Contents

// extending F2 with A ring r = (2, x), (A,B,Z,z0,z1,z2,a0,b0,a1,b1,a2,b2), lp;

// adding in the minpoly minpoly = $x^3 + x^2 + 1$;

for (int i = 0; i < 8; i++){ printf("printing x^%s = %s",i,x^i); }

poly s0,s1,s2,s3,s4,zp0,zp1,zp2;

s0 = a0*b0; s1 = a1*b0 + a0*b1; s2 = a2*b0 + a1*b1 + a0*b2; s3 = a2*b1 + a1*b2; s4 = a2*b2;

zp0 = s0 + s3 + s4; zp1 = s1 + s4; zp2 = s2 + s3 + s4;

poly f1 = A + a0 + a1*x + a2*x^2; poly f2 = B + b0 + b1*x + b2*x^2; poly f3 = Z + z0 + z1*x + z2*x^2;

poly Z_{test} = A*B + Z; poly Z_{mine} = zp0 + zp1*x + zp2*x^2;

poly miter = Z_{mine} + Z_{test};

ideal I = s0,s1,s2,s3,s4,zp0,zp1,zp2, f1, f2, f3; "Expected"; groebner(Z_{test}, std(I)); "Mine"; groebner(Z_{mine}, std(I)); "Miter"; groebner(miter, std(I)); quit;