(60 points) Given two nonzero integers b and c within [−1000,1000], we are interested to know their sum, difference, product, whether one can divide the other, and the maximum number among their sum, difference, and product. More precisely, you will be given three integers a ∈ {1, 2, 3, 4, 5}, b, and c. You then need to print out one number according to the following rule:

(1) If a = 1, print out b + c;

(2) If a = 2, print out |b − c| (the absolute value of b − c;

(3) If a = 3, print out bc;

(4) If a = 4, print out 1 if either b divides c or c divides b, and 0 otherwise;

(5) If a = 5, print out max{b + c, |b − c|, bc}.