Pensieve header: The R-matrix for the classical algebra.

Startup

In[•]:=
```
SetDirectory["C:\\drorbn\\AcademicPensieve\\Projects\\SL2Portfolio2"];
Once["<< KnotTheory`"];
<< "../Profile/Profile.m";
<< "Engine-Speedy.m";
<< "Objects.m";
<< "KT.m";
$k = 0; γ = 1;
HL[ℰ_] := Style[ℰ, Background → If[TrueQ@ℰ, , ]];
BeginProfile[];
PopupWindow[Button["Show Profile Monitor"],
 Dynamic[PrintProfile[], UpdateInterval → 3, TrackedSymbols → {}]]
```

This is Profile.m of http://www.drorbn.net/AcademicPensieve/Projects/Profile/.

This version: April 2020. Original version: July 1994.

» Warning: On Sep 4 2019 I swapped the operations
∈ and η. Some incompatibilities may arise in older notebooks.

Out[•]= Show Profile Monitor

In[•]:= `Timing@HL[(R12 R63 R45 // dm16→1 dm24→2 dm35→3) ≡ (R23 R14 R56 // dm15→1 dm26→2 dm34→3)]`

Out[•]= {0.984375, True}

In[•]:= `Timing@HL[(R12 R63 R45 // cm16→1 cm24→2 cm35→3) ≡ (R23 R14 R56 // cm15→1 cm26→2 cm34→3)]`

Out[•]= $\{2.48438, \hbar\, x_2\, y_1 + \hbar^2\, b_2\, x_3\, y_1 + \hbar\, B_2\, x_3\, y_1 + \hbar\, B_1\, x_3\, y_2 == \hbar\, x_2\, y_1 + \hbar\, x_3\, y_1 + \hbar\, B_1\, x_3\, y_2\}$

In[•]:= $cR_{i\_,j\_} := \mathbb{E}_{\{\}\to\{i,j\}}\left[\hbar\, a_j\, b_i,\ \frac{B_i - 1}{-b_i}\, x_j\, y_i,\ 1\right]$

In[•]:= `Timing@HL[(cR12 cR63 cR45 // cm16→1 cm24→2 cm35→3) ≡ (cR23 cR14 cR56 // cm15→1 cm26→2 cm34→3)]`

Out[•]= {0.40625, True}