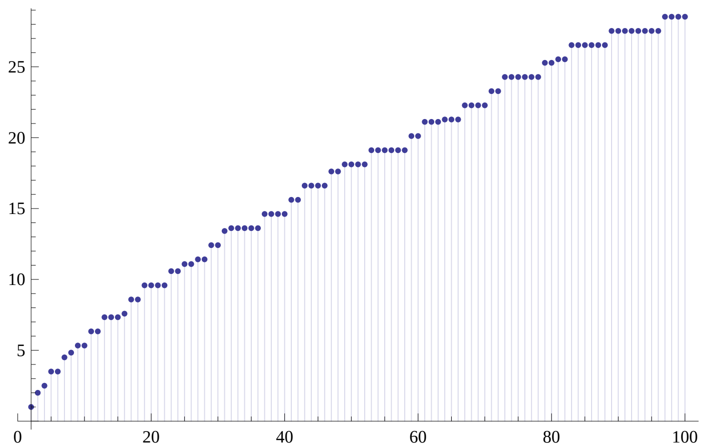
```
ClearAll["Global`*"]

K[n_] := If[ n == 1, 0, FullSimplify[MangoldtLambda[n] / Log[n]]]
ST[n_] := Mod[n, vv = 3] - Mod[(n - 1), vv]
LAdd[n_] := Sum[ vv^k / k, {k, 1, Log[vv, n]}]
E1[n_, 0] := 1
E1[n_, k_] := E1[n, k] = Sum[ ST[j] E1[Floor[n / j], k - 1], {j, 1, n}]
E2[n_, k_] := E2[n, k] = Sum[ (-1) ^ (k - j) Binomial[k, j] E1[n, j], {j, 0, k}]
P2[n_] := Sum[ (-1) ^ (k + 1) / k E2[n, k], {k, 1, Log[2, n]}]
M2[n_] := Sum[ (-1) ^ (k) E2[n, k], {k, 0, Log[2, n]}]
Mert[n_] := Sum[ MoebiusMu[j], {j, 1, n}]
MertAdd[n_, v_] := Sum[ -Mert[Floor[n / v^j]] * v^j, {j, 1, Log[v, n]}]

DiscretePlot[P2[n] + LAdd[n], {n, 2, 100}]
```




```
Table[ {n, P2[n] - P2[n - 1], (P2[n] - P2[n - 1] - K[n])}, {n, 2, 100}] // TableForm
```

2	-1	-2
3	1	0
4	$-\frac{3}{2}$	-2
5	1	0
6	0	0
7	1	0
8	$-\frac{7}{3}$	$-\frac{8}{3}$
9	$\frac{1}{2}$	0
10	0	0
11	1	0
12	0	0
13	1	0
14	0	0
15	0	0
16	$-\frac{15}{4}$	-4
17	1	0
18	0	0
19	1	0
20	0	0
21	0	0
22	0	0
23	1	0
24	0	0

25	$\frac{1}{2}$	0
26	0	0
27	$\frac{1}{3}$	0
28	0	0
29	1	0
30	0	0
31	1	0
32	$-\frac{31}{5}$	$-\frac{32}{5}$
33	0	0
34	0	0
35	0	0
36	0	0
37	1	0
38	0	0
39	0	0
40	0	0
41	1	0
42	0	0
43	1	0
44	0	0
45	0	0
46	0	0
47	1	0
48	0	0
49	$\frac{1}{2}$	0
50	0	0
51	0	0
52	0	0
53	1	0
54	0	0
55	0	0
56	0	0
57	0	0
58	0	0
59	1	0
60	0	0
61	1	0
62	0	0
63	0	0
64	$-\frac{21}{2}$	$-\frac{32}{3}$
65	0	0
66	0	0
67	1	0
68	0	0
69	0	0
70	0	0
71	1	0
72	0	0
73	1	0
74	0	0
75	0	0
76	0	0
77	0	0
78	0	0

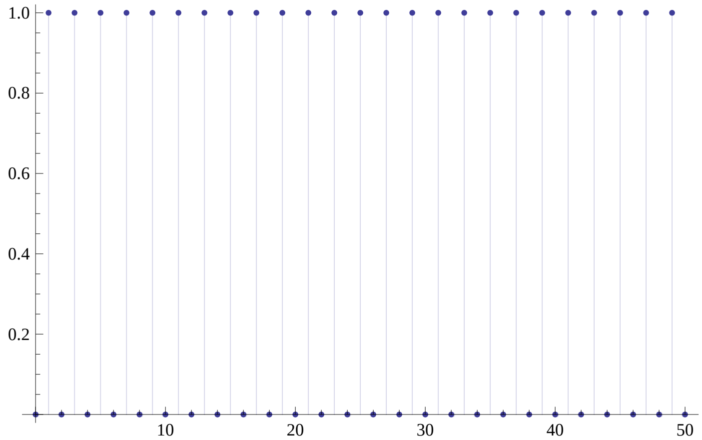
79	1	0
80	0	0
81	$\frac{1}{4}$	0
82	0	0
83	1	0
84	0	0
85	0	0
86	0	0
87	0	0
88	0	0
89	1	0
90	0	0
91	0	0
92	0	0
93	0	0
94	0	0
95	0	0
96	0	0
97	1	0
98	0	0
99	0	0
100	0	0

```
ST2[n_, k_] := Mod[n, k] - Mod[(n - 1), k]
```

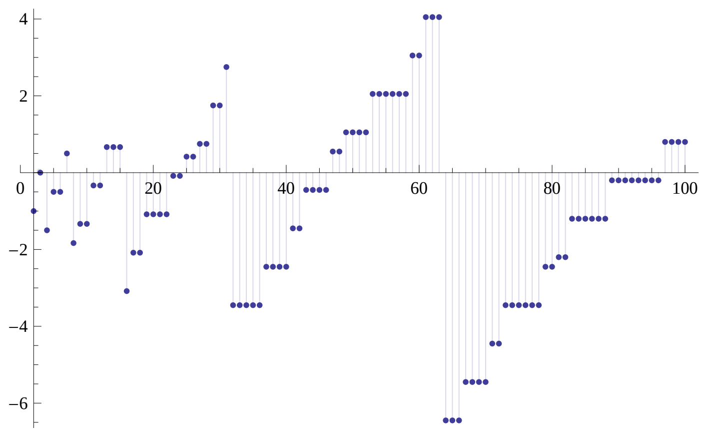
```
Table[{n, ST2[n, 11 / 10]}, {n, 2, 40}] // TableForm
```

2	$-\frac{1}{10}$
3	$-\frac{1}{10}$
4	$-\frac{1}{10}$
5	$-\frac{1}{10}$
6	$-\frac{1}{10}$
7	$-\frac{1}{10}$
8	$-\frac{1}{10}$
9	$-\frac{1}{10}$
10	$-\frac{1}{10}$
11	$-\frac{1}{10}$
12	1
13	$-\frac{1}{10}$
14	$-\frac{1}{10}$
15	$-\frac{1}{10}$
16	$-\frac{1}{10}$
17	$-\frac{1}{10}$
18	$-\frac{1}{10}$
19	$-\frac{1}{10}$
20	$-\frac{1}{10}$
21	$-\frac{1}{10}$
22	$-\frac{1}{10}$
23	1
24	$-\frac{1}{10}$
25	$-\frac{1}{10}$
26	$-\frac{1}{10}$
27	$-\frac{1}{10}$
28	$-\frac{1}{10}$
29	$-\frac{1}{10}$
30	$-\frac{1}{10}$
31	$-\frac{1}{10}$
32	$-\frac{1}{10}$
33	$-\frac{1}{10}$
34	1
35	$-\frac{1}{10}$
36	$-\frac{1}{10}$
37	$-\frac{1}{10}$
38	$-\frac{1}{10}$
39	$-\frac{1}{10}$
40	$-\frac{1}{10}$

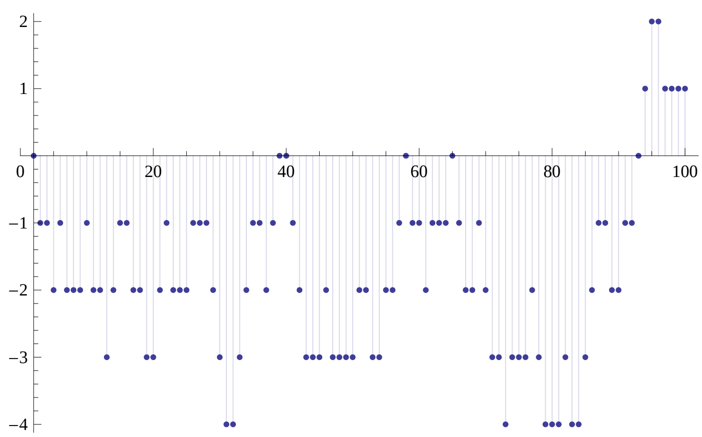
```
DiscretePlot[ E1[n, 1], {n, 0, 50}]
```




```
DiscretePlot[P2[n], {n, 2, 100}]
```




```
DiscretePlot[M2[n] + MertAdd[n, vv], {n, 2, 100}]
```




```
Table[{n, M2[n] + MertAdd[n, vv], Mert[n]}, {n, 1, 100}] // TableForm
```

1	1	1
2	0	0
3	−1	−1
4	−1	−1
5	−2	−2
6	−1	−1

7	−2	−2
8	−2	−2
9	−2	−2
10	−1	−1
11	−2	−2
12	−2	−2
13	−3	−3
14	−2	−2
15	−1	−1
16	−1	−1
17	−2	−2
18	−2	−2
19	−3	−3
20	−3	−3
21	−2	−2
22	−1	−1
23	−2	−2
24	−2	−2
25	−2	−2
26	−1	−1
27	−1	−1
28	−1	−1
29	−2	−2
30	−3	−3
31	−4	−4
32	−4	−4
33	−3	−3
34	−2	−2
35	−1	−1
36	−1	−1
37	−2	−2
38	−1	−1
39	0	0
40	0	0
41	−1	−1
42	−2	−2
43	−3	−3
44	−3	−3
45	−3	−3
46	−2	−2
47	−3	−3
48	−3	−3
49	−3	−3
50	−3	−3
51	−2	−2
52	−2	−2
53	−3	−3
54	−3	−3
55	−2	−2
56	−2	−2
57	−1	−1
58	0	0
59	−1	−1
60	−1	−1
61	−2	−2
62	−1	−1

63	−1	−1
64	−1	−1
65	0	0
66	−1	−1
67	−2	−2
68	−2	−2
69	−1	−1
70	−2	−2
71	−3	−3
72	−3	−3
73	−4	−4
74	−3	−3
75	−3	−3
76	−3	−3
77	−2	−2
78	−3	−3
79	−4	−4
80	−4	−4
81	−4	−4
82	−3	−3
83	−4	−4
84	−4	−4
85	−3	−3
86	−2	−2
87	−1	−1
88	−1	−1
89	−2	−2
90	−2	−2
91	−1	−1
92	−1	−1
93	0	0
94	1	1
95	2	2
96	2	2
97	1	1
98	1	1
99	1	1
100	1	1

```
f[n_, k_] := Mod[n, k] - Mod[n - 1, k]
```

```
DiscretePlot[f[222343, (1 + k / 1000)], {k, -50, 50}]
```