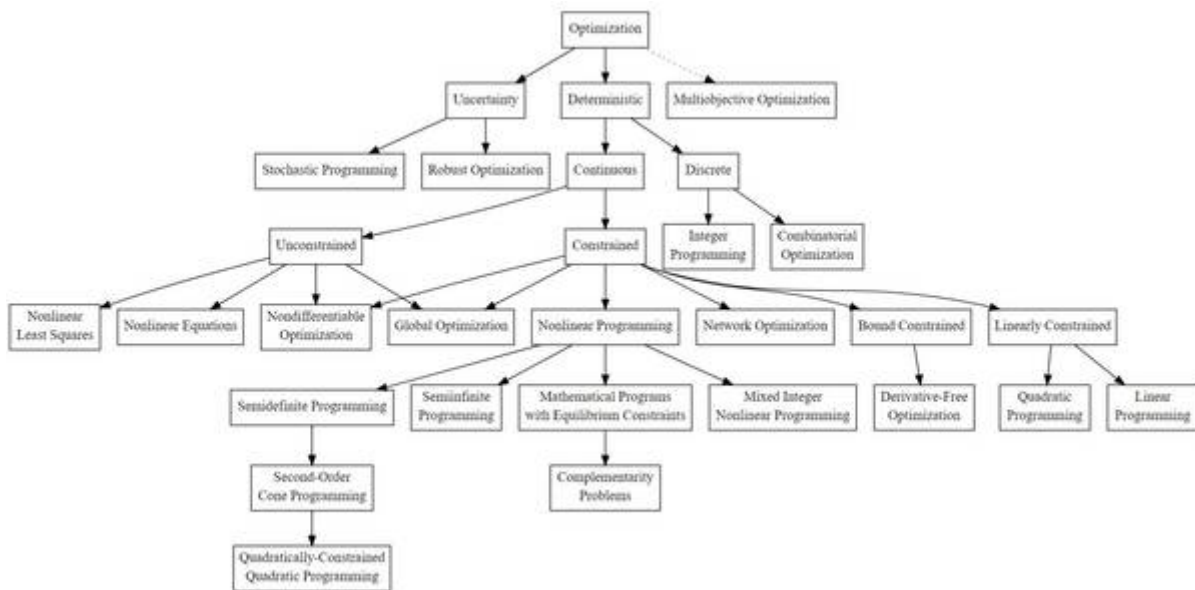


# Mixed Integer Linear Programming

The term programming means planning and linear implies that all equations involved in a problem would be linear. The technique of linear programming first invented by the Russian Mathematician L. V. Kantorovich and developed later by George B. Dantzig. Linear Programming is a mechanism for mathematical modeling and optimizing decisions. NEOS Guide [2] provides an optimization taxonomy, see Figure, focused mainly on the subfields of deterministic optimization with a single objective function.



Linear programming is, thus, deterministic, continuous and linearly constrained optimization. Mixed integer refers to the combination of integers and continuous decision variables. A linear programming problem is one in which some function is either maximized or minimized relative to a given set of alternatives. The function to be minimized or maximized is called the objective function and the set of alternatives is called the feasible region determined by a system of linear inequalities (constraints).

## References

[1] "Morgridge Institute for Research and Wisconsin Institute for Discovery, NEOS Server, "<https://neos-guide.org/>.

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