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> # Extended Euclidean algorithm ... May 2, 2006
> with(linalg):
> a:='a'; a:=3801; b:='b'; b:=525;
      a:=a
      a:=3801
      b:=b
      b:=525

> # v_j = [r_j, s_j, t_j]
#
# v_0 = [a,1,0]
# v_1 = [b,0,1]
# v_j = v_(j-2) - q_(j-1)*v_(j-1)
# q_j = floor( (v_(j-1))[1]/(v_j)[1] )
# when (v_(j+1))[1] = 0, then [GCD(a,b),s,t] = v||j
#
> v0:=vector(3,[a,1,0]):
v1:=vector(3,[b,0,1]):
q1:=floor(v0[1]/v1[1]):
print(0,evalm(v0),`--`);
print(1,evalm(v1),q1);
#
for j from 2 while (v||j)[1] <>0 do
  v||j:=evalm( (v||(j-2)) - (q||(j-1)) * (v||(j-1)) ):
  q||j:=floor( (v||(j-1))[1]/(v||j)[1] ):
  print(j,evalm(v||j),q||j);
end do:
d:=(v||(j-1))[1]: s:=(v||(j-1))[2]: t:=(v||(j-1))[3]:
print(`GCD=`,d,` s = `,s,` t = `,t);
print(`CHECK: s*a +t*b = `,s*a+t*b);

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0, [3801, 1, 0], --

1, [525, 0, 1], 7

2, [126, 1, -7], 4

3, [21, -4, 29], 6

GCD=, 21, s =, -4, t =, 29

CHECK: s*a +t*b =, 21