進化型計算

2210104029 近藤伊士利

Problem 1

Define S as a set of prime numbers between 1 to 100. S={2,3,5…97} Divide S to SA and SB. (S = SA ∪ SB ) Find the minimum value of the absolute value of difference of each sum of all elements of SA and SB, and SA and SB.

[2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97]

25

1060

SAとSBの差の絶対値の最小値

0

その時のSAとSB

SA: [3, 41, 67, 71, 79, 83, 89, 97]

SB: [2, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 43, 47, 53, 59, 61, 73]

Problem 2 There are concentric circles C1 and C2 of radius 5 and 10 centered on the origin O. There is a fixed point A at a distance of 2 from O. The moving points P1, P2 rotate counterclockwise on C1 and C2 at a constant speed. At time T = 0, O, A, P1, P2 are arranged in this order on a straight line, and the angular velocity of P1 is twice that of P2. Find the maximum value of the area of ΔA P1 P2.

三角形の面積の最大値

(100\*cos(2\*atan(sqrt(15)/3)) - 20)\*sin(2\*atan(sqrt(15)/3))\*cos(2\*atan(sqrt(15)/3))/2 - (-50\*sin(2\*atan(sqrt(15)/3))\*\*2 - 20 + 50\*cos(2\*atan(sqrt(15)/3))\*\*2)\*sin(2\*atan(sqrt(15)/3))/2