

Najděte Jordanův kanonický tvar matice A , která splňuje vlastnosti uvedené v zadání úlohy. Úlohy jsou seříděny vzestupně podle obtížnosti.

Úloha 1. $p_A(\lambda) = (\lambda - 1)(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)(\lambda - 6)(\lambda - 7)(\lambda - 8)(\lambda - 9)(\lambda - 10)$.

Úloha 2. $p_A(\lambda) = (\lambda - 1)^{10}$, $\text{rank}(A - I) = 0$.

Úloha 3. $p_A(\lambda) = (\lambda - 1)^{10}$, $\text{rank}(A - I) = 1$.

Úloha 4. $p_A(\lambda) = (\lambda - 1)^9(\lambda - 2)$, $\text{rank}(A - I) = 1$.

Úloha 5. $p_A(\lambda) = (\lambda - 1)^9(\lambda - 2)$, $\text{rank}(A - I) = 2$.

Úloha 6. $p_A(\lambda) = (\lambda - 1)^8(\lambda - 2)(\lambda - 3)$, $\text{rank}(A - I) = 2$.

Úloha 7. $p_A(\lambda) = (\lambda - 1)^8(\lambda - 2)(\lambda - 3)$, $\text{rank}(A - I) = 3$.

Úloha 8. $p_A(\lambda) = (\lambda - 1)^7(\lambda - 2)(\lambda - 3)(\lambda - 4)$, $\text{rank}(A - I) = 3$.

Úloha 9. $p_A(\lambda) = (\lambda - 1)^7(\lambda - 2)(\lambda - 3)(\lambda - 4)$, $\text{rank}(A - I) = 4$.

Úloha 10. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)$, $\text{rank}(A - I) = 4$.

Úloha 11. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)$, $\text{rank}(A - I) = 5$.

Úloha 12. $p_A(\lambda) = (\lambda - 1)^5(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)(\lambda - 6)$, $\text{rank}(A - I) = 5$.

Úloha 13. $p_A(\lambda) = (\lambda - 1)^5(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)(\lambda - 6)$, $\text{rank}(A - I) = 6$.

Úloha 14. $p_A(\lambda) = (\lambda - 1)^4(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)(\lambda - 6)(\lambda - 7)$, $\text{rank}(A - I) = 6$.

Úloha 15. $p_A(\lambda) = (\lambda - 1)^4(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)(\lambda - 6)(\lambda - 7)$, $\text{rank}(A - I) = 7$.

Úloha 16. $p_A(\lambda) = (\lambda - 1)^3(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)(\lambda - 6)(\lambda - 7)(\lambda - 8)$, $\text{rank}(A - I) = 7$.

Úloha 17. $p_A(\lambda) = (\lambda - 1)^2(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)(\lambda - 6)(\lambda - 7)(\lambda - 8)(\lambda - 9)$, $\text{rank}(A - I) = 8$.

Úloha 18. $p_A(\lambda) = (\lambda - 1)^3(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)(\lambda - 6)(\lambda - 7)(\lambda - 8)$, $\text{rank}(A - I) = 8$.

Úloha 19. $p_A(\lambda) = (\lambda - 1)^2(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)(\lambda - 6)(\lambda - 7)(\lambda - 8)(\lambda - 9)$, $\text{rank}(A - I) = 9$.

Úloha 20. $p_A(\lambda) = (\lambda - 1)^3(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)(\lambda - 6)(\lambda - 7)(\lambda - 8)$, $\text{rank}(A - I) = 9$.

Úloha 21. $p_A(\lambda) = (\lambda - 1)^4(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)(\lambda - 6)(\lambda - 7)$, $\text{rank}(A - I) = 9$.

Úloha 22. $p_A(\lambda) = (\lambda - 1)^5(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)(\lambda - 6)$, $\text{rank}(A - I) = 9$.

Úloha 23. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)(\lambda - 3)(\lambda - 4)(\lambda - 5)$, $\text{rank}(A - I) = 9$.

Úloha 24. $p_A(\lambda) = (\lambda - 1)^7(\lambda - 2)(\lambda - 3)(\lambda - 4)$, $\text{rank}(A - I) = 9$.

Úloha 25. $p_A(\lambda) = (\lambda - 1)^8(\lambda - 2)(\lambda - 3)$, $\text{rank}(A - I) = 9$.

Úloha 26. $p_A(\lambda) = (\lambda - 1)^9(\lambda - 2)$, $\text{rank}(A - I) = 9$.

Úloha 27. $p_A(\lambda) = (\lambda - 1)^{10}$, $\text{rank}(A - I) = 9$.

Úloha 28. $p_A(\lambda) = (\lambda - 1)^8(\lambda - 2)^2$, $\text{rank}(A - I) = 2$, $\text{rank}(A - 2I) = 8$.

Úloha 29. $p_A(\lambda) = (\lambda - 1)^8(\lambda - 2)^2$, $\text{rank}(A - I) = 2$, $\text{rank}(A - 2I) = 9$.

Úloha 30. $p_A(\lambda) = (\lambda - 1)^8(\lambda - 2)^2$, $\text{rank}(A - I) = 3$, $\text{rank}(A - 2I) = 8$.

Úloha 31. $p_A(\lambda) = (\lambda - 1)^8(\lambda - 2)^2$, $\text{rank}(A - I) = 3$, $\text{rank}(A - 2I) = 9$.

Úloha 32. $p_A(\lambda) = (\lambda - 1)^7(\lambda - 2)^3$, $\text{rank}(A - I) = 3$, $\text{rank}(A - 2I) = 7$.

Úloha 33. $p_A(\lambda) = (\lambda - 1)^7(\lambda - 2)^2(\lambda - 3)$, $\text{rank}(A - I) = 3$, $\text{rank}(A - 2I) = 8$.

Úloha 34. $p_A(\lambda) = (\lambda - 1)^7(\lambda - 2)^3$, $\text{rank}(A - I) = 3$, $\text{rank}(A - 2I) = 8$.

Úloha 35. $p_A(\lambda) = (\lambda - 1)^7(\lambda - 2)^2(\lambda - 3)$, $\text{rank}(A - I) = 3$, $\text{rank}(A - 2I) = 9$.

Úloha 806. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)^4$, $\text{rank}(A - I) = 8$, $\text{rank}((A - I)^2) = 7$, $\text{rank}(A - 2I) = 8$, $\text{rank}((A - 2I)^2) = 6$.

Úloha 807. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)^4$, $\text{rank}(A - I) = 8$, $\text{rank}((A - I)^2) = 7$, $\text{rank}(A - 2I) = 8$, $\text{rank}((A - 2I)^2) = 7$.

Úloha 808. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)^4$, $\text{rank}(A - I) = 8$, $\text{rank}((A - I)^2) = 6$, $\text{rank}((A - I)^3) = 4$, $\text{rank}(A - 2I) = 6$.

Úloha 809. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)^4$, $\text{rank}(A - I) = 8$, $\text{rank}((A - I)^2) = 6$, $\text{rank}((A - I)^3) = 4$, $\text{rank}(A - 2I) = 7$.

Úloha 810. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)^4$, $\text{rank}(A - I) = 8$, $\text{rank}((A - I)^2) = 6$, $\text{rank}((A - I)^3) = 4$, $\text{rank}(A - 2I) = 9$.

Úloha 811. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)^4$, $\text{rank}(A - I) = 8$, $\text{rank}((A - I)^2) = 6$, $\text{rank}((A - I)^3) = 5$, $\text{rank}(A - 2I) = 6$.

Úloha 812. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)^4$, $\text{rank}(A - I) = 8$, $\text{rank}((A - I)^2) = 6$, $\text{rank}((A - I)^3) = 5$, $\text{rank}(A - 2I) = 7$.

Úloha 813. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)^4$, $\text{rank}(A - I) = 8$, $\text{rank}((A - I)^2) = 6$, $\text{rank}((A - I)^3) = 5$, $\text{rank}(A - 2I) = 9$.

Úloha 814. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)^4$, $\text{rank}(A - I) = 8$, $\text{rank}((A - I)^2) = 6$, $\text{rank}((A - I)^3) = 4$, $\text{rank}(A - 2I) = 8$, $\text{rank}((A - 2I)^2) = 6$.

Úloha 815. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)^4$, $\text{rank}(A - I) = 8$, $\text{rank}((A - I)^2) = 6$, $\text{rank}((A - I)^3) = 4$, $\text{rank}(A - 2I) = 8$, $\text{rank}((A - 2I)^2) = 7$.

Úloha 816. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)^4$, $\text{rank}(A - I) = 8$, $\text{rank}((A - I)^2) = 6$, $\text{rank}((A - I)^3) = 5$, $\text{rank}(A - 2I) = 8$, $\text{rank}((A - 2I)^2) = 6$.

Úloha 817. $p_A(\lambda) = (\lambda - 1)^6(\lambda - 2)^4$, $\text{rank}(A - I) = 8$, $\text{rank}((A - I)^2) = 6$, $\text{rank}((A - I)^3) = 5$, $\text{rank}(A - 2I) = 8$, $\text{rank}((A - 2I)^2) = 7$.