

KnotGraph@ $k$  gives the modified 3-valent graph with 4 vertices in a square at each crossing of the knot  $k$ , which is given in modified DT form.

```
KnotGraph@k_MDT := KnotGraph@k = (Join @@ Table[
  Array[{v, # - 1}  $\rightarrow$  {v, Mod[#, 4]} &, 4]  $\cup$ 
  {{v, 0}  $\rightarrow$  {Ordering[List @@ Abs /@ k][[v], 1]},
   {v, 2}  $\rightarrow$  {Ordering[List @@ Abs /@ k][
    Mod[v - 1, Length@k, 1]] , 3}},
  {v, Length@k}] // Graph);
```