```
MM[n_, k_] := MM[n, k] = Sum[ MoebiusMu[j] MM[Floor[n / j], k - 1], {j, 2, n}]
MM[n_, 0] := 1
D2[n_, k_] := Sum[(-1)^(k + j) Binomial[ k + j - 1, k - 1] MM[ n, k + j], {j, 0, Log[2, n]}]
D1[n_, k_] := Sum[Binomial[k, j] D2[n, j], {j, 0, k}]
```

```
D1[100, 2]
```

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```
D2[n, 2]
```

$RecursionLimit::reclim : Recursion depth of 256 exceeded. ≫

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General::stop : Further output of $RecursionLimit::reclim will be suppressed during this calculation. ≫

$IterationLimit::itlim : Iteration limit of 4096 exceeded. ≫

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General::stop : Further output of $IterationLimit::itlim will be suppressed during this calculation. ≫

$Aborted

```
DD2[n_, k_] := Sum[(-1)^(k + j) Binomial[ k + j - 1, k - 1] MMM[ n, k + j], {j, 0, Log[2, n]}]
```

```
DD2[100, 2]
```

MMM[100, 2] - 2 MMM[100, 3] + 3 MMM[100, 4] -
 4 MMM[100, 5] + 5 MMM[100, 6] - 6 MMM[100, 7] + 7 MMM[100, 8]

```
DD2[10 000, 2]
```

MMM[10 000, 2] - 2 MMM[10 000, 3] + 3 MMM[10 000, 4] - 4 MMM[10 000, 5] + 5 MMM[10 000, 6] -
 6 MMM[10 000, 7] + 7 MMM[10 000, 8] - 8 MMM[10 000, 9] + 9 MMM[10 000, 10] - 10 MMM[10 000, 11] +
 11 MMM[10 000, 12] - 12 MMM[10 000, 13] + 13 MMM[10 000, 14] - 14 MMM[10 000, 15]

```
DD2[10 000, 3]
```

- MMM[10 000, 3] + 3 MMM[10 000, 4] - 6 MMM[10 000, 5] + 10 MMM[10 000, 6] - 15 MMM[10 000, 7] +
 21 MMM[10 000, 8] - 28 MMM[10 000, 9] + 36 MMM[10 000, 10] - 45 MMM[10 000, 11] + 55 MMM[10 000, 12] -
 66 MMM[10 000, 13] + 78 MMM[10 000, 14] - 91 MMM[10 000, 15] + 105 MMM[10 000, 16]

```
Sum[ (-1)^k (1 / Zeta[x]^s - 1)^k, {k, 0, Infinity}]
```

Zeta[x]^{s}