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Example of finding GCD using Euclidean algo

#1) GCD(273, 110)

① $273 = 2(110) + 53$
② $110 = 2(53) + 4$
③ $53 = 13(4) + 1$
④ $4 = 4(1) + 0$

273 and 110 are relatively prime.

$GCD(273, 110) = 1 = 53 - 13(4)$ by ③
$= 53 - 13[110 - 2(53)]$ by ②
$= 53 - 13(110) + 26(53)$
$= 27(53) - 13(110)$
$= 27[273 - 2(110)] - 13(110)$ by ①
$= 27(273) - 54(110) - 13(110)$
$= 27(273) - 67(110)$

$s = 27, t = -67$

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Example of finding GCD using Euclidean algo.

#21) GCD(273, 110)

① $273 = 2(110) + 53$
② $110 = 2(53) + 4$
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273 and 110 are relatively prime.

$GCD(273, 110) = 1 = 53 - 13(4)$ by ③
$= 53 - 13[110 - 2(53)]$ by ②
$= 53 - 13(110) + 26(53)$
$= 27(53) - 13(110)$
$= 27[273 - 2(110)] - 13(110)$ by ①
$= 27(273) - 54(110) - 13(110)$
$= 27(273) - 67(110)$

$s = 27, \; t = -67$