

## Project-1: Division Table Algorithm

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### Extended Euclidean Algorithm Steps for $a = 384168$ , $b = 39096$

Quotient	Remainder	X	Y
9	39096	1	-9
1	32304	-1	10
4	6792	5	-49
1	5136	-6	59
3	1656	23	-226
9	168	-213	2093
1	144	236	-2319
6	24	-1629	16007

**Final Result:**  $\gcd(384168, 39096) = 24$ ,  $x = 236$ ,  $y = -2319$

**Extended Euclidean Algorithm Steps for a = 494752, b = 296864**  
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Quotient	Remainder	X	Y
1	296864	1	-1
1	197888	-1	2
1	98976	2	-3
1	98912	-3	5
1545	64	4637	-7728
2	32	-9277	15461

**Final Result:**  $\gcd(494752, 296864) = 32$ ,  $x = 4637$ ,  $y = -7728$

**Extended Euclidean Algorithm Steps for  $a = 17601969$ ,  $b = 2364768$**   
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Quotient	Remainder	X	Y
7	2364768	1	-7
2	1048593	-2	15
3	267582	7	-52
1	245847	-9	67
11	21735	106	-789
3	6762	-327	2434
4	1449	1414	-10525
1	966	-1741	12959
2	483	4896	-36443

**Final Result:**  $\gcd(17601969, 2364768) = 483$ ,  $x = -1741$ ,  $y = 12959$