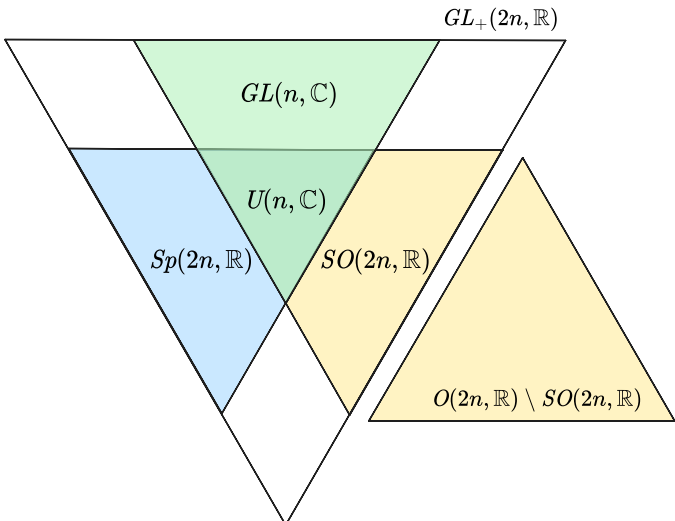


This note, that [was found here](#), as a part of [a collection](#) is written (completely with human hands) by [Rupadarshi Ray](#), was created on June 8, 2025 9:59:48 AM, was last modified on June 18, 2026 5:27:13 PM, and was exported on September 7, 2026 2:50:37 PM.

$U(n,\mathbb{C})$

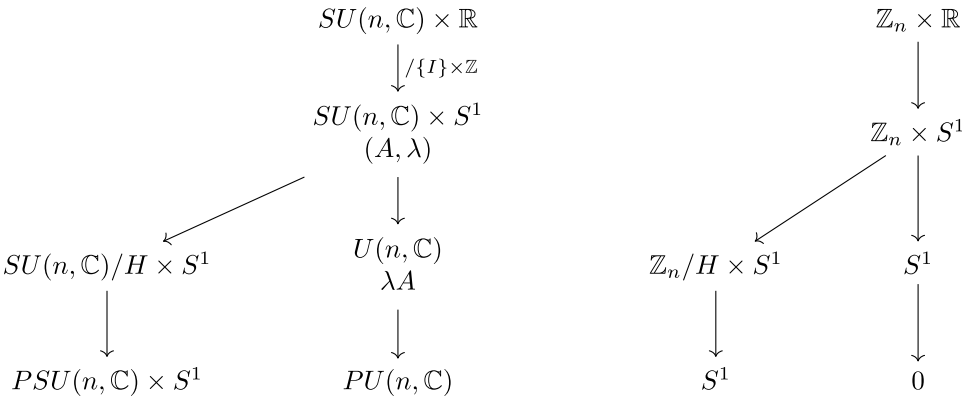
#Wiki/group/Lie

Proposition (2-out-of-3 property of $U(n,\mathbb{C})$):



- $O(2n,\mathbb{R})\cap Sp(2n,\mathbb{R})=U(n,\mathbb{C})$
- $GL(n,\mathbb{C})\cap Sp(2n,\mathbb{R})=U(n,\mathbb{C})$
- $O(2n,\mathbb{R})\cap GL(n,\mathbb{C})=U(n,\mathbb{C})$

$\mathfrak{u}(n,\mathbb{C})$



Current note has 0 direct children and 0 total descendants.

- [squishy](#)
 - $U(n,\mathbb{C})$

And it has 30 siblings.

- [squishy](#)
 - $SL(2)(\mathbb{R})\curvearrowright\mathbb{R}^2$
 - $SL(2)(\mathbb{R})\curvearrowright H^2_{\mathbb{U}}$
 - $\mathbf{Mat}_{\mathbb{C}}(2)$
 - $A_{r,\cdot}\langle z\mapsto\lambda z\rangle\backslash\mathbb{R}H^2_{\mathbb{U}}$
 - $\mathbb{C}\setminus\{0\},\cdot\langle z\mapsto z+1\rangle\backslash\mathbb{R}H^2_{\mathbb{U}}$
 - $\mathbb{C}\setminus\{0,1\},\cdot PSL(2)(\mathbb{Z})[2]\backslash\mathbb{R}H^2_{\mathbb{U}}$
 - $\mathbb{R}\ltimes_{\theta}\mathbb{C}^2$
 - $\boldsymbol{CI}(\mathbb{R}^n,\langle\cdot,\cdot\rangle_{0,n})$
 - $\mathbb{C}^n$
 - $U(\mathbb{C}\setminus\{0\})$
 - $PSL(2)(\mathbb{C})\curvearrowright\mathbb{C}P^1\cong_{\text{Man}}S^2$
 - $\mathbb{C}P^n$
 - [Farey_graph_complex and tree](#)
 - GL
 - [Heisenberg_group](#)
 - [Incomplete_hyperbolic_polygon_mod_side-pairing](#)
 - $\mathbb{R}H^2,\mathbb{R}H^2_{\mathbb{U}},D^2$
 - $\mathbb{R}H^n$
 - [D_n_lattice](#)
 - [Matrices](#)
 - $\text{Mat}_{\mathbb{R}}(2)$
 - [Mobius_endomorphisms](#)
 - [Elementary_group_with_finite_and_infinite_sided_Dirichlet_polyhedra](#)
 - [Polynomials](#)
 - $T^*S^1\ncong_{\text{Sym}}(\mathbb{R}^2\setminus\{0\},\text{d}x\wedge\text{d}y)$
 - $Z\left(\sum_{1\leq j\leq n}z_j^2-1\right)(\mathbb{C})\cong_{\text{Sym}}T^*S^{n-1}$
 - SL
 - SO
 - [Seifert-Weber_dodecahedral_3-manifold](#)

