Task 1:

1. This calculation involves calculating Euler’s totient function. This is the process of counting up the number of relative primes that are less than the target number. The relative primes can be determined by taking the greatest common denominator of the target number and the number you are checking, and if the greatest common denominator of the two is 1, then you know it is a relative prime. Below is the pseudocode for my function that calculates Φ(targetNumber). I calculated Φ(2214119) to be 2211144 based on this pseudocode.

def eulersTotient(target):

count = 0

for i in range(target):

if(gcd(target, i+1) == 1):

count = count + 1

return count