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#####  
#####  
### File "b1_diS_to_S_in_me_basis";  
#####  
#####  
### restart;
```

```
deb:=X-> [seq(op(k,X),k=1..nops(X)-1)]; ##  
summa:=X-> add(op(k,X),k=1..nops(X)); ##
```

```
heem:=proc(X): proc(p): if p=0 or p>op(+1,X) then 0 else (-1)^(1+nops(X))*op(-1,X)*a[summa(X)-p] fi end: end:  
heem0:=proc(X): (-1)^(1+nops(X))*op(-1,X)*a[summa(X)] end:
```

```
## mep:='mep': mep[]:=1: a:='a': [seq(a[r]= allr, r=1..14)]; assign(%);
```

```
Mep:=proc(X):  
  if X=[] then 1  
  elif nops(X)=1 and op(X)=1 then +a[1]  
  elif nops(X)=1 and op(X)>1 then  
    +1/summa(X)*heem0(X)  
    +1/summa(X)*add(mep[p]*heem(X)(p),p=1..op(X)-1)  
  elif nops(X)>1 then  
    +1/summa(X)*add( mep[seq(op(k,X),k=1..i-1)]*heem0([seq(op(k,X),k=i..nops(X)])), i=1..nops(X))  
    +1/summa(X)*add(add( mep[seq(op(k,X),k=1..i-1)],p,seq(op(k,X),k=j+1..nops(X))]*heem([seq(op(k,X),k=i..j)])(p),  
    p=1.. min(op(i,X),add(op(k,X),k=i..j)-1)), i=1..j),j=1..nops(X))  
  fi end:
```

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#####
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```
semep1:= [mep[1] = a1] : ##
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```
semep2:= [  
mep[2] = a2+a1^2,  
mep[1,1] = -1/2*a2  
] : ##
```

```
semep3:= [  
mep[3] = a3+2*a1*a2+a1^3,  
mep[1,2] = -2/3*a3-1/3*a1*a2,  
mep[2,1] = -1/3*a3-2/3*a1*a2,  
mep[1,1,1] = 1/3*a3+1/6*a1*a2  
] : ##
```

```
semep4:= [  
mep[4] = a4+2*a1*a3+a2^2+3*a2*a1^2+a1^4,  
mep[1,3] = -3/4*a4-3/8*a2^2-1/2*a1*a3-1/4*a2*a1^2,  
mep[2,2] = -1/2*a4-a1*a3-1/2*a2*a1^2,  
mep[3,1] = -1/4*a4-5/8*a2^2-1/2*a1*a3-3/4*a2*a1^2,  
mep[1,1,2] = 1/2*a4+1/3*a1*a3+1/6*a2*a1^2,  
mep[1,2,1] = 1/4*a4+3/8*a2^2+1/6*a1*a3+1/12*a2*a1^2,  
mep[2,1,1] = 1/4*a4+1/2*a1*a3+1/4*a2*a1^2+1/8*a2^2,  
mep[1,1,1,1] = -1/4*a4-1/8*a2^2-1/6*a1*a3-1/12*a2*a1^2  
] : ##
```

```
semep5:= [  
mep[5] = a5+2*a1*a4+2*a3*a2+3*a3*a1^2+3*a1*a2^2+4*a2*a1^3+a1^5,  
mep[1,4] = -4/5*a5-14/15*a3*a2-17/30*a1*a2^2-3/5*a1*a4-2/5*a3*a1^2-1/5*a2*a1^3,  
mep[2,3] = -3/5*a5-6/5*a1*a4+11/20*a1*a2^2-4/5*a3*a1^2-2/5*a2*a1^3-1/5*a3*a2,  
mep[3,2] = -2/5*a5-4/5*a3*a2-9/20*a1*a2^2-4/5*a1*a4-6/5*a3*a1^2-3/5*a2*a1^3,  
mep[4,1] = -1/5*a5-16/15*a3*a2-43/30*a1*a2^2-2/5*a1*a4-3/5*a3*a1^2-4/5*a2*a1^3,  
mep[1,1,3] = 3/5*a5+9/20*a1*a4+7/40*a1*a2^2+3/10*a3*a1^2+3/20*a2*a1^3+1/5*a3*a2,  
mep[1,2,2] = 2/5*a5+7/15*a3*a2+17/60*a1*a2^2+3/10*a1*a4+1/5*a3*a1^2+1/10*a2*a1^3,  
mep[1,3,1] = 1/5*a5+11/15*a3*a2+47/120*a1*a2^2+3/20*a1*a4+1/10*a3*a1^2+1/20*a2*a1^3,  
mep[2,1,2] = 2/5*a5+4/5*a1*a4+8/15*a3*a1^2+4/15*a2*a1^3+2/15*a3*a2+7/60*a1*a2^2,  
mep[2,2,1] = 1/5*a5+2/5*a1*a4+3/5*a1*a2^2+4/15*a3*a1^2+2/15*a2*a1^3+2/5*a3*a2,  
mep[3,1,1] = 1/5*a5+2/5*a1*a4+13/30*a1*a2^2+3/5*a3*a1^2+3/10*a2*a1^3+17/30*a3*a2,  
mep[1,1,1,2] = -2/5*a5-3/10*a1*a4-1/5*a3*a1^2-1/10*a2*a1^3-2/15*a3*a2-7/60*a1*a2^2,  
mep[1,1,2,1] = -1/5*a5-2/5*a3*a2-3/20*a1*a4-9/40*a1*a2^2-1/10*a3*a1^2-1/20*a2*a1^3,  
mep[1,2,1,1] = -1/5*a5-2/5*a3*a2-3/20*a1*a4-9/40*a1*a2^2-1/10*a3*a1^2-1/20*a2*a1^3,  
mep[2,1,1,1] = -1/5*a5-7/30*a3*a2-4/15*a1*a2^2-2/5*a1*a4-4/15*a3*a1^2-2/15*a2*a1^3,  
mep[1,1,1,1,1] = 1/5*a5+7/30*a3*a2+17/120*a1*a2^2+3/20*a1*a4+1/10*a3*a1^2+1/20*a2*a1^3  
] : ##
```

```
semep6:= [  
mep[6] = a6+2*a1*a5+2*a4*a2+3*a4*a1^2+a3^2+6*a3*a1*a2+4*a3*a1^3+a2^3+6*a2^2*a1^2+5*a2*a1^4+a1^6,  
mep[1,5] = -5/6*a6-25/24*a4*a2-5/9*a3^2-53/36*a3*a1*a2-5/16*a2^3-49/72*a2^2*a1^2-2/3*a1*a5-1/2*a4*a1^2-1/3*a3*a1^3-1/6*a2*a1^4,  
mep[2,4] = -2/3*a6-4/3*a1*a5-14/9*a3*a1*a2-8/9*a2^2*a1^2-a4*a1^2-2/3*a3*a1^3-1/3*a2*a1^4-2/9*a3^2-1/3*a4*a2,  
mep[3,3] = -1/2*a6-a4*a2-1/2*a2^3-a3*a1*a2-a2^2*a1^2-a1*a5-3/2*a4*a1^2-a3*a1^3-1/2*a2*a1^4,  
mep[4,2] = -1/3*a6-7/9*a3^2-22/9*a3*a1*a2-2/3*a4*a2-10/9*a2^2*a1^2-2/3*a1*a5-a4*a1^2-4/3*a3*a1^3-2/3*a2*a1^4,  
mep[5,1] = -91/36*a3*a1^2-1/6*a6-11/16*a2^3-1/3*a1*a5-23/24*a4*a2-1/2*a4*a1^2-4/9*a3^2-2/3*a3*a1^3-167/72*a2^2*a1^2-5/6*a2*a1^4,  
]
```


