

```
ClearAll["Global`*"]
```

```
vv := 2
```

```
K[n_] := If[n == 1, 0, FullSimplify[MangoldtLambda[n] / Log[n]]]
```

```
K2[n_] := If[Mod[n, 2] == 1, 0, K[n/2]]
```

```
K6[n_] := K[n] - If[Floor[Log[vv, n]] == Log[vv, n], n / Log[vv, n], 0]
```

```
P[n_, 0] = 1;
```

```
P[n_, k_] := P[n, k] = Sum[K2[j] P[Floor[n/j], k-1], {j, 2, n}]
```

```
En[n_] := En[n] = Sum[1 / (k!) P[n, k], {k, 0, Log[2, n]}]
```

```
En[n_, z_] := En[n] = Sum[(z^k) / (k!) P[n, k], {k, 0, Log[2, n]}]
```

```
en[n_] := En[n] - En[n-1]
```

```
LAdd[n_] := Sum[vv^k / k, {k, 1, Log[vv, n]}]
```

```
LAdd2[n_] := Sum[(-1)^k vv^k, {k, 1, Log[vv, n]}]
```

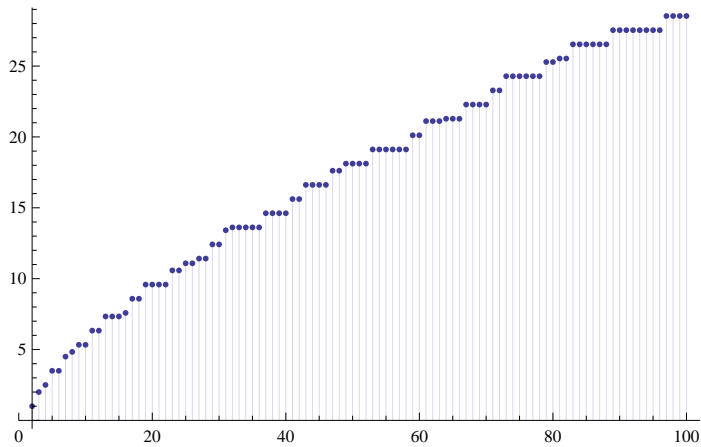
```
PP[n_, k_] := PP[n, k] = Sum[1 / k - PP[Floor[n/j], k+1], {j, 2, n}]
```

```
P[200, 1]
```

428

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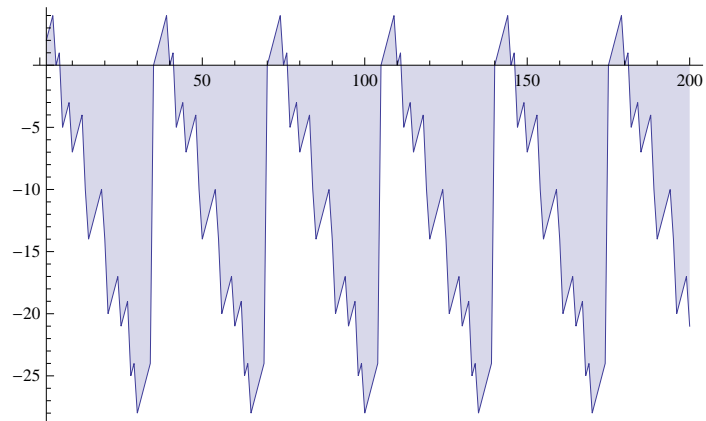
```
DiscretePlot[{P[2 n, 1]}, {n, 2, 100}]
```



```
Table[{n, en[n]}, {n, 2, 50}] // TableForm
```

2	1
3	1
4	1
5	-4
6	1
7	-6
8	1
9	1
10	-4
11	1
12	1
13	1
14	-6
15	-4
16	1
17	1
18	1
19	1
20	-4
21	-6
22	1
23	1
24	1
25	-4
26	1
27	1
28	-6
29	1
30	-4
31	1
32	1
33	1
34	1
35	24
36	1
37	1
38	1
39	1
40	-4
41	1
42	-6
43	1
44	1
45	-4
46	1
47	1
48	1
49	-6
50	-4

`DiscretePlot[En[n], {n, 2, 200}]`



`Table[{n, En[n], Mod[n, vv]}, {n, 1, 100}] // TableForm`

1	1	1
2	2	2
3	3	3
4	4	4
5	0	5
6	1	6
7	-5	0
8	-4	1
9	-3	2
10	-7	3
11	-6	4
12	-5	5
13	-4	6
14	-10	0
15	-14	1
16	-13	2
17	-12	3
18	-11	4
19	-10	5
20	-14	6
21	-20	0
22	-19	1
23	-18	2
24	-17	3
25	-21	4
26	-20	5
27	-19	6
28	-25	0
29	-24	1
30	-28	2
31	-27	3
32	-26	4
33	-25	5
34	-24	6
35	0	0
36	1	1

37	2	2
38	3	3
39	4	4
40	0	5
41	1	6
42	-5	0
43	-4	1
44	-3	2
45	-7	3
46	-6	4
47	-5	5
48	-4	6
49	-10	0
50	-14	1
51	-13	2
52	-12	3
53	-11	4
54	-10	5
55	-14	6
56	-20	0
57	-19	1
58	-18	2
59	-17	3
60	-21	4
61	-20	5
62	-19	6
63	-25	0
64	-24	1
65	-28	2
66	-27	3
67	-26	4
68	-25	5
69	-24	6
70	0	0
71	1	1
72	2	2
73	3	3
74	4	4
75	0	5
76	1	6
77	-5	0
78	-4	1
79	-3	2
80	-7	3
81	-6	4
82	-5	5
83	-4	6
84	-10	0
85	-14	1
86	-13	2
87	-12	3
88	-11	4
89	-10	5
90	-14	6
91	-20	0
92	-19	1

93	-18	2
94	-17	3
95	-21	4
96	-20	5
97	-19	6
98	-25	0
99	-24	1
100	-28	2

`DiscretePlot[P[n, 1] - PP[n, 1] + LAdd[n] + LAdda[n], {n, 2, 100}]`

