = 6.35 minutes, No.Point Visited = 1 No.Specimens Collected = 7 (00)

RequestXY = (4,7) DroneXY = (1,10) Coordinate = 14 Drone = 1 Distance = 4.24 No.Specimens = 6  
Req.Priority = 4 Drone Range = 22 Drone Capacity = 3/100 Route Possible = 1 Reward = 42.29

Accumulated Distance Travelled = 6.24 Kilometers , Time Elapsed = 8.96 minutes, No.Point Visited = 2 No.Specimens Collected = 9 (00)

RequestXY = (14,23) DroneXY = (18,28) Coordinate = 7 Drone = 2 Distance = 6.40 No.Specimens = 8  
Req.Priority = 6 Drone Range = 22 Drone Capacity = 1/100 Route Possible = 1 Reward = 42.36

Accumulated Distance Travelled = 14.02 Kilometers , Time Elapsed = 19.61 minutes, No.Point Visited = 2 No.Specimens Collected = 9 (00)

RequestXY = (5,19) DroneXY = (9,27) Coordinate = 16 Drone = 3 Distance = 8.94 No.Specimens = 8  
Req.Priority = 6 Drone Range = 22 Drone Capacity = 8/100 Route Possible = 1 Reward = 37.74

Accumulated Distance Travelled = 13.42 Kilometers , Time Elapsed = 17.69 minutes, No.Point Visited = 2 No.Specimens Collected = 15 (00)

RequestXY = (3,6) DroneXY = (4,7) Coordinate = 5 Drone = 1 Distance = 1.41 No.Specimens = 6  
Req.Priority = 4 Drone Range = 22 Drone Capacity = 9/100 Route Possible = 1 Reward = 47.43

Accumulated Distance Travelled = 7.66 Kilometers , Time Elapsed = 10.83 minutes, No.Point Visited = 3 No.Specimens Collected = 15 (00)

RequestXY = (12,18) DroneXY = (14,23) Coordinate = 6 Drone = 2 Distance = 5.39 No.Specimens = 7  
Req.Priority = 4 Drone Range = 22 Drone Capacity = 8/100 Route Possible = 1 Reward = 41.21

Accumulated Distance Travelled = 19.40 Kilometers , Time Elapsed = 26.13 minutes, No.Point Visited = 3 No.Specimens Collected = 16 (00)

RequestXY = (6,16) DroneXY = (5,19) Coordinate = 8 Drone = 3 Distance = 3.16 No.Specimens = 5  
Req.Priority = 7 Drone Range = 22 Drone Capacity = 13/100 Route Possible = 1 Reward = 46.25

Accumulated Distance Travelled = 16.58 Kilometers , Time Elapsed = 22.16 minutes, No.Point Visited = 3 No.Specimens Collected = 20 (00)

RequestXY = (7,2) DroneXY = (3,6) Coordinate = 17 Drone = 1 Distance = 5.66 No.Specimens = 9  
Req.Priority = 7 Drone Range = 22 Drone Capacity = 15/100 Route Possible = 1 Reward = 45.71

Accumulated Distance Travelled = 13.31 Kilometers , Time Elapsed = 19.24 minutes, No.Point Visited = 4 No.Specimens Collected = 24 (00)

RequestXY = (17,14) DroneXY = (12,18) Coordinate = 4 Drone = 2 Distance = 6.40 No.Specimens = 2  
Req.Priority = 9 Drone Range = 22 Drone Capacity = 15/100 Route Possible = 1 Reward = 39.36

Accumulated Distance Travelled = 25.81 Kilometers , Time Elapsed = 35.61 minutes, No.Point Visited = 4 No.Specimens Collected = 18 (00)

RequestXY = (6,5) DroneXY = (6,16) Coordinate = 13 Drone = 3 Distance = 11.00 No.Specimens = 5  
Req.Priority = 3 Drone Range = 22 Drone Capacity = 18/100 Route Possible = 1 Reward = 28.00

Accumulated Distance Travelled = 27.58 Kilometers , Time Elapsed = 38.29 minutes, No.Point Visited = 4 No.Specimens Collected = 25 (00)

RequestXY = (15,3) DroneXY = (7,2) Coordinate = 2 Drone = 1 Distance = 8.06 No.Specimens = 3  
Req.Priority = 9 Drone Range = 22 Drone Capacity = 24/100 Route Possible = 1 Reward = 37.34

Accumulated Distance Travelled = 21.38 Kilometers , Time Elapsed = 31.21 minutes, No.Point Visited = 5 No.Specimens Collected = 27 (00)

RequestXY = (19,16) DroneXY = (17,14) Coordinate = 19 Drone = 2 Distance = 2.83 No.Specimens = 1  
Req.Priority = 3 Drone Range = 22 Drone Capacity = 17/100 Route Possible = 1 Reward = 38.86

Accumulated Distance Travelled = 28.64 Kilometers , Time Elapsed = 39.77 minutes, No.Point Visited = 5 No.Specimens Collected = 19 (00)

RequestXY = (16,4) DroneXY = (6,5) Coordinate = 11 Drone = 3 Distance = 10.05 No.Specimens = 3  
Req.Priority = 7 Drone Range = 22 Drone Capacity = 23/100 Route Possible = 1 Reward = 31.73

Accumulated Distance Travelled = 37.63 Kilometers , Time Elapsed = 51.11 minutes, No.Point Visited = 5 No.Specimens Collected = 28 (00)

RequestXY = (23,6) DroneXY = (15,3) Coordinate = 10 Drone = 1 Distance = 8.54 No.Specimens = 2  
Req.Priority = 3 Drone Range = 22 Drone Capacity = 27/100 Route Possible = 1 Reward = 29.47

Accumulated Distance Travelled = 29.92 Kilometers , Time Elapsed = 43.00 minutes, No.Point Visited  
= 6 No.Specimens Collected = 29 (00)

RequestXY = (27,15) DroneXY = (19,16) Coordinate = 20 Drone = 2 Distance = 8.06 No.Specimens = 3  
Req.Priority = 4 Drone Range = 22 Drone Capacity = 18/100 Route Possible = 1 Reward = 32.34

Accumulated Distance Travelled = 36.70 Kilometers , Time Elapsed = 51.63 minutes, No.Point Visited  
= 6 No.Specimens Collected = 22 (00)

RequestXY = (27,6) DroneXY = (16,4) Coordinate = 18 Drone = 3 Distance = 11.18 No.Specimens = 1  
Req.Priority = 8 Drone Range = 22 Drone Capacity = 27/100 Route Possible = 1 Reward = 28.67

Accumulated Distance Travelled = 48.81 Kilometers , Time Elapsed = 64.65 minutes, No.Point Visited  
= 6 No.Specimens Collected = 29 (00)

RequestXY = (28,9) DroneXY = (23,6) Coordinate = 12 Drone = 1 Distance = 5.83 No.Specimens = 4  
Req.Priority = 2 Drone Range = 22 Drone Capacity = 29/100 Route Possible = 1 Reward = 35.40

Accumulated Distance Travelled = 35.75 Kilometers , Time Elapsed = 51.36 minutes, No.Point Visited  
= 7 No.Specimens Collected = 33 (00)