

CreateGraph@*n* gives a graph with minimal irreducible knot diagrams with *n* crossings as vertices and edges connecting each pair of knot diagrams that are equivalent under one 2-pass, flype, or third Reidemeister move.

CreateGraph@"all" gives a graph with minimal irreducible knot diagrams with up to 10 crossings as vertices and edges connecting each pair of knot diagrams that are equivalent under one 2-pass, flype, or third Reidemeister move.

```
CreateGraph@n_ := CreateGraph@n = If[n == 0, {},
  If[n == "all", Join@@Array[CreateGraph, 11, 0],
    Block[
      {r, y = Join[Reverse@KnotSort@#[[;; 2]], {#[[3]]}] &
        /@ (Join[#, {"Flype"}] &
          /@ Union@@
            (Flype@KnotAssociation[n]@# & /@
              CandidateKnots@n) ∪
              Flatten[Table[{{k, #,
                "Reidemeister 3"} & /@
                  ReidemeisterThree@k,
                {k, #, "2-Pass"} & /@ TwoPass@k},
                {k, ValidKnots@n}], 2)] ∪ {}},
      r = Join@@Select[ConnectedComponents@
        Graph[#[[1]] ↔ #[[2]] & /@ y],
        Or@@PassReducible /@# &];
      Sort[
        Select[y, ¬MemberQ[r, #[[1]]] &], GraphSort]]];
```