**Question 2**

The extended Euclidean algorithm firstly calculates the greatest common divisor of two numbers; it also calculates the coefficients of those numbers. If the original values (x,y) are coprimes then the coefficient of x is the modular multiplicative inverse of mod y and the coefficient of y is the modular multiplicative inverse of mod x.

**Question 3**

The extended Euclidean algorithm is used to find the modular multiplicative inverse of two numbers, it can also be used when calculating linear equations .