

ある種の実二次体の類数について

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§ 0. 序論

今夏、信州大学で行なわれた整数論研究会（非公式）の際、佐賀大の中原氏が

$$\Delta(a,b) = a^{2 \cdot 3^e} + 4b^{2 \cdot 3^e} \quad (ab > 1) \text{ } \forall \text{ square-free} \\ \Rightarrow \mathcal{Q}(\sqrt{\Delta}) \text{ の ideal 類群 } \mathcal{I}(\Delta) \cong \mathbb{Z}/3^e\mathbb{Z}$$

を証明された。この命題をもっと一般化して、

(*) $\Delta(a,b) = a^{2^k} + 4b^{2^k} \quad (ab > 1) \text{ square-free} \Rightarrow \mathcal{I}(\Delta) \cong \mathbb{Z}/k\mathbb{Z}$
が予想され、実際、幾つかの例は肯定的である。==では(*)
に於て $a=1$ なる場合、

定理 $\Delta = 4b^{2^k} + 1 \quad (2 \leq b \in \mathbb{Z}) \text{ square-free} \Rightarrow \mathcal{I}(\Delta) \cong \mathbb{Z}/k\mathbb{Z}$
が非常に簡単に証明できることを示す。

なお、(*)において $b=1$ の場合も同様に証明できるが、これは Weinberger [5] によって square-free の条件なしに、無限に多くの Δ に対して成り立つことが証明されている。また(*)には

含まれない形ではあるが

$$\Delta = a^{2k} + 1 \quad (3 \leq a, \text{odd}) \text{ square-free} \Rightarrow \mathcal{J}(\Delta) \subset \mathbb{Z}/k\mathbb{Z}$$

も同様に証明できるが、これは N.C. Ankeny と S. Chowla [1] によって別の証明がされていることを、講演後に知った。

§ 1. 類数の表について

ついでに、実二次体 $\mathbb{Q}(\sqrt{m})$ ($1 < m < 20000$) の類数の表を掲げておく。既に、何人かの人達がこの種の表を持っておられるけれど、講究録に載せておいた方が、多くの人にとって便利だと考えたからである。表中、類数に負号(-)がついているのは、基本単数のノルムが -1 であることを示す。この表めし方は、和田氏(上智大)にならった。また、 $m > 4000$ について $\mathbb{Q}(\sqrt{m})$ の類数が 0 になっているところは、 m が平方因子を持つことを示す。

計算は、 $1 < m < 3630$ を電々公社 DEMOS-E で行ない、実行時間約 1 分、以後を名古屋大学^型大学計算センター (FACOM) で行ない、約 110 分を要した。

既存の表としては Ince [2] に、 $1 < m < 2025$ について類数、基本単数及び (reduced な) ideal の表がある。上記和田氏は、(未公表) $1 < m < 13000$ について、基本単数のノルムの符号とともに計算されている。また $m \equiv 1 \pmod{4}$ なる素数 m に

いては, K.E.Kloss, M.Newman, E.Ordman [3] が $5 \leq m \leq 105269$,
 $1000033 \leq m \leq 1002569$, $5000077 \leq m \leq 5000161$ 及び 10000121
 $\leq m \leq 10001261$ について計算している。

§2. 定理の証明

定義 $\mathbb{Q}(\sqrt{m})$ ($\mathbb{Z} \ni m > 0$, square-free) に対して,

$$\omega = \begin{cases} \sqrt{m} & m \equiv 2, 3 \pmod{4} \\ \frac{1+\sqrt{m}}{2} & m \equiv 1 \pmod{4} \end{cases}$$

とおく。 $\mathbb{Q}(\sqrt{m}) \ni \alpha$ は, $\alpha > 1$, $0 > \alpha' > -1$ (α' は α の共役) とき, reduced という。

次の補題はいずれも高木[4] による。

補題1 ideal $\alpha = [a, b+\omega]$ ($a | N(b+\omega)$) において, a を素数中に分解して, $a = p_1^{k_1} p_2^{k_2} \cdots p_n^{k_n}$ とすれば $\alpha = \mathfrak{p}_1^{k_1} \mathfrak{p}_2^{k_2} \cdots \mathfrak{p}_n^{k_n}$ ただし, $\mathfrak{p}_i = [p_i, b+\omega]$ ($i=1, 2, \dots, n$),

補題2 $\alpha_i = [a_i, b_i+\omega]$ ($a_i | N(b_i+\omega)$, $i=1, 2$) が同じ類に属する,

$$\Leftrightarrow \theta_i = \frac{b_i+\omega}{a_i} \quad (i=1, 2) \text{ とおくと, } \theta_2 \sim \theta_1 \text{ i.e. } \exists \begin{pmatrix} p & q \\ r & s \end{pmatrix} \in GL_2(\mathbb{Z}): \theta_2 = \frac{p\theta_1+q}{r\theta_1+s}.$$

さて, $\alpha = [b, \frac{2b^k-1+\sqrt{\Delta}}{2}]$ とおくと補題1 によって,

$$\alpha^j = [b^j, \frac{2b^j-1+\sqrt{\Delta}}{2}] \quad (j=1, 2, \dots, k)$$

で, かつ, $\alpha^k = [b^k, \frac{2b^k-1+\sqrt{\Delta}}{2}] = (\frac{2b^k-1+\sqrt{\Delta}}{2})$ は単項 ideal であるが, 今の場合 $\alpha^j = [b^j, \frac{2b^j-1+\sqrt{\Delta}}{2}]$ に対応する $\alpha_j = \frac{2b^j-1+\sqrt{\Delta}}{2b^j}$ は, reduced ($j=1, 2, \dots, k$) で, その連分数展開は, よく知られて

いるように純循環的である。ところが $\alpha = \alpha_k = \frac{2b^k - 1 + \sqrt{\Delta}}{2b^k}$,

連分数展開は,

$$\alpha = 1 + \frac{1}{\alpha'}, \quad \alpha' = \frac{1 + \sqrt{\Delta}}{2b^k} = 1 + \frac{1}{\alpha''}, \quad \alpha'' = \frac{2b^k - 1 + \sqrt{\Delta}}{2} = 2^{k-1} + \frac{1}{\alpha}$$

だから, $\alpha_j + \alpha$ ($j=1, 2, \dots, k-1$)。故に補題3によって, (2)

属する類の位数は丁度 k である。(証了)

例 $b=2$, $\Delta = 4 \cdot 2^k + 1 = 2^{2k+2} + 1$

k	2	3	4	5	6	7
Δ	65	257	$1025=5^2 \cdot 41$	4097	16385	65537
類数	2	3		10	12	21

参考文献

- [1] H.C. Ankeny and S. Chowla : On the Divisibility of the Class Number of Quadratic Fields, Pacific J. Math. 5 (1955)
- [2] E.L. Ince : Cycles of Reduced Ideals in Quadratic Fields, Mathematical Tables vol. IV, Univ. Press, Cambridge, 1968
- [3] K.E. Kloss, M. Newman and E. Ordman : Class Number of Primes of the Form $4N+1$, Math. of Comp. 23 (1969)
- [4] 高木貞治 : 初等整数論講義, 共立出版, 1931
- [5] P.J. Weinberger : Real Quadratic Fields with Class Numbers Divisible by n , J. of Number Theory 5 (1973)

実2次体 $\mathbb{Q}(\sqrt{m})$ ($m=i+j$) の類数

$i \backslash j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
0	..	-1	1	-1	1	1	..	-2	1	-1	1	2	-1	..	1
20	1	1	1	..	-2	..	-1	2	1	1	2	2	-1	1	2
40	-1	2	1	..	1	1	..	..	2	-1	..	2	1	-2	1
60	-1	1	..	-2	2	1	1	2	1	-1	-2	..	1	2	3
80	..	-4	1	-2	1	2	-1	..	2	1	1	2	-1	..	..
100	-1	2	1	2	-2	1	-1	2	2	-1	2	2	..	1	2
120	..	-2	2	..	..	1	1	-4	1	1	1	..	-1	2	1
140	1	3	2	-4	2	..	-1	..	1	..	2	2	-1	1	2
160	1	..	1	2	1	1	..	-4	..	-1	2	..	1	2	1
180	-1	2	2	-2	2	2	..	2	1	-1	2	4	-1	..	1
200	1	-2	2	2	1	..	1	4	1	1	1	2	1	-2	4
220	2	2	3	..	-8	1	-3	2	4	-1	..	6	1	2	1
240	-1	..	..	..	2	2	1	..	1	1	3	4	-3	2	2
260	..	1	1	-2	2	2	-1	..	1	2	-4	..	-1	1	..
280	-1	2	1	2	2	2	..	-4	4	-1	..	2	..	-2	2
300	1	1	2	2	..	1	1	2	1	-1	-2	..	-1	2	2
320	3	4	4	..	3	2	1	4	1	..	1	2	-1	..	2
340	1	..	..	2	-6	1	-1	..	..	-1	2	2	2	1	3
360	..	-2	..	-2	2	1	..	-4	2	-1	2	..	2	..	1
380	1	1	1	2	2	..	-1	4	2	1	-2	2	-1	1	8
400	-5	2	2	..	2	2	-1	4	2	1	..	2	1	2	1
420	-1	1	..	..	2	6	2	2	1	-1	4	4	1	4	5
440	..	-8	3	-4	1	2	-1	..	2	1	1	4	-1	-2	..
460	-1	4	1	2	2	1	3	2	2	3	2	..	..	1	1
480	-2	2	4	-2	..	1	1	..	1	-2	2	..	1	2	5
500	1	1	1	4	6	..	-1	4	2	..	4	2	1	2	2
520	-1	..	1	..	1	2	..	-4	..	-2	2	2	1	-2	..
540	-1	1	2	2	4	1	..	..	2	1	-2	4	-1	..	2
560	2	2	1	-2	1	..	-1	4	1	1	6	..	-7	..	4
580	1	4	2	..	-2	1	1	2	2	-1	..	4	1	2	1
600	-1	2	..	..	2	1	2	-4	2	-1	1	4	-1	2	1
620	..	1	2	..	-4	4	-2	..	1	1	-2	2	..	2	..
640	-1	2	1	2	8	1	1	..	4	-1	2	2	..	4	3
660	-1	1	4	2	..	2	1	2	2	-1	4	..	-1	2	2
680	1	2	1	-2	..	2	4	4	1	..	1	2	-6	-2	2
700	-1	..	2	2	4	2	-1	2	..	1	4	4	1	1	1
720	1	..	4	..	..	5	..	-12	4	-3	1	..	1	..	1
740	2	2	1	2	-2	..	1	..	1	1	-4	2	-1	1	4
760	-3	2	2	..	1	2	-1	4	2	-1	..	..	4	-2	2
780	1	2	..	-6	6	1	1	2	4	4	-2	4	-1	4	8
800	..	2	2	2	2	2	-1	..	1	1	2	2	5	-4	..
820	-1	2	1	..	2	1	-1	2	2	..	2	2	..	1	3
840	..	-6	2	..	..	..	1	..	2	-1	2	..	-1	4	1
860	2	1	1	-2	2	..	1	8	2	..	6	..	-1	1	2
880	-1	..	1	2	1	1	1	4	..	1	6	6	4	6	6
900	-4	2	4	4	6	1	..	8	1	1	-4	4	1	..	1
920	1	-2	2	..	1	..	-1	4	..	1	3	4	-1	2	4
940	-1	2	4	..	2	1	-2	..	2	-1	..	2	2	1	4
960	..	-4	..	-2	4	1	2	-4	1	1	1	..	-1	2	4
980	..	5	1	-6	-4	4	1	..	1	3	8	2	-1	1	..

$i \backslash j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
1000	2	2	4	2	1	2	-7	-4	4	-1	..	4	..	-2	1
1020	-1	2	8	..	..	2	..	2	1	-1	2	..	-2	2	1
1040	1	-4	2	4	1	2	-1	..	1	..	2	2	1	..	2
1060	-1	..	1	2	-4	4	-1	2	..	-2	2	..	1	..	2
1080	1	-2	..	2	6	7	..	-12	3	-5	1	4	-1	..	2
1100	3	2	1	-4	4	..	-1	4	10	2	-2	2	-1	2	2
1120	1	8	1	..	5	..	-9	-4	4	1	..	2	1	-4	4
1140	1	1	..	-4	2	2	1	..	1	-1	4	8	-2	4	2
1160	..	2	1	-2	2	2	1	..	3	2	1	..	1	2	..
1180	-1	2	..	2	4	1	-2	4	6	-1	2	2	..	1	2
1200	-1	2	2	2	..	2	2	..	6	-1	1	..	-1	4	2
1220	4	2	3	..	-10	4	-3	4	1	..	2	4	-1	1	8
1240	-2	..	4	2	2	2	-1	..	..	1	4	2	3	-4	1
1260	-2	1	2	2	2	2	..	2	4	1	..	..	-1	..	1
1280	2	2	1	-2	1	..	-1	8	1	1	7	4	-11	2	8
1300	-1	4	1	..	-2	1	2	2	4	-4	..	2	1	1	1
1320	-1	-2	..	..	4	5	1	4	..	4	2	4	1	2	6
1340	..	6	2	6	2	2	1	..	8	2	-2	2	1	2	..
1360	-1	2	2	4	1	3	..	-4	4	-3	2	..	..	-4	2
1380	-1	1	2	-2	..	4	1	2	2	5	4	..	1	2	1
1400	1	-2	2	2	6	4	-1	4	4	..	2	2	-2	-2	4
1420	..	..	1	..	4	1	-5	4	..	-1	2	4	1	1	1
1440	1	4	8	..	8	1	..	..	1	-1	1	4	1	..	1
1460	1	4	4	-2	-2	..	2	..	1	1	2	..	1	3	4
1480	-1	4	1	..	5	1	-3	-4	4	-1	..	12	1	2	1
1500	1	1	..	2	2	4	3	2	1	2	-2	4	2	4	..
1520	..	-12	3	..	2	6	1	..	1	2	14	2	2	2	..
1540	1	2	1	2	-6	4	-1	..	4	-1	4	2	..	2	1
1560	1	2	2	-2	..	3	1	-4	1	..	1	..	1	2	1
1580	2	4	1	-2	-4	..	1	8	2	..	-2	4	-1	4	12
1600	-7	..	2	2	2	1	-1	4	..	-1	2	4	..	-4	1
1620	-1	1	2	..	2	3	..	2	4	1	2	4	-1	..	6
1640	5	-2	2	2	3	..	-2	..	2	2	9	2	-1	-2	4
1660	1	2	1	..	..	1	-1	2	2	1	..	..	4	1	4
1680	..	..	..	-2	2	2	1	..	2	-1	..	4	-1	2	1
1700	..	2	2	8	-2	2	-1	..	2	1	-12	..	2	1	..
1720	-1	4	1	..	1	2	2	-4	4	-1	..	6	..	2	2
1740	-1	2	8	-4	..	1	2	..	4	-1	-2	..	1	6	1
1760	7	4	4	-6	5	4	-2	4	12	..	1	..	-1	4	2
1780	-2	..	1	8	2	3	-1	2	..	1	4	2	1	2	2
1800	-1	4	4	..	12	2	..	-4	3	..	1	..	1	..	2
1820	1	1	1	..	2	..	1	4	1	2	2	2	1	1	2
1840	1	2	2	..	2	3	..	..	6	-2	..	4	1	2	..
1860	-1	..	..	-2	6	1	2	4	1	-1	2	..	-1	4	1
1880	..	-6	2	4	4	4	-1	..	2	1	1	2	5	-4	..
1900	-3	2	2	2	-4	3	1	2	..	-1	8	2	..	4	2
1920	-2	..	2	..	..	2	3	-4	1	-1	7	..	-6	4	2
1940	1	1	2	2	2	8	-1	..	1	..	6	4	3	4	2
1960	2	..	2	2	1	4	1	-4	..	-1	4	..	1	2	1
1980	1	1	2	-2	2	3	..	2	2	-1	-2	8	-1	..	1

$i \setminus j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
2000	2	4	1	4	4	..	..	8	1	2	2	4	-1	2	8
2020	3	4	..	..	-14	5	-7	4	10	1	..	8	2	1	1
2040	2	-2	..	2	4	2	1	..	2	-1	2	12	..	..	2
2060	..	1	1	2	2	4	-1	..	2	1	-4	..	1	1	..
2080	-5	2	1	2	2	1	-3	4	4	2	2	2	..	2	3
2100	3	1	2	2	..	..	2	2	1	-1	4	..	-2	6	2
2120	2	-2	2	..	1	2	-1	4	1	..	8	4	-1	-2	12
2140	-1	..	3	4	-4	2	1	..	..	-5	2	2	1	2	4
2160	-1	4	4	-2	..	2	..	12	2	-2	1	..	3	..	1
2180	1	1	2	2	-2	..	1	4	2	2	2	2	..	2	2
2200	1	2	1	..	1	3	..	-8	8	-3	..	2	1	-2	2
2220	-1	2	..	..	4	2	1	6	2	6	-2	4	-1	2	1
2240	..	2	1	2	1	4	-4	..	7	1	..	4	-2	-4	..
2260	2	4	6	2	2	1	-1	2	2	-1	2	..	..	4	2
2280	-1	2	2	-2	..	1	4	-4	2	-1	2	..	-1	6	..
2300	2	7	..	-16	4	4	-1	8	1	..	-4	2	1	2	2
2320	1	..	2	..	1	2	2	-4	..	-1	2	10	2	4	1
2340	-1	1	4	2	4	1	..	..	1	2	2	4	-1	..	4
2360	1	-10	2	2	..	..	1	4	1	2	1	..	-1	-4	8
2380	-1	2	1	..	2	4	-1	2	2	-1	..	2	2	2	5
2400	..	-8	..	-4	2	2	2	8	1	1	2	8	-1	4	12
2420	..	2	1	..	-2	2	3	..	4	1	8	2	-1	2	..
2440	-1	4	2	2	1	1	1	..	8	1	4	2	..	-2	3
2460	1	1	2	-4	..	7	1	4	2	-1	-2	..	-1	4	2
2480	1	-8	2	2	4	2	1	8	2	..	2	6	1	4	..
2500	-4	..	1	6	2	2	-2	6	..	1	2	2	1	1	2
2520	-1	-4	..	..	2	..	..	4	1	4	2	..	1	..	1
2540	..	4	3	-4	2	..	-1	..	1	2	-6	4	-3	1	2
2560	-2	4	2	..	1	4	1	-4	2	1	..	..	1	2	1
2580	-2	1	..	2	2	2	3	4	1	-1	2	4	..	4	14
2600	..	-10	4	-8	1	4	-1	..	2	2	1	2	-1	4	..
2620	-1	4	2	..	-4	2	1	2	2	-1	2	12	..	3	4
2640	1	-4	2	..	..	1	1	..	2	1	1	..	-1	2	3
2660	1	..	1	-4	6	4	4	4	1	..	4	..	-3	6	4
2680	1	..	1	2	2	1	-1	-4	..	-1	2	..	2	2	1
2700	2	4	12	-8	8	1	..	2	3	-3	2	4	2	..	1
2720	1	2	2	..	6	..	-1	8	1	1	1	2	2	..	8
2740	-1	4	2	..	-2	2	-1	..	8	-1	..	12	1	6	2
2760	1	-2	..	2	2	1	2	-4	2	1	4	..	-3	2	2
2780	..	2	..	-2	4	2	-1	..	1	..	2	4	-1	1	..
2800	-1	2	1	4	2	4	..	-8	8	-2	4	2	..	2	1
2820	2	4	2	..	..	4	2	2	6	-1	-4	..	-1	4	2
2840	1	..	1	2	1	4	4	..	1	..	1	2	-3	-2	2
2860	-1	..	2	2	2	2	1	4	..	..	2	..	2	5	1
2880	1	2	..	-2	4	1	..	..	..	1	3	4	-1	..	2
2900	1	3	1	2	-2	..	-1	4	2	7	12	8	-3	3	8
2920	1	6	2	..	4	1	-2	-4	2	1	..	2	2	4	1
2940	-6	1	..	4	2	2	1	..	2	-1	2	4	-1	4	2
2960	..	6	1	-2	1	4	-1	..	3	1	1	..	-2	2	..
2980	3	4	2	2	-10	2	..	4	2	6	2	2	..	1	1

$i \backslash j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
3000	-1	2	8	2	..	4	2	4	1	1	8	..	1	2	1
3020	6	1	3	..	-16	4	-4	8	2	..	4	6	-1	..	2
3040	-1	..	4	4	1	6	-1	..	..	1	6	4	1	2	4
3060	-1	3	2	-2	4	1	..	2	6	1	-4	..	-2	..	1
3080	8	2	1	-2	1	..	-1	4	2	1	4	2	1	-2	4
3100	1	4	2	..	4	2	-1	2	4	1	..	4	1	1	1
3120	-5	4	..	..	2	2	10	-4	2	-2	5	8	-9	6	2
3140	..	1	4	-4	..	2	1	..	2	1	2	2	2	3	..
3160	-4	4	3	2	3	1	-1	-4	4	3	..	..	..	2	..
3180	-5	2	2	..	..	1	1	4	1	1	-2	..	1	4	4
3200	8	-8	1	2	2	2	-1	8	..	..	1	2	-1	2	4
3220	-3	..	2	..	-2	2	-3	4	..	-2	..	2	2	5	2
3240	1	-2	8	4	10	8	..	..	5	-5	1	8	-1	..	1
3260	3	4	2	-2	4	..	1	4	1	1	-2	..	-2	2	2
3280	-6	2	..	..	2	6	2	4	2	-2	..	2	2	8	1
3300	-1	2	..	6	16	1	1	2	4	-1	-4	8	1	4	1
3320	..	2	1	..	1	2	-1	..	1	2	1	4	1	-2	..
3340	-4	2	1	2	4	1	-2	..	2	1	4	4	..	4	1
3360	-1	..	8	-2	..	4	1	-4	1	-1	2	..	1	2	10
3380	..	2	2	-2	-2	4	-1	4	3	..	6	4	1	1	8
3400	1	..	8	2	2	1	1	4	..	-1	2	2	2	-2	6
3420	1	6	4	..	2	2	..	..	2	-1	-8	4	1	..	2
3440	2	6	4	-4	1	..	-1	..	4	1	2	2	-1	4	4
3460	-1	4	1	..	-2	1	-1	2	4	1	..	..	4	2	..
3480	..	-6	..	-4	4	2	1	-4	1	1	1	4	2	4	1
3500	..	4	4	2	2	4	..	..	1	1	6	4	-1	1	..
3520	1	2	2	..	8	1	-1	-4	8	-1	4	4	..	-4	1
3540	-1	4	2	-4	..	1	..	..	2	2	-8	..	-1	2	1
3560	1	-4	2	2	1	4	3	8	1	..	3	..	..	-2	6
3580	-1	..	1	10	2	2	-2	6	..	-1	6	14	2	10	10
3600	-20	6	4	2	12	1	..	..	2	-1	2	8	-1	..	4
3620	2	1	1	..	..	..	1	..	1	2	4	2	-1	2	2
3640	1	2	1	..	1	2	-2	..	2	-2	..	4	2	2	1
3660	1	1	..	-2	4	6	1	6	1	-1	2	..	-1	2	14
3680	..	8	2	2	2	2	2	..	1	1	1	2	-1	..	..
3700	-1	2	..	4	-12	2	-1	4	2	1	2	2	..	..	9
3720	..	-10	4	..	..	1	2	-4	4	-1	1	..	2	4	3
3740	2	1	2	2	2	4	1	..	..	..	-2	2	..	1	4
3760	-1	..	2	2	2	1	-1	-8	..	..	4	..	1	4	1
3780	1	10	4	-2	2	2	..	2	4	-1	4	8	-1	..	2
3800	2	-2	3	4	2	..	-2	4	14	2	5	4	1	2	8
3820	-1	..	1	..	2	2	1	2	2	-1	..	4	1	2	2
3840	1	4	..	-4	6	1	1	..	1	-1	2	4	2	2	6
3860	..	1	1	-2	-2	2	-2	..	..	3	-4	..	-3	2	..
3880	-1	2	8	4	2	..	-3	-4	4	2	8	4	..	-6	2
3900	1	1	2	4	..	1	1	4	1	2	2	..	-1	2	1
3920	1	-4	1	..	2	8	-1	4	1	..	4	2	1	2	4
3940	3	..	1	2	-2	1	1	..	..	1	2	12	3	3	2
3960	-2	6	8	4	10	5	..	-20	..	-6	1	..	-2	..	2
3980	3	2	4	-2	-4	..	-1	8	2	..	-2	4	5	1	8

$i \backslash j$	1	2	3	5	6	7	9	10	11	12	14	15	17	18	19
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4020	-1	1	0	0	4	1	2	4	2	-2	2	4	1	4	2
4040	0	2	2	-4	0	4	-1	0	1	4	1	2	-1	-2	0
4060	1	2	8	6	2	0	2	4	4	-1	4	0	0	1	1
4080	4	-4	2	2	0	2	2	4	1	-1	6	0	-10	6	1
4100	1	2	2	2	-6	0	1	4	1	0	0	2	1	2	2
4120	-2	0	4	0	1	1	-1	4	0	-1	4	2	2	-2	7
4140	-2	2	2	2	2	4	0	0	6	-1	2	4	-1	0	3
4160	8	2	2	0	1	0	1	4	12	4	1	0	-1	2	4
4180	-2	4	4	0	4	2	1	2	4	3	0	2	1	1	8
4200	-1	2	0	0	2	2	2	-4	1	1	0	12	-1	4	1
4220	0	1	4	0	-8	6	-7	0	1	2	-4	0	1	6	0
4240	-1	4	1	2	2	2	1	0	16	-1	2	4	0	4	1
4260	-1	1	0	-2	0	4	1	8	5	-1	-4	0	2	4	6
4280	3	-2	3	-2	3	2	-1	8	2	0	6	2	-1	2	2
4300	2	0	2	8	-4	2	1	2	0	1	2	2	1	4	4
4320	10	2	8	0	4	1	0	-4	2	1	10	0	-1	0	1
4340	1	2	2	12	-4	0	-1	0	2	5	16	12	-5	5	10
4360	0	6	1	0	2	6	2	4	4	-1	0	0	1	14	2
4380	2	2	0	-2	4	8	4	2	1	1	0	4	-1	2	2
4400	0	4	4	2	1	4	-9	0	4	1	1	2	1	0	0
4420	-1	8	1	0	-2	4	1	2	4	2	6	2	0	2	4
4440	-5	-2	2	2	0	1	1	0	1	2	2	0	-1	2	0
4460	1	2	1	2	4	4	-2	8	12	0	-2	0	0	1	2
4480	-3	0	1	4	1	4	0	-8	0	-3	4	4	1	-4	2
4500	1	1	4	-4	2	1	0	4	6	-1	-4	8	-1	0	1
4520	2	4	1	0	2	0	1	4	2	1	9	2	-2	-2	4
4540	1	2	4	0	4	1	-1	0	4	-2	0	10	0	2	4
4560	-1	2	0	2	2	1	1	-4	2	-2	1	0	1	4	14
4580	0	10	1	2	-10	4	-2	0	5	1	-4	2	-3	0	0
4600	1	4	1	2	0	8	1	-4	4	1	4	4	0	-2	2
4620	-1	5	12	0	0	2	1	2	2	2	2	0	-1	2	1
4640	12	2	1	2	2	2	-3	0	3	0	2	0	-1	8	2
4660	1	0	1	2	-2	2	8	6	0	-1	8	0	1	1	1
4680	1	-2	4	-2	4	2	0	4	1	0	1	4	2	0	6
4700	1	7	1	4	-12	0	-2	4	4	1	-2	8	2	4	0
4720	-1	2	1	0	2	2	-3	4	4	-1	0	2	1	8	2
4740	1	1	0	-4	4	2	3	0	1	0	-4	12	5	4	13
4760	0	-22	4	-6	1	8	1	0	6	2	4	0	-4	-6	0
4780	-1	2	1	4	2	1	-1	2	2	-1	4	4	0	1	1
4800	-1	0	2	0	0	16	2	16	2	-1	2	0	-1	4	2
4820	1	3	4	0	2	4	1	16	1	0	2	2	1	4	2
4840	3	0	10	4	1	2	2	0	0	3	2	2	3	2	2
4860	-1	4	2	10	2	10	0	2	1	1	-2	0	-1	0	4
4880	1	2	2	-2	6	0	-5	8	4	2	1	8	1	4	16
4900	0	8	1	0	2	6	-1	6	2	0	0	2	2	1	1
4920	2	2	0	0	2	6	2	8	1	-3	3	8	-1	2	12
4940	0	2	1	2	2	4	0	0	1	4	-18	2	-1	2	0
4960	0	2	2	2	0	1	-1	12	8	-1	2	0	0	2	2
4980	4	6	4	-2	0	1	1	2	4	-1	6	0	1	0	1

$i \setminus j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
5000	1	8	1	4	1	2	-1	4	3	0	2	4	2	-4	4
5020	-1	0	1	0	4	2	1	2	0	1	2	4	4	2	7
5040	0	-12	0	-4	0	0	0	0	1	1	0	4	2	0	1
5060	2	1	6	-2	4	0	2	0	10	6	2	0	-1	1	2
5080	-3	0	4	0	1	1	3	-4	2	1	0	6	1	-18	3
5100	-1	3	0	4	4	5	4	4	2	-1	-2	8	2	2	1
5120	0	-4	2	0	2	2	1	0	6	2	4	8	1	4	0
5140	2	2	2	0	2	1	1	0	4	-1	2	2	0	1	4
5160	-2	-4	2	-2	0	1	1	4	1	1	2	0	1	6	1
5180	4	11	8	-20	8	8	-1	8	2	0	0	2	-1	2	2
5200	1	0	0	2	4	4	-1	-8	0	-2	4	4	4	2	8
5220	1	2	2	0	4	1	0	2	1	-1	-4	4	-1	0	0
5240	5	-2	0	-4	2	0	8	0	2	2	2	6	1	2	4
5260	-3	2	6	0	-12	2	5	4	8	-7	0	0	1	4	1
5280	-3	2	0	2	2	2	2	0	4	1	1	4	-3	2	2
5300	0	6	3	-8	2	4	-1	0	2	4	4	2	-2	1	0
5320	-2	2	1	0	1	6	0	-8	12	-3	4	4	0	4	2
5340	0	1	4	2	0	1	1	0	1	-6	-2	0	1	4	4
5360	1	4	2	-4	1	2	6	4	4	0	1	0	1	4	8
5380	-1	0	6	2	-2	1	-2	0	0	-1	4	4	2	1	1
5400	1	8	4	2	4	1	0	-4	2	-1	1	0	-7	0	1
5420	4	1	4	0	-4	0	-2	4	3	1	8	2	-1	1	0
5440	-1	2	1	0	2	2	-1	0	4	2	0	2	2	-4	2
5460	1	1	0	-2	2	4	1	2	1	-2	8	0	-3	8	1
5480	0	-2	1	-2	2	4	1	0	0	1	2	4	3	-2	0
5500	-1	4	3	2	2	1	1	4	12	8	2	2	0	2	1
5520	-9	2	4	0	0	5	6	4	1	1	1	0	0	4	2
5540	1	6	2	-4	2	0	1	0	4	0	-4	4	-1	2	4
5560	1	0	1	4	0	2	-1	-4	0	-1	2	0	0	-6	2
5580	-1	1	2	-2	0	2	0	4	1	2	-2	12	-2	0	2
5600	1	2	2	4	1	0	1	8	10	3	8	10	-2	0	12
5620	6	8	9	0	-28	4	-12	10	10	1	0	0	3	1	1
5640	-1	4	0	2	2	1	2	0	1	-1	4	8	-1	4	1
5660	0	2	4	2	4	2	-1	0	2	2	-2	0	1	2	0
5680	2	2	3	6	1	0	-1	4	4	-1	4	4	0	4	4
5700	-1	1	2	2	0	2	2	2	5	-8	2	0	-1	2	4
5720	1	-6	2	0	2	4	-2	4	4	0	14	4	-1	6	2
5740	-3	0	7	2	0	2	-1	0	0	1	4	2	2	1	2
5760	1	2	4	-2	0	4	0	-4	2	1	5	0	-10	0	1
5780	2	0	1	-4	2	0	1	4	1	1	2	8	2	6	6
5800	-1	2	2	0	1	1	4	4	4	-1	0	2	4	-2	0
5820	-3	2	0	0	2	7	2	4	0	1	-2	4	-2	4	1
5840	0	4	1	2	2	2	-1	0	1	3	1	2	-1	-4	0
5860	-1	2	4	8	2	1	-1	2	4	1	4	0	0	9	1
5880	-1	-4	4	2	0	0	2	4	2	1	2	0	-1	6	2
5900	6	2	3	2	-4	8	1	8	4	0	-2	0	2	6	2
5920	1	0	1	0	1	5	0	-12	0	-4	4	2	1	6	1
5940	-2	1	8	4	2	8	0	0	14	-1	-12	4	2	0	2
5960	1	2	4	-2	2	0	1	4	2	4	14	0	1	0	4
5980	-1	2	4	0	8	1	2	2	6	-2	0	4	1	1	2

i \ j	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
6000	4	-4	0	2	16	1	1	-8	1	1	8	4	1	4	2
6020	0	1	2	0	6	0	-1	0	2	1	4	4	-1	1	0
6040	1	8	1	4	1	1	1	0	4	-3	4	4	0	12	2
6060	2	2	4	-2	0	1	0	2	10	-1	-2	0	1	10	1
6080	11	6	8	-10	8	10	-1	8	1	0	-2	4	14	2	8
6100	-1	0	4	4	2	2	-2	8	0	-5	2	2	1	4	2
6120	-1	-2	8	0	2	2	0	-4	1	-3	1	8	0	0	2
6140	2	2	1	-4	8	0	2	0	7	6	-4	2	5	1	2
6160	-2	12	1	0	1	2	1	-4	0	-1	0	0	2	-16	2
6180	1	2	0	-6	2	2	1	2	2	1	2	8	-1	4	1
6200	0	10	1	-4	2	2	3	0	1	2	2	4	-1	-2	0
6220	-1	4	0	0	2	2	-1	4	4	1	2	4	0	3	10
6240	0	-8	6	-4	0	1	1	0	4	0	2	0	-1	4	2
6260	1	2	1	2	-4	4	-1	8	1	0	-8	0	-1	2	8
6280	1	0	2	2	4	1	3	8	0	2	10	2	1	2	1
6300	-1	2	4	-4	2	12	0	2	3	1	4	4	-1	0	4
6320	0	-4	1	0	1	0	-1	4	2	1	3	4	-1	2	4
6340	2	4	1	0	2	4	1	0	4	-1	0	8	2	0	1
6360	-1	-2	0	2	6	1	2	0	2	-1	1	0	1	2	1
6380	0	1	2	-2	4	2	-1	0	4	1	2	10	-1	4	0
6400	-12	8	2	4	1	2	-8	8	4	0	6	2	0	-4	0
6420	-1	0	6	0	0	3	1	2	2	1	4	0	-2	4	2
6440	2	-2	2	-4	2	8	-1	0	1	0	2	2	1	-2	2
6460	2	0	2	2	-4	2	-1	2	0	-1	4	0	2	2	4
6480	-5	4	4	-2	16	2	0	4	1	1	4	4	4	0	6
6500	2	1	2	2	-2	0	1	8	4	2	2	6	0	1	4
6520	-1	2	2	0	2	2	-1	-4	4	1	0	2	1	2	2
6540	1	1	0	4	2	1	6	0	1	-1	-4	8	3	6	18
6560	0	-16	5	-8	0	8	-1	0	3	2	10	0	-1	4	0
6580	-1	2	2	2	-4	2	1	2	0	1	12	2	0	7	1
6600	6	-2	4	2	0	1	1	-4	2	2	1	0	-2	2	1
6620	1	8	6	0	-16	0	1	8	18	0	2	2	-3	1	6
6640	-2	0	4	2	1	0	-4	0	0	-1	2	0	2	2	1
6660	-1	1	2	2	8	2	0	12	8	-1	4	0	1	0	1
6680	6	-8	8	6	3	0	-1	4	1	2	1	4	2	-4	8
6700	-1	2	1	0	4	4	-1	4	2	0	0	4	1	1	1
6720	2	6	0	0	3	0	1	-4	2	-1	4	4	-1	2	2
6740	0	1	2	4	-2	4	-2	0	6	1	2	4	-8	2	0
6760	-1	0	1	4	6	2	1	-12	8	2	8	0	0	-2	5
6780	-1	3	8	2	0	4	2	4	3	-1	2	0	1	12	2
6800	1	2	1	4	12	6	9	8	0	0	1	4	-2	4	6
6820	1	0	1	0	-2	1	-1	2	0	-1	12	6	2	2	4
6840	-1	2	4	0	4	2	0	0	4	2	10	4	-1	0	0
6860	1	2	1	-2	-4	0	-1	4	1	2	0	0	0	2	2
6880	1	4	1	0	4	6	0	-16	10	-4	0	4	0	2	1
6900	3	4	0	2	2	1	0	2	1	1	2	4	-1	4	4
6920	0	-2	4	0	1	6	0	0	2	1	1	4	1	-2	0
6940	1	4	2	10	8	1	-5	0	4	-8	4	4	0	0	1
6960	-1	0	4	2	0	1	2	-8	1	1	2	0	-1	2	2
6980	4	1	1	2	2	4	-4	4	1	0	-20	6	-3	1	2

$i \backslash j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
7000	-1	0	2	2	12	0	1	-4	0	-1	12	4	1	0	3
7020	2	1	2	0	2	1	0	4	4	-2	-2	8	1	0	1
7040	1	16	1	-4	2	0	10	0	8	3	17	12	-21	6	5
7060	1	8	16	0	-2	2	-1	8	2	1	0	0	4	1	1
7080	2	-2	0	-4	2	2	2	-4	2	-4	1	8	1	0	2
7100	0	2	1	0	4	12	-1	0	2	1	-2	2	3	1	0
7120	-1	2	2	0	6	1	-1	4	4	1	4	2	0	2	0
7140	-2	1	2	2	0	2	1	0	1	1	0	0	2	2	1
7160	4	-2	4	-2	1	2	1	4	2	0	2	0	-1	-4	2
7180	1	0	2	2	-4	1	2	2	0	-1	4	2	1	2	2
7200	1	-4	0	4	4	1	0	4	1	-1	1	8	1	0	1
7220	10	2	4	0	-18	0	-5	8	4	1	6	6	-1	4	4
7240	-2	12	1	0	1	1	3	0	2	-1	0	2	2	2	12
7260	-2	3	0	-2	4	0	1	2	2	3	-2	0	1	2	6
7280	0	10	1	2	1	4	4	0	2	4	2	2	-1	4	0
7300	0	2	2	2	-4	1	-1	12	6	1	4	16	0	1	6
7320	-1	2	2	0	0	2	2	-20	5	-1	2	0	2	2	10
7340	1	1	2	-4	2	4	-1	0	1	0	-2	2	1	2	16
7360	2	0	2	2	2	2	-1	4	0	-2	6	0	1	8	2
7380	0	1	4	2	2	6	0	2	2	-1	10	16	-4	0	0
7400	1	-2	2	2	0	0	1	8	1	2	2	6	-1	-2	4
7420	-2	2	6	0	16	2	2	2	2	-1	0	2	4	1	10
7440	3	0	0	2	4	2	8	0	1	6	1	8	-1	4	3
7460	0	4	2	-18	-2	4	2	0	6	6	-4	0	-1	1	0
7480	-3	8	2	2	2	1	-1	4	8	1	4	2	0	2	1
7500	-2	0	4	4	0	1	1	14	16	5	0	0	-1	4	2
7520	2	-8	1	0	2	4	-1	4	4	0	1	4	-3	-4	4
7540	-1	0	2	2	0	1	-1	0	0	2	2	2	4	1	1
7560	-1	2	8	4	12	12	0	-20	10	-9	2	0	-1	0	4
7580	0	8	1	-8	2	0	-1	8	5	1	-2	0	1	6	4
7600	3	4	1	0	1	1	1	-8	4	1	0	2	1	-4	2
7620	-1	2	0	0	4	22	1	4	2	-2	2	4	1	8	3
7640	0	-2	3	4	1	2	-1	0	2	1	2	6	2	6	0
7660	1	2	4	12	14	4	-1	4	6	-3	10	0	0	2	2
7680	-1	4	4	4	0	1	2	12	1	0	3	0	1	2	1
7700	2	1	1	10	-2	4	-6	4	6	0	4	2	-1	2	8
7720	3	0	1	0	3	1	1	-4	0	2	2	8	1	-4	2
7740	-1	0	12	-12	10	2	0	0	2	-3	-2	8	-1	0	1
7760	4	-4	2	-2	8	0	2	8	2	1	0	0	2	2	8
7780	1	4	2	0	16	2	-1	4	0	-1	0	2	2	2	2
7800	-2	2	0	2	2	2	2	4	2	2	1	4	-5	2	2
7820	0	3	1	0	4	2	-1	0	2	8	-2	2	-4	1	0
7840	-1	2	4	2	3	8	1	0	4	-1	8	2	0	-12	2
7860	5	5	2	0	0	1	2	6	4	-9	4	0	-1	4	3
7880	12	2	3	2	1	4	0	4	18	0	1	2	-4	2	2
7900	-1	0	4	4	2	1	1	4	0	-2	2	2	4	2	7
7920	0	-8	8	0	4	1	0	-8	4	-1	1	0	-1	0	4
7940	1	0	0	2	-4	0	-1	0	1	2	12	4	4	2	4
7960	1	2	1	0	16	4	-2	-4	2	2	0	0	1	-2	2
7980	1	2	0	-2	0	0	1	4	2	-1	6	8	1	4	6

	1	2	3	5	6	7	9	10	11	3	14	15	17	18	19
8000	0	4	2	-8	1	4	-1	0	1	1	1	4	-3	2	0
8020	-2	4	10	0	-2	2	2	4	2	2	4	2	0	1	1
8040	2	-2	4	2	0	2	5	0	6	-1	1	0	3	4	11
8060	1	2	2	-2	-4	4	-3	3	2	0	10	0	-4	2	2
8080	-1	0	8	0	2	1	-1	8	0	-1	16	14	7	12	20
8100	-13	5	8	6	8	0	0	22	1	6	2	12	-1	0	4
8120	5	2	1	0	4	0	1	12	2	1	0	2	1	4	4
8140	1	8	2	0	-4	1	4	0	8	1	0	4	1	1	2
8160	-1	4	0	2	2	1	2	4	1	3	2	0	-4	4	1
8180	0	1	0	-14	-2	2	1	0	1	1	8	4	1	1	0
8200	1	2	2	2	2	2	-1	-4	8	1	0	4	0	2	1
8220	-1	1	2	0	0	6	8	2	1	-1	2	0	-1	2	4
8240	2	-4	1	-4	4	2	-2	0	2	0	1	12	1	2	2
8260	1	0	1	4	-6	6	-1	2	0	-1	12	0	6	1	6
8280	0	-12	8	-6	2	1	0	-4	1	-1	8	16	-1	0	8
8300	1	2	0	4	6	0	5	4	7	2	-2	2	-1	1	4
8320	-10	8	4	0	2	2	-1	0	2	2	0	6	2	2	6
8340	1	4	0	-4	4	4	0	0	2	-1	-8	4	2	4	2
8360	0	-4	3	2	4	2	-1	0	2	3	6	0	-1	2	0
8380	0	4	2	4	8	1	-1	2	2	2	2	4	0	8	6
8400	1	2	6	0	0	4	1	0	2	1	2	0	1	12	1
8420	2	1	1	0	6	0	-1	4	1	0	2	4	2	3	4
8440	13	0	1	2	4	3	2	0	0	1	2	4	1	-2	2
8460	-1	7	16	-14	12	1	0	0	2	8	2	0	0	0	10
8480	2	2	2	-2	1	0	2	8	2	2	2	2	-2	4	4
8500	-5	4	6	0	-2	2	1	8	2	-1	0	8	2	3	6
8520	-1	-2	0	0	0	1	1	-12	2	2	4	4	-1	6	5
8540	0	1	3	-12	4	8	1	0	2	1	4	8	1	2	0
8560	1	2	1	2	1	2	10	-4	4	-1	2	0	0	4	2
8580	-3	2	2	4	0	14	2	2	0	-2	2	0	-3	2	1
8600	4	4	6	4	2	4	-1	8	2	0	2	2	1	14	0
8620	2	0	3	0	2	1	-1	2	0	2	2	8	3	4	2
8640	-1	-4	8	4	16	13	0	0	10	-8	1	12	1	0	2
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8680	-1	2	8	0	2	4	-5	4	2	-1	0	4	2	-2	1
8700	4	2	0	4	2	5	1	16	12	-3	-2	8	1	2	1
8720	0	0	4	0	1	2	2	0	3	2	2	6	-1	8	0
8740	-1	12	2	12	-2	1	2	0	2	-1	2	4	0	2	2
8760	-27	4	4	-2	0	2	6	-4	0	7	4	0	1	8	1
8780	1	3	1	2	4	4	6	8	2	0	-10	2	1	2	8
8800	4	0	5	2	12	1	1	4	0	1	4	16	1	2	1
8820	-1	4	4	0	2	4	0	2	1	0	8	16	-3	0	1
8840	4	-2	2	4	1	0	-1	0	2	2	12	8	-2	2	4
8860	-1	4	3	0	4	1	0	2	2	1	0	0	2	4	2
8880	1	-4	0	-2	2	1	1	12	4	-1	1	4	2	2	18
8900	0	1	2	-12	-8	2	3	0	4	1	2	2	-2	0	0
8920	1	2	1	0	1	2	-1	12	8	-1	4	2	0	-4	2
8940	-1	4	4	-4	0	2	4	0	1	1	0	0	0	2	0
8960	2	8	1	2	1	0	-1	8	1	0	8	0	1	0	8
8980	1	0	2	2	-2	8	-2	4	0	0	2	4	1	2	3

$i \setminus j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
9000	-1	2	4	2	20	1	0	-8	1	-1	1	8	1	0	2
9020	8	2	8	0	-16	0	-7	8	2	1	-6	8	1	1	4
9040	-1	4	1	0	1	2	-7	0	4	1	0	2	1	4	1
9060	-4	6	0	0	2	1	1	2	2	3	-4	0	2	4	4
9080	0	2	2	2	12	12	-4	0	1	2	3	4	1	-2	0
9100	7	4	1	2	-4	2	-1	2	2	2	0	2	0	4	2
9120	1	2	2	0	0	1	2	4	2	-3	1	0	-1	2	4
9140	2	2	8	4	-4	4	3	0	3	0	4	6	-1	2	4
9160	-1	0	0	4	5	2	-2	4	0	-1	4	0	4	-4	2
9180	-5	1	2	2	2	1	0	2	4	-2	-2	4	-2	0	1
9200	1	2	1	2	1	0	-1	8	2	4	20	12	-18	6	12
9220	-1	8	2	0	2	1	5	4	4	1	0	10	1	2	1
9240	-1	-2	0	0	4	2	1	0	0	1	2	4	-1	2	2
9260	0	2	2	-4	8	2	2	0	4	2	-2	0	-1	3	0
9280	-3	8	1	2	1	2	7	-8	8	-3	6	0	0	-4	2
9300	3	1	4	-8	0	2	2	0	1	1	4	0	0	2	1
9320	10	10	3	0	7	2	1	4	20	0	2	2	-1	8	4
9340	-1	0	1	8	2	2	-1	0	0	1	2	2	1	1	0
9360	2	4	4	-2	4	4	0	-4	5	2	2	0	-1	0	12
9380	2	3	2	-2	0	0	-2	4	1	2	12	2	-1	2	4
9400	2	2	1	0	1	4	0	-20	10	-3	0	4	2	-4	3
9420	-1	4	0	0	2	2	2	16	5	-1	-8	8	-1	0	1
9440	0	-8	4	2	1	4	1	0	2	2	2	4	0	-4	0
9460	-1	4	1	2	-2	3	2	2	8	-1	10	0	0	2	3
9480	1	2	4	2	0	2	1	16	1	1	2	0	-1	2	4
9500	1	1	8	14	0	12	-2	8	1	0	2	4	3	1	4
9520	-1	0	4	0	4	2	-2	-4	0	-1	4	2	0	2	7
9540	2	2	2	2	4	1	0	0	3	-10	8	0	1	0	0
9560	1	2	2	-6	1	0	1	8	4	1	1	0	-2	-6	4
9580	2	2	0	0	-12	1	1	12	4	-2	0	8	4	1	2
9600	-1	4	0	-4	18	2	1	0	10	-1	4	4	1	12	1
9620	0	2	1	0	-2	2	-1	0	1	0	-24	4	1	2	0
9640	1	2	1	2	4	2	-1	0	4	0	4	2	0	2	6
9660	-1	1	2	-2	0	2	10	10	2	-4	2	0	-1	2	1
9680	2	4	2	-4	2	2	-1	8	4	0	2	4	-1	-4	4
9700	2	0	2	2	2	2	2	6	0	1	2	4	2	6	1
9720	-1	-10	4	0	2	2	0	4	10	-1	2	16	2	0	1
9740	2	5	1	6	2	0	-3	0	0	1	-2	2	5	4	2
9760	1	2	2	0	6	1	-1	-4	2	-2	0	0	1	-4	16
9780	-1	4	0	2	4	1	4	24	1	1	2	12	4	8	16
9800	0	0	5	-12	1	8	2	0	1	3	2	4	-1	-2	0
9820	2	2	16	0	0	2	-5	6	4	-3	16	16	0	1	1
9840	4	4	4	4	0	10	0	0	1	1	2	0	-1	4	1
9860	2	1	4	-2	-2	16	3	8	15	0	2	0	2	4	4
9880	-4	0	1	2	15	1	2	4	0	-2	4	10	3	0	2
9900	-1	3	2	6	4	3	0	2	4	1	-2	4	1	0	4
9920	1	0	1	0	6	0	-1	4	1	4	1	2	3	-4	4
9940	-1	4	2	0	-2	0	-1	0	4	-8	0	8	1	2	2
9960	1	4	0	-2	4	1	1	-4	0	-1	1	0	1	2	4
9980	0	4	2	-2	4	2	1	0	8	1	2	6	-2	9	0

$i \setminus j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
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10020	1	1	4	0	0	6	1	4	2	1	-4	0	-1	4	3
10040	1	-2	0	0	1	4	-2	0	0	0	2	2	-2	2	4
10060	-1	0	2	4	20	5	-3	4	0	1	16	0	3	1	1
10080	-4	0	4	-2	0	12	0	4	1	-1	0	4	1	0	3
10100	4	1	1	2	6	0	1	4	1	1	-12	0	7	3	2
10120	2	4	10	0	2	4	1	-4	4	-1	0	2	4	4	1
10140	-1	2	0	-4	8	2	2	0	1	2	-2	4	1	2	1
10160	0	2	1	2	4	2	-1	0	2	1	1	0	-1	4	0
10180	-1	2	4	4	2	2	1	2	8	-1	2	2	0	1	8
10200	0	-14	8	-4	0	2	2	-4	1	1	1	0	-2	4	4
10220	1	2	1	0	2	4	-2	8	6	0	4	4	2	1	2
10240	0	0	5	2	2	1	-2	0	0	-1	2	12	4	4	1
10260	3	2	4	-2	4	1	0	4	3	-9	2	0	1	0	6
10280	2	-16	8	0	2	0	-1	0	12	2	1	8	1	2	4
10300	-3	12	1	0	6	2	0	6	4	-7	0	2	2	8	2
10320	-1	-4	0	0	2	8	4	-4	1	-3	1	8	-1	2	0
10340	0	1	1	-4	2	2	1	0	2	12	4	4	-7	1	0
10360	2	4	2	2	4	4	-1	8	4	2	8	0	0	-2	2
10380	5	6	2	2	0	16	1	2	1	1	-2	0	-2	10	1
10400	11	12	14	-6	0	6	1	16	10	0	4	2	1	2	4
10420	4	0	6	0	-4	1	-1	4	0	-1	4	2	0	20	12
10440	2	2	0	-4	2	2	0	0	6	-1	1	24	-3	0	1
10460	2	1	1	4	4	0	0	4	6	1	-2	0	-1	0	4
10480	5	2	2	0	0	1	-2	4	4	1	0	2	1	-4	1
10500	-1	2	0	8	20	4	2	2	2	-1	4	4	2	4	2
10520	0	-2	2	0	6	0	-1	0	1	1	2	0	-2	6	0
10540	1	12	2	4	-4	2	8	0	2	-2	2	6	0	1	1
10560	3	2	4	-2	0	5	2	4	0	2	2	0	1	4	2
10580	1	4	2	-4	2	4	-1	4	4	0	8	4	-1	2	2
10600	-1	0	2	8	1	11	0	-12	0	-5	4	4	1	-2	4
10620	2	2	2	0	8	1	0	2	1	0	-4	12	1	0	1
10640	3	4	2	2	1	0	1	0	1	2	2	2	-1	0	8
10660	3	4	1	0	-2	1	1	4	2	-2	0	0	1	10	2
10680	1	0	0	-2	4	1	2	-4	1	0	5	16	1	2	2
10700	0	1	4	2	-4	4	-1	0	1	7	2	2	1	8	0
10720	9	2	1	0	2	4	-1	8	0	-3	2	4	0	4	5
10740	1	4	2	2	0	12	1	0	2	-1	6	0	1	8	8
10760	2	-6	2	-2	2	4	0	4	1	0	1	0	-4	-4	2
10780	-1	0	2	2	8	4	-1	8	0	1	12	20	2	1	1
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10840	2	12	2	0	12	5	1	0	6	-1	0	4	4	-4	1
10860	-1	1	0	-12	2	1	1	6	2	1	-2	0	2	0	16
10880	0	2	1	10	1	4	-3	0	1	1	2	2	-2	-4	0
10900	1	4	1	2	4	2	-5	2	2	1	8	4	0	2	2
10920	1	2	8	0	0	0	3	-4	2	0	4	0	-1	2	3
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10960	-8	0	4	4	1	2	1	-4	0	-1	4	0	1	2	1
10980	1	0	16	0	2	1	0	24	2	-1	4	12	3	0	8

$i \backslash j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
11000	2	-2	1	8	1	0	-2	12	0	3	1	14	1	6	16
11020	7	8	14	0	-44	9	-16	6	14	2	0	14	4	1	8
11040	-2	2	0	0	20	1	2	0	2	7	1	16	-3	4	1
11060	0	3	4	-2	2	16	-1	0	1	1	0	0	2	2	0
11080	1	2	1	6	2	1	-2	-4	4	-1	0	20	0	2	6
11100	-2	6	2	2	0	2	0	4	4	-1	-2	0	-1	4	3
11120	2	2	0	0	3	2	1	16	1	0	2	4	6	4	4
11140	-4	0	2	2	-2	2	-1	0	0	1	0	4	1	2	1
11160	-1	-6	0	4	2	2	0	-12	1	-1	10	0	-1	0	2
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11200	1	2	8	0	10	2	5	4	4	-1	0	10	1	4	2
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11240	0	4	1	-4	1	4	1	0	1	0	4	2	-17	4	0
11260	-1	2	2	2	6	4	7	0	0	-5	2	0	0	1	1
11280	-10	-4	2	-4	0	1	18	4	2	3	1	0	2	4	1
11300	1	5	2	4	-2	8	1	8	3	0	-4	4	-1	1	0
11320	-15	0	0	0	4	4	-1	4	0	1	2	2	1	-2	4
11340	1	10	8	2	4	2	0	0	1	-1	6	4	2	0	10
11360	4	4	2	-2	1	0	-1	4	2	2	0	0	1	6	4
11380	1	4	1	0	-2	4	5	4	2	-1	0	4	2	4	1
11400	-6	-2	0	2	10	4	5	4	1	-2	6	4	0	8	2
11420	0	1	1	0	-4	4	1	0	6	2	-2	2	-1	4	0
11440	-2	2	1	8	2	7	0	0	8	-4	4	4	0	4	2
11460	-2	4	2	-2	0	3	1	4	3	2	2	0	1	2	10
11480	2	-2	1	-2	1	4	-1	4	13	0	2	0	-1	-2	2
11500	2	0	1	12	2	2	-10	2	0	4	4	0	2	2	1
11520	-2	8	8	0	4	1	0	-4	6	1	4	8	7	0	12
11540	1	6	4	6	2	0	-1	0	1	1	-4	6	2	1	2
11560	1	4	6	0	1	6	1	-8	8	1	0	0	2	2	1
11580	-2	1	0	2	2	1	1	12	2	-1	12	4	-1	2	2
11600	0	-4	4	4	6	4	2	0	2	0	1	4	-1	-4	0
11620	-7	4	6	0	-2	8	-8	2	6	-1	4	8	0	0	2
11640	9	-2	2	-4	0	2	2	0	2	1	3	0	-1	12	4
11660	0	0	18	-30	10	8	1	16	2	0	-4	0	-1	1	4
11680	-1	0	2	4	1	4	-1	4	0	1	2	2	6	-4	1
11700	-1	1	4	6	2	2	0	2	0	8	2	8	-1	0	1
11720	1	-10	4	0	4	0	-4	8	1	1	1	6	0	-6	16
11740	1	4	1	0	4	2	1	0	6	2	0	2	3	3	2
11760	1	2	0	4	4	0	1	4	2	-2	0	0	-3	4	1
11780	0	2	1	-2	2	2	-3	0	2	1	-28	4	1	2	0
11800	-1	4	4	2	1	1	0	-4	4	-1	8	12	0	10	2
11820	-3	4	8	0	0	1	3	0	1	-1	-8	0	2	2	1
11840	1	4	2	2	1	4	0	0	2	0	1	2	1	0	4
11860	-2	0	1	4	4	1	2	2	0	1	2	0	4	1	10
11880	0	-12	12	-6	4	1	0	-8	4	1	4	8	-1	0	2
11900	1	2	1	2	2	0	-1	4	2	0	4	6	2	2	4
11920	10	2	1	0	4	1	1	-4	4	-1	0	8	10	4	1
11940	-1	2	0	-4	4	2	2	0	4	-1	6	4	1	4	1
11960	0	-2	6	-6	4	2	-1	0	1	2	1	0	8	4	0
11980	-1	2	2	4	-4	1	1	12	12	1	2	2	0	6	0

$i \backslash j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
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12020	1	1	2	0	10	8	1	4	2	0	2	4	-1	2	2
12040	-5	0	1	4	2	2	-1	0	0	-2	0	2	1	-2	6
12060	1	2	2	6	2	2	0	4	3	-1	-2	0	-2	0	2
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12100	-5	8	0	0	-2	1	-1	8	16	-1	0	2	2	2	1
12120	14	8	0	0	4	2	4	-4	2	1	1	4	2	0	2
12140	0	14	1	2	-4	6	-1	0	2	1	2	8	-1	1	0
12160	-11	2	1	2	8	0	1	-4	4	4	2	0	0	2	2
12180	-8	5	4	-2	0	2	2	16	2	-2	4	0	-3	8	2
12200	0	-2	3	4	8	8	-2	24	1	0	2	4	1	-4	2
12220	0	0	2	0	18	3	1	2	0	-2	2	2	1	2	3
12240	-1	2	8	4	4	30	0	0	5	-1	2	8	2	0	4
12260	2	1	3	2	-2	0	-3	8	2	1	0	0	-1	2	2
12280	-11	4	2	0	1	6	-1	-4	4	1	0	2	1	4	0
12300	-5	1	0	2	4	2	6	6	2	1	2	12	6	10	14
12320	0	-20	9	0	1	8	-1	0	4	3	2	2	0	4	0
12340	2	0	1	2	-2	1	-2	0	4	1	4	4	0	18	8
12360	1	2	4	-2	0	2	8	-4	8	-1	2	0	-1	2	1
12380	1	2	4	-2	2	4	-4	8	11	0	-2	12	0	3	2
12400	-3	0	6	2	3	2	-9	-8	0	-1	2	16	1	4	2
12420	-1	1	4	0	4	0	0	4	2	-1	-4	4	-1	0	2
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12460	-4	12	0	0	4	4	14	8	2	-1	0	0	1	2	1
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12500	0	4	1	16	0	8	1	0	1	4	2	2	-1	2	0
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12540	-1	5	12	-20	0	1	2	0	12	-1	-2	0	-2	8	2
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12680	0	-8	4	6	1	6	-1	0	0	1	12	2	-1	2	0
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12720	-1	2	2	0	0	12	5	4	2	2	1	0	1	4	1
12740	2	6	1	2	-6	4	2	0	2	0	20	2	-1	1	2
12760	1	0	1	12	2	6	0	-12	0	-4	2	0	1	-2	2
12780	-1	4	2	-2	6	2	0	2	1	1	-6	4	1	0	1
12800	2	-4	4	-4	2	0	-1	8	2	1	2	4	1	-8	4
12820	-3	4	1	0	0	2	-1	2	8	-2	0	28	2	0	2
12840	-1	-2	0	2	2	2	3	0	6	-1	1	4	4	2	16
12860	0	2	2	2	8	2	2	0	2	4	-4	0	1	2	0
12880	1	24	2	2	2	0	-1	4	8	-1	4	2	0	4	1
12900	2	1	8	-16	0	1	2	2	1	2	2	0	-1	2	1
12920	2	4	1	0	2	8	1	4	4	0	2	8	2	-2	24
12940	-1	0	0	2	-20	0	1	0	0	-1	4	2	2	28	1
12960	-8	-8	4	-2	4	1	0	-4	4	-1	2	0	7	0	1
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$i \backslash j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
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13020	-2	4	0	0	4	2	2	2	2	-13	0	8	-1	4	8
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13060	-2	4	1	4	2	2	9	2	6	2	2	0	0	2	4
13080	1	2	0	-2	0	2	3	8	4	-1	1	0	1	4	3
13100	4	5	1	-16	2	4	-1	16	4	0	6	4	-6	2	2
13120	-1	0	3	0	1	1	1	-8	0	5	4	8	2	2	10
13140	2	1	8	4	4	1	0	0	1	3	2	4	1	0	1
13160	2	-2	1	-2	2	0	-4	4	5	1	2	0	-1	2	24
13180	0	0	1	0	2	1	0	2	6	1	0	8	2	1	2
13200	1	8	0	4	4	2	4	4	2	2	5	12	-1	2	1
13220	0	2	6	0	-16	10	-5	0	2	2	-4	10	2	1	0
13240	-1	2	4	6	10	2	-1	0	4	2	0	4	0	2	1
13260	-2	2	2	2	0	1	3	2	12	-6	-2	0	2	2	0
13280	2	-4	2	-2	12	8	-2	8	1	0	0	2	-1	-4	8
13300	1	0	2	2	-2	2	-1	0	0	-7	4	6	4	1	2
13320	26	-2	4	0	2	1	0	4	1	3	2	16	-1	0	3
13340	5	12	10	-4	2	0	1	0	0	1	2	2	0	1	8
13360	1	8	4	0	4	1	-2	4	6	1	0	0	0	4	10
13380	-1	1	0	-2	4	2	1	12	4	1	-4	8	-1	16	1
13400	0	-2	2	2	1	4	2	0	1	2	4	2	-1	-2	0
13420	-1	2	2	0	0	10	-2	4	0	6	6	14	0	3	2
13440	-1	4	2	2	0	4	1	0	1	1	0	0	-13	14	2
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13480	4	0	2	4	2	1	2	4	0	1	4	2	2	-4	5
13500	1	2	8	-4	2	2	0	12	2	-1	20	8	1	0	2
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13540	1	4	2	0	4	4	-12	0	2	-1	0	2	1	3	4
13560	1	-6	0	-2	8	1	1	4	2	0	4	0	-3	4	2
13580	0	1	0	4	2	4	3	0	1	2	2	2	-1	2	0
13600	4	2	2	2	1	2	1	12	24	-1	2	20	0	2	1
13620	-2	0	12	0	0	1	4	8	2	-1	-16	0	4	2	4
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13660	1	0	16	2	2	2	-1	2	0	0	4	0	4	4	1
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13700	7	12	2	2	4	0	-1	4	1	2	2	16	2	0	4
13720	-1	6	3	0	3	8	-1	-4	4	1	0	4	2	-2	2
13740	10	5	0	2	4	2	1	0	1	-2	0	8	-1	2	1
13760	0	4	5	-6	1	12	0	0	2	1	2	0	1	0	0
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13800	-12	2	4	4	0	1	1	-4	2	1	1	0	2	0	10
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13840	-5	0	2	4	4	2	1	0	0	1	10	4	2	0	1
13860	3	2	2	10	2	0	0	4	4	-1	4	0	-3	0	1
13880	2	2	1	-2	2	0	8	12	2	4	5	4	6	-2	4
13900	-1	4	1	0	8	1	1	4	6	-1	0	0	1	3	2
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13940	0	3	2	2	2	2	-4	0	2	1	6	2	-2	2	0
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$i \backslash j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
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14100	1	4	0	4	2	3	1	4	4	13	2	4	1	4	4
14120	0	14	2	0	4	20	3	0	10	4	2	4	1	-2	0
14140	3	2	1	4	2	12	-1	0	4	-1	16	8	0	1	9
14160	0	-16	10	-6	0	2	1	8	6	-1	2	0	-1	8	2
14180	2	2	2	-2	8	4	3	8	14	0	4	12	-3	2	2
14200	7	0	2	2	1	1	4	0	0	-2	4	2	2	-2	4
14220	-1	2	4	0	14	2	0	2	4	1	2	8	1	0	6
14240	2	4	1	4	6	0	-1	0	1	1	1	2	2	2	0
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14280	-5	-4	0	-2	2	4	4	-4	2	-1	6	4	0	2	10
14300	0	3	1	-8	8	4	2	0	2	4	-6	4	1	1	0
14320	-1	8	1	0	8	1	2	-4	4	1	2	4	0	2	2
14340	-1	2	4	4	0	1	1	0	4	1	-4	0	0	2	2
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14380	-2	0	6	12	-4	3	-3	10	0	-2	18	14	3	10	0
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14420	4	3	1	0	-2	0	5	16	1	2	8	2	-1	1	2
14440	1	4	4	0	4	1	-1	0	2	-2	0	0	6	-2	4
14460	-1	4	0	2	2	4	4	2	2	2	-2	0	1	12	1
14480	0	-4	2	-2	1	4	-1	0	4	1	3	4	2	2	0
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14520	2	-4	4	0	0	2	10	-4	4	-1	0	0	-1	2	24
14540	2	2	1	2	4	8	-1	0	1	0	2	4	-1	2	4
14560	-1	0	1	2	1	4	-2	4	0	2	4	0	2	-4	2
14580	5	10	2	-2	8	6	0	2	1	-1	2	8	3	0	10
14600	4	0	4	2	2	0	3	4	16	1	1	4	1	-2	16
14620	-1	2	2	0	8	1	-1	8	2	-1	0	2	8	2	17
14640	0	-12	0	-8	2	4	2	0	0	-3	2	4	-1	4	4
14660	0	3	8	2	-2	2	-1	0	12	4	4	0	-2	2	0
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14700	2	1	0	-4	0	4	1	2	2	-1	2	0	-1	4	8
14720	14	16	1	0	6	6	2	4	1	0	2	4	-1	-12	0
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14760	2	0	8	-2	4	1	0	12	1	2	2	0	1	0	1
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14800	0	2	12	0	2	8	1	-8	2	-1	0	2	2	4	12
14820	-1	1	0	0	4	7	1	6	5	2	-4	8	-2	4	4
14840	0	-4	1	2	2	0	1	0	1	1	2	2	1	4	0
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14880	1	8	0	-4	0	1	4	-8	1	2	2	0	-1	4	2
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14920	1	0	1	0	2	4	-1	-4	0	-4	4	4	2	12	1
14940	1	2	4	0	4	7	0	0	1	1	-2	4	-1	0	12
14960	5	6	2	8	2	0	-3	4	2	4	1	0	-6	-8	4
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$i \backslash j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
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15060	-3	4	2	2	0	4	1	12	4	-1	2	0	-1	4	2
15080	2	-2	3	2	2	4	3	4	1	0	1	2	1	-2	4
15100	-1	0	2	4	4	1	2	2	0	2	4	2	5	1	2
15120	-5	-4	0	0	12	10	0	-32	15	-10	4	16	-1	0	1
15140	0	2	2	-4	-2	0	-1	0	6	1	6	4	1	4	4
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15260	1	2	1	6	8	4	-1	8	1	0	2	0	-7	1	8
15280	2	0	4	2	1	1	-1	4	0	4	2	16	1	2	1
15300	2	2	2	2	2	5	0	2	2	-1	12	12	0	0	1
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15340	0	2	2	0	-4	2	-3	0	8	-2	0	4	3	2	1
15360	-1	2	0	2	4	0	2	-8	4	-1	9	0	-13	8	0
15380	0	3	1	-4	0	4	1	0	1	2	2	2	-4	1	0
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15420	1	2	8	0	0	1	4	6	6	2	-2	0	1	12	1
15440	1	4	1	-4	1	8	1	0	3	0	1	4	-4	2	10
15460	-1	0	0	6	20	1	1	8	0	-5	2	0	4	2	8
15480	-2	-2	8	2	4	2	0	-4	2	-1	2	4	-1	0	4
15500	3	2	2	2	2	0	-4	8	3	1	-2	4	3	5	4
15520	18	4	0	0	2	1	-24	-4	4	0	0	4	1	16	4
15540	-1	6	0	2	2	14	4	0	1	1	4	8	1	8	1
15560	0	2	2	2	2	2	-1	0	2	2	22	0	-2	-2	0
15580	-1	0	1	2	-24	4	2	2	2	3	4	2	0	6	2
15600	-1	-4	4	4	0	1	0	4	2	-2	2	0	2	4	5
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15640	-3	0	3	4	1	1	-1	0	0	1	2	8	6	-6	2
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15700	1	8	6	0	-2	4	3	2	2	1	0	8	0	2	6
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15740	0	4	4	2	2	4	-1	0	2	2	-2	4	3	1	0
15760	-1	4	4	2	1	1	2	4	4	-3	8	0	0	0	2
15780	1	2	2	4	0	1	4	2	1	-2	-4	0	-1	2	4
15800	2	-2	1	8	4	4	-7	8	20	0	1	2	-1	2	2
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15860	2	20	2	2	-2	0	5	0	2	12	26	0	-13	8	12
15880	-3	14	18	0	0	5	-5	12	6	1	0	0	12	-2	2
15900	-1	1	0	2	4	1	1	16	6	-1	4	4	1	12	1
15920	0	2	1	0	1	2	-4	0	16	2	4	2	-1	-4	0
15940	1	2	2	2	4	2	-4	0	4	4	2	6	0	2	1
15960	3	2	4	2	0	2	1	-4	1	-1	0	0	-10	2	0
15980	2	2	2	2	6	0	5	8	1	0	2	4	-2	2	2

$i \backslash j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
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16060	-1	2	1	0	-4	3	-1	2	8	-1	0	0	2	1	4
16080	-2	4	0	-2	4	3	2	8	1	0	10	16	-1	2	2
16100	0	2	1	2	-2	8	-2	0	5	2	4	4	1	5	0
16120	0	2	2	0	2	7	0	-20	16	-4	4	4	0	-2	1
16140	-3	2	2	2	0	4	2	0	8	-4	8	0	1	2	24
16160	1	4	2	-4	4	4	2	0	2	0	1	0	1	-4	2
16180	1	0	1	4	-2	1	-1	2	0	-1	2	4	1	4	4
16200	6	-2	8	2	8	2	0	-4	4	1	0	8	-7	0	0
16220	1	1	1	0	4	0	-1	4	3	2	-2	12	2	4	2
16240	-2	2	10	0	1	4	-1	0	6	-1	0	14	5	2	2
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16280	0	2	2	-2	6	4	2	0	2	1	1	2	1	4	0
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16360	-1	0	1	2	0	2	-3	-4	0	1	2	0	2	2	4
16380	-1	9	16	-12	10	2	0	4	2	0	2	4	1	0	0
16400	4	2	2	-4	2	0	12	8	1	1	2	0	-1	-8	16
16420	-1	8	2	0	6	1	1	4	2	-1	0	4	1	1	4
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16460	0	1	2	-4	2	8	5	0	28	0	-2	0	-3	8	0
16480	-3	8	2	4	1	1	1	-8	8	-1	2	2	0	12	2
16500	-2	2	2	4	0	4	1	4	4	0	4	0	1	2	1
16520	1	2	4	0	1	8	-1	8	6	0	14	2	1	-10	4
16540	2	0	8	2	-8	1	2	0	0	-3	4	32	1	2	2
16560	-1	0	4	-2	8	1	0	-4	8	-1	3	0	0	0	4
16580	1	1	8	6	-6	0	-2	8	4	1	-12	2	1	12	4
16600	-8	2	1	0	0	1	-12	4	0	-2	0	2	2	2	1
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16640	0	-28	8	-12	4	16	-3	0	1	4	2	6	-1	-4	0
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16680	1	2	4	2	0	4	3	-4	1	-1	8	0	1	0	1
16700	2	2	1	-4	2	4	0	8	2	0	4	6	-2	2	2
16720	3	0	6	0	1	18	-1	4	0	-2	14	2	6	4	4
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16780	-2	6	2	0	4	1	1	4	4	1	0	2	2	2	2
16800	-4	4	0	2	2	0	2	0	1	10	4	8	1	6	0
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16840	1	4	1	2	3	2	4	0	4	1	0	2	0	-2	2
16860	-4	1	8	-2	0	18	1	4	1	1	16	0	1	4	1
16880	2	4	1	2	1	8	-1	16	4	0	1	8	-2	8	40
16900	-7	0	1	0	2	4	-2	12	0	12	2	4	1	2	4
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16940	1	2	1	-4	-4	0	-2	0	8	1	0	2	5	2	2
16960	1	4	1	0	2	0	1	-4	10	1	0	0	1	-4	1
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17040	-1	-4	8	2	0	1	5	0	0	-3	1	0	-2	2	2
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17140	-2	4	4	0	-2	2	1	0	2	-2	0	4	8	2	15
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17180	0	0	1	2	-4	4	-1	0	1	2	-2	4	2	1	0
17200	1	4	1	4	14	1	-1	4	4	1	4	12	0	6	8
17220	-2	2	2	0	0	12	1	2	1	1	4	0	1	0	1
17240	2	8	4	2	1	2	1	0	2	0	1	8	-7	-2	4
17260	-2	0	2	2	-32	2	1	4	0	9	2	0	4	2	2
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17320	-1	2	8	0	5	1	2	-4	4	-1	0	14	1	-2	2
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17380	2	2	1	8	-2	1	-1	4	24	-1	4	0	0	1	2
17400	-1	8	2	0	0	0	2	-4	2	7	1	0	-3	10	1
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17440	1	0	1	2	40	2	-1	0	0	1	2	2	0	4	4
17460	1	1	2	6	4	1	0	2	1	-2	6	0	-3	0	4
17480	1	-18	1	-8	2	0	-1	16	1	0	1	2	-1	-8	8
17500	2	2	4	0	2	4	-1	4	4	1	0	4	1	2	1
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17580	-3	2	6	-2	0	6	4	2	0	-2	2	0	-1	4	1
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17680	-1	12	1	0	2	6	0	-24	18	-8	0	2	2	2	4
17700	1	2	0	2	4	1	1	8	4	-1	4	4	3	4	4
17720	0	-6	2	0	1	12	-1	0	4	2	1	2	-15	0	0
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17760	-1	2	4	4	0	6	1	-4	2	1	1	0	-4	6	2
17780	1	4	5	-2	-2	0	-1	4	3	0	16	2	0	2	4
17800	1	0	4	2	2	1	1	8	0	1	6	4	1	2	2
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17860	-2	4	1	0	-2	6	1	2	8	-4	0	0	2	2	2
17880	-1	-6	0	0	4	4	30	-4	1	-6	2	4	1	4	2
17900	0	1	1	12	4	4	-1	0	1	2	0	2	2	0	0
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17940	2	1	6	-4	0	2	4	0	2	4	12	0	-7	8	1
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18080	0	2	0	-2	1	2	-1	0	2	2	2	8	-3	-4	0
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18160	2	0	4	8	2	6	-1	4	0	2	4	0	2	-4	0
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18220	8	14	17	0	-36	6	-19	14	12	-1	0	20	5	2	4
18240	-4	4	0	4	2	2	4	0	1	-5	1	12	-3	4	0
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18280	2	4	2	8	4	3	-1	4	8	1	12	2	0	2	2
18300	-1	1	2	2	0	1	2	6	1	-1	-6	0	-2	8	2
18320	2	-4	4	0	0	12	-15	8	2	0	2	4	1	-4	2
18340	-1	0	8	2	-2	2	5	0	0	-5	8	10	2	6	2
18360	2	-2	4	-2	2	1	0	20	1	1	1	0	2	0	1
18380	2	8	4	-2	-4	0	4	12	2	1	-4	4	-1	1	10
18400	-1	2	16	0	1	2	-12	4	0	-1	0	4	4	6	4
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18440	0	-6	1	4	2	8	5	0	1	1	1	2	-1	2	0
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18480	-1	2	4	-2	0	8	1	0	0	-1	14	0	-10	14	2
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18520	-3	0	3	0	2	4	1	16	0	1	2	4	2	12	1
18540	-3	4	4	2	8	2	0	0	2	-1	-2	4	2	0	2
18560	2	8	2	2	1	0	1	4	0	2	2	0	-4	4	16
18580	-2	8	1	0	-2	7	-2	0	2	-1	0	10	1	2	8
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18620	0	3	2	0	2	12	4	0	6	9	0	2	-1	1	0
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18740	1	1	1	2	4	0	-1	0	4	4	-8	0	-1	4	0
18760	2	4	2	0	2	0	0	-20	22	-5	0	0	2	-4	2
18780	1	1	0	0	4	1	1	2	8	-1	-6	8	-1	4	2
18800	0	8	5	2	1	6	1	0	2	1	4	4	13	0	0
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18840	1	-2	4	2	0	4	20	0	6	0	2	0	2	4	1
18860	1	1	2	0	-4	8	-1	8	2	0	-2	0	1	3	16
18880	1	0	6	2	4	4	2	4	0	1	4	2	1	2	1
18900	2	2	2	8	28	4	0	4	3	-1	0	8	-1	0	1
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18940	2	8	2	0	8	1	7	0	2	1	0	4	2	1	1
18960	1	2	0	-2	4	2	1	4	2	-1	2	0	3	2	1
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$i \backslash j$	1	2	3	5	6	7	9	10	11	13	14	15	17	18	19
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19140	-1	4	0	2	6	12	4	0	6	1	-4	4	-1	4	0
19160	0	8	1	-2	0	2	2	0	2	4	1	0	1	2	0
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19220	2	2	6	0	-2	8	2	4	1	0	2	2	-1	1	0
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19300	-1	4	2	0	0	2	-1	2	4	2	0	2	10	2	11
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19420	-1	0	1	0	2	1	-3	4	0	-1	20	0	4	1	6
19440	-9	2	4	2	4	1	0	0	2	0	2	4	-1	0	4
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19520	0	2	2	0	2	4	1	0	1	2	1	2	1	2	0
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19560	1	-2	2	4	0	6	2	4	1	0	1	0	-1	4	2
19580	8	1	1	-2	16	4	1	16	4	0	4	14	-1	6	28
19600	-26	0	1	6	1	8	-1	8	0	1	28	2	4	8	2
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19700	0	1	4	2	2	6	-1	0	16	1	2	2	-1	1	0
19720	-4	8	0	0	4	1	-2	-4	4	1	8	2	0	2	1
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19760	2	16	1	2	1	4	-2	4	6	0	1	0	-1	4	4
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19880	0	-34	6	-12	2	12	-1	0	5	4	0	4	2	-2	0
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19920	1	4	4	0	0	1	4	-4	8	1	1	0	-1	2	2
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