Задание 1.

Задан автомат Мура. Построить эквивалентный автомат Мили.

Автомат Мура

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | λ5 | λ4 | λ3 | λ2 | λ1 | λ2 | λ3 | λ4 | λ5 |
|  | X1 | X2 | X3 | X4 | X5 | X6 | X7 | X8 | X9 |
| ρ1 | X3 | X8 | X7 | X1 | X5 | X1 | X5 | X1 | X3 |
| ρ2 | X2 | X7 | X2 | X2 | X6 | X5 | X7 | X2 | X3 |
| ρ3 | X1 | X5 | X1 | X3 | X4 | X8 | X9 | X9 | X4 |
| ρ4 | X9 | X4 | X3 | X4 | X7 | X7 | X3 | X8 | X5 |
| ρ5 | X7 | X3 | X4 | X9 | X3 | X7 | X2 | X7 | X6 |
| ρ6 | X6 | X6 | X5 | X8 | X8 | X3 | X3 | X3 | X7 |
| ρ7 | X5 | X8 | X6 | X7 | X2 | X2 | X4 | X2 | X8 |
| ρ8 | X4 | X9 | X5 | X6 | X9 | X1 | X5 | X2 | X9 |
| ρ9 | X3 | X1 | X4 | X5 | X1 | X9 | X8 | X2 | X1 |

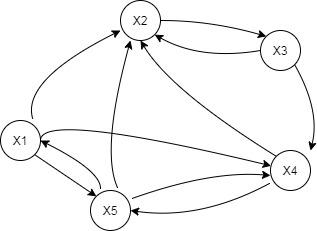
Автомат Мили

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | X1 | X2 | X3 | X4 | X5 | X6 | X7 | X8 | X9 |
| ρ1 | X3 | X8 | X7 | X1 | X5 | X1 | X5 | X1 | X3 |
| ρ2 | X2 | X7 | X2 | X2 | X6 | X5 | X7 | X2 | X3 |
| ρ3 | X1 | X5 | X1 | X3 | X4 | X8 | X9 | X9 | X4 |
| ρ4 | X9 | X4 | X3 | X4 | X7 | X7 | X3 | X8 | X5 |
| ρ5 | X7 | X3 | X4 | X9 | X3 | X7 | X2 | X7 | X6 |
| ρ6 | X6 | X6 | X5 | X8 | X8 | X3 | X3 | X3 | X7 |
| ρ7 | X5 | X8 | X6 | X7 | X2 | X2 | X4 | X2 | X8 |
| ρ8 | X4 | X9 | X5 | X6 | X9 | X1 | X5 | X2 | X9 |
| ρ9 | X3 | X1 | X4 | X5 | X1 | X9 | X8 | X2 | X1 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | X1 | X2 | X3 | X4 | X5 | X6 | X7 | X8 | X9 |
| ρ1 | λ3 | λ4 | λ3 | λ5 | λ1 | λ2 | λ3 | λ4 | λ5 |
| ρ2 | λ4 | λ3 | λ3 | λ2 | λ2 | λ1 | λ3 | λ4 | λ5 |
| ρ3 | λ5 | λ1 | λ5 | λ3 | λ2 | λ4 | λ5 | λ5 | λ2 |
| ρ4 | λ5 | λ2 | λ3 | λ2 | λ3 | λ3 | λ3 | λ4 | λ1 |
| ρ5 | λ3 | λ3 | λ2 | λ5 | λ3 | λ3 | λ4 | λ3 | λ2 |
| ρ6 | λ2 | λ2 | λ1 | λ4 | λ4 | λ3 | λ3 | λ3 | λ3 |
| ρ7 | λ1 | λ4 | λ2 | λ3 | λ4 | λ4 | λ2 | λ4 | λ4 |
| ρ8 | λ2 | λ5 | λ1 | λ2 | λ5 | λ5 | λ1 | λ4 | λ5 |
| ρ9 | λ3 | λ5 | λ2 | λ1 | λ5 | λ5 | λ4 | λ4 | λ5 |

Задание 2.

Задан автомат Мура. Построить эквивалентный автомат Мили.



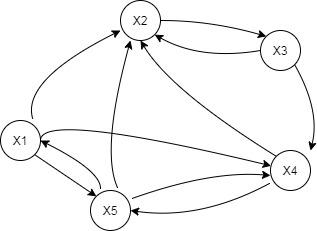


Таблица переходов для автомата Мура

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | λ5 | λ2 | λ4 | λ1 | λ3 |
|  | X1 | X2 | X3 | X4 | X5 |
| p1 | X2 | X3 | - | X2 | X2 |
| p2 | - | - | X4 | X5 | X4 |
| p3 | X4 | - | X2 | - | X1 |

A – автомат Мура

B – автомат Мили

Ра = Pb ={p1,p2,p3}

Xa = Xb = {X1,X2,X3,X4,X5}

λa = λb ={ λ1, λ2, λ3, λ4, λ5}

ϕa = ϕb

ϕ(am , pi )=as

ψ(as) = λi

ψ(bs , pi)= λi