// EXGCD 扩展欧几里得解同余方程组

ll gcd(ll a, ll b) return b?a:gcd(b,a%b);

//a，b分别代表方程的系数，d返回a，b的最大公约数，x，y返回对应的解

void exgcd (ll a ,ll b ,ll &d ,ll &x ,ll &y ){

if ( ! b )d = a , x = 1 , y = 0 ;

else{

exgcd ( b , a % b , d , y , x ) ;

y -= ( a / b ) \* x ;}}

//x0 = x\*c/d + k(b/d) ;

//y0 = y\*c/d - k(a/d);

ll lcm(ll a, ll b, ll gcd) return a/gcd \* b;

// 计算 x = a[i] mod m[i], 一共len个方程

ll exchina(ll a[], ll m[], ll len) {

ll x0 = a[0], mod = m[0];

for(int i = 1; i < len; i++) {

ll k1, k0, r = a[i] - x0;

ll gcd = exgcd(m[i], mod, k1, k0);

if((a[i] - x0)%gcd != 0) return -1;

k0 = r/gcd\*k0;

ll res = m[i]/gcd;

k0 = (k0%res + res)%res;

x0 = x0 + k0\*mod;

mod = lcm(mod, m[i], gcd);

}

return x0;

}

int main() {

int k;

while(cin >> k) {

for(int i = 0; i < k; i++) {

cin >> m[i] >> a[i];

}

ll ans = exchina(a, m, k);

cout << ans << endl;

}

return 0;

}// x = ai mod(mi)

// a[]: mod 后的 余数

// m[]: 对 mi mod 取模

8 7 11 9 Ans = 3