

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

```
vv := 7
```

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

```
K5[n_] := K[n] (1 - If[Mod[n, vv] == 0, n, 0])
```

```
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[K6[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]}]
```

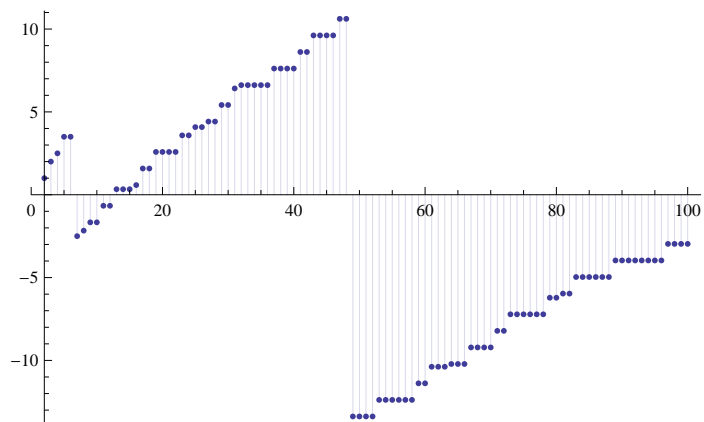
```
PP[n_, k_] := PP[n, k] = Sum[1 / k - PP[Floor[n / j], k + 1], {j, 2, n}]
```

```
P[100, 1] + LAdd[100]
```

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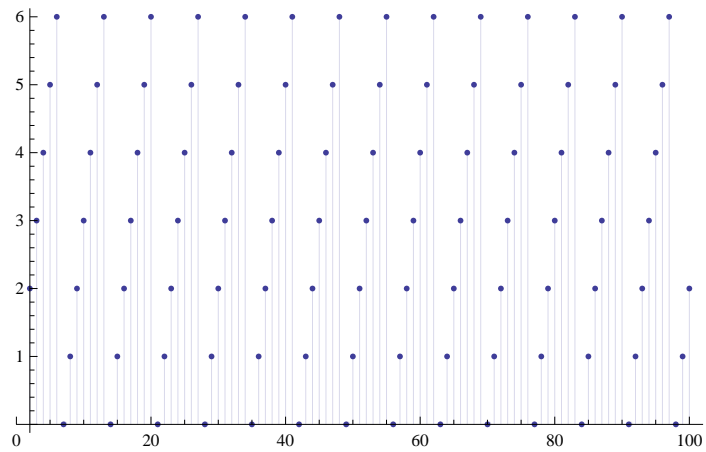
```
DiscretePlot[{P[n, 1]}, {n, 2, 100}]
```



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

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

`DiscretePlot[En[n], {n, 2, 100}]`



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

1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	14	0
8	15	1
9	16	2
10	17	3
11	18	4
12	19	5
13	20	6
14	28	0
15	29	1
16	30	2
17	31	3
18	32	4
19	33	5
20	34	6
21	42	0
22	43	1
23	44	2
24	45	3
25	46	4
26	47	5
27	48	6
28	56	0
29	57	1
30	58	2
31	59	3
32	60	4
33	61	5
34	62	6
35	70	0

36	71	1
37	72	2
38	73	3
39	74	4
40	75	5
41	76	6
42	84	0
43	85	1
44	86	2
45	87	3
46	88	4
47	89	5
48	90	6
49	147	0
50	148	1
51	149	2
52	150	3
53	151	4
54	152	5
55	153	6
56	161	0
57	162	1
58	163	2
59	164	3
60	165	4
61	166	5
62	167	6
63	175	0
64	176	1
65	177	2
66	178	3
67	179	4
68	180	5
69	181	6
70	189	0
71	190	1
72	191	2
73	192	3
74	193	4
75	194	5
76	195	6
77	203	0
78	204	1
79	205	2
80	206	3
81	207	4
82	208	5
83	209	6
84	217	0
85	218	1
86	219	2
87	220	3
88	221	4
89	222	5
90	223	6
91	231	0

92	232	1
93	233	2
94	234	3
95	235	4
96	236	5
97	237	6
98	294	0
99	295	1
100	296	2

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

