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[zmobile:~] zabrocki% maple
| \ ^ / |      Maple 9 (APPLE PPC OSX)
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< _____ > Waterloo Maple Inc.
|           |
|           | Type ? for help.
> psum:=proc(lst,k) local i;
>   add(lst[i],i=1..k);
> end:
>
> toSnFrob:=proc(expr,n) local i,lambda,j;
>   add( mul( cat(p,lambda[i]), i=1..nops(lambda))/zee(lambda)*
>     simplify(subs({seq(seq(x[psum(lambda,i-1)+j+1]=exp(2*Pi*I*j/lambda[i]),j=0..lambda[i]-1),
>       i=1..nops(lambda))}, evalsf(expr, add(x[i],i=1..convert(lambda,`^`))))),
>     lambda=Par(n));
> end:
> with(SF);
Warning, the protected name conjugate has been redefined and unprotected
[Par, add_basis, char2sf, conjugate, dominate, dual_basis, evalsf, hooks, itensor, jt_matrix, lambda, omega,
  plethysm, scalar, sf2char, skew, stdeg, subPar, theta, toe, toh, top, tos, varset, zee]
> for i from 1 to 6 do
>   tos(toSnFrob(s[3],i));
> od;
          s[1]
          2 s[2] + 2 s[1, 1]
          3 s[3] + 3 s[2, 1] + s[1, 1, 1]
          3 s[4] + 4 s[3, 1] + s[2, 2] + s[2, 1, 1]
bytes used=4000400, alloc=3407248, time=0.33
          3 s[5] + 4 s[4, 1] + 2 s[3, 2] + s[3, 1, 1]
bytes used=8000552, alloc=5045348, time=0.69
          3 s[6] + 4 s[5, 1] + 2 s[4, 2] + s[4, 1, 1] + s[3, 3]
> for i from 1 to 6 do
>   tos(toSnFrob(s[2,1],i));
> od;
          0
          s[2] + s[1, 1]
          s[3] + 3 s[2, 1] + s[1, 1, 1]
          s[4] + 3 s[3, 1] + 2 s[2, 2] + 2 s[2, 1, 1]
          s[5] + 3 s[4, 1] + 2 s[3, 2] + 2 s[3, 1, 1] + s[2, 2, 1]
bytes used=12000832, alloc=5176396, time=1.01
          s[6] + 3 s[5, 1] + 2 s[4, 2] + 2 s[4, 1, 1] + s[3, 2, 1]
>   tos(toSnFrob(s[2,1],7));
bytes used=16001672, alloc=5307444, time=1.32
          s[7] + 3 s[6, 1] + 2 s[5, 2] + 2 s[5, 1, 1] + s[4, 2, 1]
> for i from 1 to 6 do
>   tos(toSnFrob(s[1,1,1],i));
> od;
          0
          0
          s[1, 1, 1]
bytes used=20001944, alloc=5372968, time=1.64
          s[2, 1, 1] + s[1, 1, 1, 1]
          s[3, 1, 1] + s[2, 1, 1, 1]
bytes used=24002984, alloc=5372968, time=2.00
          s[4, 1, 1] + s[3, 1, 1, 1]
> for i from 1 to 6 do
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> tos(toSnFrob(s[4],i));
> od;

          s[1]
        3 s[2] + 2 s[1, 1]
      4 s[3] + 5 s[2, 1] + s[1, 1, 1]
    5 s[4] + 6 s[3, 1] + 3 s[2, 2] + 2 s[2, 1, 1]
  5 s[5] + 7 s[4, 1] + 4 s[3, 2] + 2 s[3, 1, 1] + s[2, 2, 1]

bytes used=28003988, alloc=5372968, time=2.34
      5 s[6] + 7 s[5, 1] + 5 s[4, 2] + 2 s[4, 1, 1] + s[3, 3] + s[3, 2, 1]

> for i from 1 to 6 do
>   tos(toSnFrob(s[3,1],i));
> od;

          0
        s[2] + 2 s[1, 1]
      2 s[3] + 5 s[2, 1] + 3 s[1, 1, 1]
    2 s[4] + 7 s[3, 1] + 3 s[2, 2] + 5 s[2, 1, 1] + s[1, 1, 1, 1]

bytes used=32004324, alloc=5438492, time=2.70
      2 s[5] + 7 s[4, 1] + 5 s[3, 2] + 6 s[3, 1, 1] + 2 s[2, 2, 1] + s[2, 1, 1, 1]

bytes used=36004540, alloc=5438492, time=3.02
      2 s[6] + 7 s[5, 1] + 5 s[4, 2] + 6 s[4, 1, 1] + 2 s[3, 3] + 3 s[3, 2, 1] + s[3, 1, 1, 1]

> for i from 1 to 6 do
>   tos(toSnFrob(s[2,2],i));
> od;

          0
        s[2]
      2 s[3] + 2 s[2, 1]
    2 s[4] + 3 s[3, 1] + 3 s[2, 2] + s[2, 1, 1]
  2 s[5] + 3 s[4, 1] + 4 s[3, 2] + s[3, 1, 1] + 2 s[2, 2, 1]

bytes used=40008752, alloc=5438492, time=3.40
      2 s[6] + 3 s[5, 1] + 4 s[4, 2] + s[4, 1, 1] + s[3, 3] + 2 s[3, 2, 1] + s[2, 2, 2]

> for i from 1 to 6 do
>   tos(toSnFrob(s[2,1,1],i));
> od;

          0
          0
        s[2, 1] + s[1, 1, 1]
      s[3, 1] + s[2, 2] + 3 s[2, 1, 1] + s[1, 1, 1, 1]

bytes used=44010936, alloc=5438492, time=3.78
      s[4, 1] + s[3, 2] + 3 s[3, 1, 1] + 2 s[2, 2, 1] + 2 s[2, 1, 1, 1]
    s[5, 1] + s[4, 2] + 3 s[4, 1, 1] + 2 s[3, 2, 1] + 2 s[3, 1, 1, 1] + s[2, 2, 1, 1]

> for i from 1 to 6 do
>   tos(toSnFrob(s[1,1,1,1],i));
> od;

          0
          0
          0
        s[1, 1, 1, 1]

bytes used=48011256, alloc=5438492, time=4.10
      s[2, 1, 1, 1] + s[1, 1, 1, 1, 1]
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s[3, 1, 1, 1] + s[2, 1, 1, 1, 1]

> for i from 1 to 6 do
>   tos(toSnFrob(s[4,1],i));
> od;

0

2 s[2] + 2 s[1, 1]

bytes used=52013056, alloc=5504016, time=4.46
4 s[3] + 8 s[2, 1] + 4 s[1, 1, 1]

5 s[4] + 12 s[3, 1] + 7 s[2, 2] + 9 s[2, 1, 1] + 2 s[1, 1, 1, 1]

bytes used=56013316, alloc=5504016, time=4.79
5 s[5] + 14 s[4, 1] + 11 s[3, 2] + 11 s[3, 1, 1] + 6 s[2, 2, 1] + 3 s[2, 1, 1, 1]

bytes used=60013716, alloc=5504016, time=5.11
5 s[6] + 14 s[5, 1] + 13 s[4, 2] + 12 s[4, 1, 1] + 4 s[3, 3] + 8 s[3, 2, 1] + 3 s[3, 1, 1, 1] + s[2, 2, 2]
+ s[2, 2, 1, 1]

> for i from 1 to 6 do
>   tos(toSnFrob(s[5],i));
> od;

s[1]

3 s[2] + 3 s[1, 1]

5 s[3] + 7 s[2, 1] + 2 s[1, 1, 1]

6 s[4] + 10 s[3, 1] + 4 s[2, 2] + 4 s[2, 1, 1]

7 s[5] + 11 s[4, 1] + 7 s[3, 2] + 5 s[3, 1, 1] + 2 s[2, 2, 1]

bytes used=64020368, alloc=5504016, time=5.44
7 s[6] + 12 s[5, 1] + 8 s[4, 2] + 5 s[4, 1, 1] + 3 s[3, 3] + 3 s[3, 2, 1]

> for i from 1 to 6 do
>   tos(toSnFrob(s[3,2],i));
> od;

0

bytes used=68020628, alloc=5504016, time=5.76
s[2] + s[1, 1]

3 s[3] + 5 s[2, 1] + 2 s[1, 1, 1]

4 s[4] + 9 s[3, 1] + 5 s[2, 2] + 6 s[2, 1, 1] + s[1, 1, 1, 1]

bytes used=72021100, alloc=5504016, time=6.12
4 s[5] + 10 s[4, 1] + 10 s[3, 2] + 8 s[3, 1, 1] + 5 s[2, 2, 1] + 2 s[2, 1, 1, 1]

4 s[6] + 10 s[5, 1] + 11 s[4, 2] + 8 s[4, 1, 1] + 5 s[3, 3] + 8 s[3, 2, 1] + 2 s[3, 1, 1, 1] + s[2, 2, 2]
+ s[2, 2, 1, 1]

> for i from 1 to 6 do
>   tos(toSnFrob(s[3,1,1],i));
> od;

0

bytes used=76021424, alloc=5504016, time=6.47
0

2 s[2, 1] + 2 s[1, 1, 1]

3 s[3, 1] + 3 s[2, 2] + 6 s[2, 1, 1] + 3 s[1, 1, 1, 1]

3 s[4, 1] + 4 s[3, 2] + 8 s[3, 1, 1] + 5 s[2, 2, 1] + 5 s[2, 1, 1, 1] + s[1, 1, 1, 1, 1]

bytes used=80021588, alloc=5504016, time=6.83
3 s[5, 1] + 4 s[4, 2] + 8 s[4, 1, 1] + s[3, 3] + 7 s[3, 2, 1] + 6 s[3, 1, 1, 1] + s[2, 2, 2]
+ 2 s[2, 2, 1, 1] + s[2, 1, 1, 1, 1]
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> for i from 1 to 6 do
>   tos(toSnFrob(s[2,2,1],i));
> od;
```

0

0

s[3] + s[2, 1]

s[4] + 3 s[3, 1] + 2 s[2, 2] + 2 s[2, 1, 1]

bytes used=84022068, alloc=5766112, time=7.20

s[5] + 3 s[4, 1] + 4 s[3, 2] + 3 s[3, 1, 1] + 4 s[2, 2, 1] + s[2, 1, 1, 1]

bytes used=88022484, alloc=5766112, time=7.54

s[6] + 3 s[5, 1] + 4 s[4, 2] + 3 s[4, 1, 1] + 2 s[3, 3] + 5 s[3, 2, 1] + s[3, 1, 1, 1] + 2 s[2, 2, 2]

+ 2 s[2, 2, 1, 1]

```
> for i from 1 to 6 do
>   tos(toSnFrob(s[2,1,1,1],i));
> od;
```

0

0

0

s[2, 1, 1] + s[1, 1, 1, 1]

bytes used=92022900, alloc=5766112, time=7.90

s[3, 1, 1] + s[2, 2, 1] + 3 s[2, 1, 1, 1] + s[1, 1, 1, 1, 1]

s[4, 1, 1] + s[3, 2, 1] + 3 s[3, 1, 1, 1] + 2 s[2, 2, 1, 1] + 2 s[2, 1, 1, 1, 1]

```
> for i from 1 to 6 do
>   tos(toSnFrob(s[1,1,1,1,1],i));
> od;
```

0

0

0

bytes used=96023092, alloc=5766112, time=8.27

0

s[1, 1, 1, 1, 1]

s[2, 1, 1, 1, 1] + s[1, 1, 1, 1, 1, 1]