Self Organising Systems

Homework 3

# Graph 1 – 9 Nodes

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Optimal Solution | α =2.0, β=5.0, ρ=1 | α =2.0, β=5.0, ρ=0.5 | α =2.0, β=10, ρ=1 | α =2.0, β=10, ρ=0.5 | α =1.0, β=5.0, ρ=1 | α =1.0, β=5.0, ρ=0.5 | α =2.0, β=10, ρ=1 | α =2.0, β=10, ρ=0.5 |
| 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 |

# Graph 2 – 10 Nodes

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Optimal Solution | α =2.0, β=5.0, ρ=1 | α =2.0, β=5.0, ρ=0.5 | α =2.0, β=10, ρ=1 | α =2.0, β=10, ρ=0.5 | α =1.0, β=5.0, ρ=1 | α =1.0, β=5.0, ρ=0.5 | α =2.0, β=10, ρ=1 | α =2.0, β=10, ρ=0.5 |
| 23 | 23 | 25 | 25 | 25 | 23 | 23 | 25 | 25 |

# Graph 3 – 11 Nodes

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Optimal Solution | α =2.0, β=5.0, ρ=1 | α =2.0, β=5.0, ρ=0.5 | α =2.0, β=10, ρ=1 | α =2.0, β=10, ρ=0.5 | α =1.0, β=5.0, ρ=1 | α =1.0, β=5.0, ρ=0.5 | α =2.0, β=10, ρ=1 | α =2.0, β=10, ρ=0.5 |
| 19 | 21 | 21 | 21 | 21 | 21 | 21 | 24 | 21 |

|  |  |  |
| --- | --- | --- |
| Graph 1 | Graph 2 | Graph 3 |
| Optimal Solution | 22 | 23 | 19 |
| Parameters | Any | (α =2.0, β=5.0, ρ=1),( α =1.0, β=5.0, ρ=1),( α =1.0, β=5.0, ρ=0.5) | (α =2.0, β=5.0, ρ=1), (α =2.0, β=5.0, ρ=0.5), (α =2.0, β=10, ρ=1), (α =2.0, β=10, ρ=0.5), (α =1.0, β=5.0, ρ=1), (α =1.0, β=5.0, ρ=0.5), (α =2.0, β=10, ρ=0.5) |
| Best Solution | 22 | 23 | 21 |