

Invariants[ $a, t$ ] gives the new values of  $a$  and  $t$

after one of each set of equivalent knots in  $a$  is moved to  $t$ .

```
Invariants[a_List, t_List] := Invariants[a, t] =  
  Block[{l = a, r = t},  
    Do[If[(i = i /@ l) ≠ {},  
      r = Select[{l, i}^T, Count[i, #[[2]]] == 1 &]^T[[1]] ∪ r;  
      l = Complement[l, r]],  
    {i, {If[# === Abs /@ #, #, 0] &, JonesPolynomial, Colourings[#, 5] &}}];  
  {l, r}];
```