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>
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```
> with(combinat):
  T := j -> 1/(j+1)*binomial(2*j,j):
  S2 := (i,j) -> stirling2(i,j):
  B2 := (i,j) -> binomial(i,j):
  FF := n-> doublefactorial(n):
  idemp := n-> sum(binomial(n,2*k)*FF(2*k-1), k=0..floor(n/2)):
```

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```

```
> (T(0), binomial(p,0), 0!, idemp(0), binomial(0,0), FF(0), FF(-1));
```

$$1, 1, 1, 1, 1, 1, 1 \qquad (1)$$

```
>
```

```
> EZ := proc(a,b) local E,p,q,s,E1,E2,E3;

    if (a < b) then
       E := 0:
       for p from 1 to a+1 do
          for q from 1 to b+1 do
             for s from 0 to min(p,q)do
                E := E + S2(a+1,p)*S2(b+1,q)*B2(p,s)*B2(q,s)*s!;
       od; od; od;
       E := T(a)*T(b)*E;
      return(E);
     end if;

     if (a = b) then

          E := 0;
          if a = 0 then
             return(2);
          else
             for p from 1 to a+1 do
               for q from 1 to a+1 do
                  for s from 0 to min(p,q)do
                    E := E + S2(a+1,p)*S2(a+1,q)*B2(p,s)*B2(q,s)*s!;
             od; od; od;
             E1 := (1/2)*T(a)^2*E ;

             E := 0;
             for p from 1 to a+1 do
                for s from 0 to p do
```

```
                    E := E + S2(a + 1, p)·B2(p, s)·idemp(s);
                od; od;
                E2 := (1/2)·T(a)·E;

                E := 0;
                for p from 1 to a + 1 do
                    E := E + S2(a + 1, p);
                od;
                E3 := T(a)·E;

            end if;
        E := E1 + E2 − E3 ;
    end if;
    return (E);
end proc:
```

```
> EQNZ := proc(n) local a, E;

  E := 0;

  for a from 0 to floor(n/2) do
      E := E + EZ(a, n − a) :
  od;
  return(E);
  end proc:

  EQNT := proc(n) local a, E;
   E := 0;
   for a from 0 to n do
       E := E + EQNZ(a);
   od;
    return(E);
  end proc;
```

```
EQNT := proc(n)                                                    (2)
    local a, E;
    E := 0; for a from 0 to n do E := E + EQNZ(a) end do; return E
end proc
```

```
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```

```
> for a from 0 to 5 do
    for b from a to 5 do
        printf("%a  ", EZ(a, b));
    od:
    printf("\n");
  od;
2  5  30  260  2842  36834
9  104  1015  12278  173880
427  8770  115920  1776348
52085  1480290  24354750
11371815  398999160
3716527689
```

```
> for a from 0 to 10 do
    printf("%a  ", EQNZ(a));
  od:
    printf("\n");
2  5  39  364  4284  57882  888365  15120105  281941490
5698630860  123850391756
```

```
> for a from 0 to 10 do
    printf("%a  ", EQNT(a));
  od:
    printf("\n");
2  7  46  410  4694  62576  950941  16071046  298012536
5996643396  129847035152
```

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>
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